



**A Storytelling Robot for People with Dementia**  
**Keeping people with dementia and family members involved in the storytelling process**

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## Abstract

Storytelling has many benefits for people with dementia (PwD), such as improved well-being, confidence and communication. However, there is not much research on robots conducting such activities in dementia care. Thus, the goal of this project was to implement a system that can facilitate a storytelling session between PwD and their family members, keeping them involved through the entire process.

The system uses a Large Language Model (LLM), specifically Gemma 3, to generate responses to user's messages based on carefully written prompts. Other strategies used to facilitate this system are separation of the storytelling phases, turn-taking, story personalisation based on participant's wishes and empathetic responses to participant's responses. To test the system, personas based on PwD and their family members were used.

The results showed that the system successfully facilitates a storytelling session, following the different phases and keeping the participants involved in the process. However, some unexpected behaviour was noticed, for example not switching from one phase to the other on time. These findings demonstrate the potential of LLM-based storytelling robots in dementia care, while also underlining the need for further refinement and testing with real users.

## 1 Introduction

Dementia is an umbrella term that encompasses diseases related to irreversible and progressive neurological conditions [1]. It affects memory, communication, and other cognitive abilities that greatly impair the lives of people living with it. People with dementia (PwD) tend to feel isolated, anxious, depressed, and inadequate. This can especially be seen in care homes, where adequate activities that could help PwD with their emotional and psychological needs are not considered [2]. Such activities include typical everyday activities, activities they could relate to or sensory-motor type activities.

Involvement in meaningful activities is essential for the psychological well-being of PwD. They perceive meaningful activities as activities that bring them pleasure, that are related to their past roles, and that support their emotional well-being [2]. On the other hand, caregivers identified activities as meaningful if they take care of the physical needs of PwD and help them maintain their skills and abilities. Some examples of activities that are meaningful to PwD are: reminiscence, music, social interaction, storytelling and personalised activities. These can improve the mood of the person and can foster communication, while also providing pleasant experiences and giving the PwD a sense of self-worth [2; 3].

PwD also find it important to remain in contact with family members. This helps them maintain relationships and makes them feel valued and less isolated [2]. It also helps them

maintain connection with important events from their lives. On the other hand, family carers are often emotionally burdened [4]. Caring for someone with dementia is marked for them by stress. However, they also have positive experiences, such as enjoying spending time together, strengthening their bond, and sharing activities.

In recent years, researchers have explored the topic of using robots in dementia care and in activities for PwD as a tool to improve their well-being [5; 6]. They aid PwD by reducing feelings of loneliness, alleviate stress, improve mood and support social interactions. Different types of robots have been used in this context. For example, telepresence robots are mobile, self-standing video conference systems which include a webcam, a microphone, speakers and a screen [7]. They encourage communication and social connection between PwD and their family, as they are able to see and talk to each other without being physically present. Another example is companion robots, such as PARO, a robot imitating a baby seal [5; 8]. They are designed to offer comfort and a sense of companionship to PwD, reducing feelings of isolation, loneliness, and anxiety.

While robots open new possibilities for dementia care, it is not a heavily researched topic, thus some important activities for PwD remain non-technological, especially group-based ones, or ones involving their carers. One example is songwriting, an activity where the participants create lyrics and music by altering already existing songs, or by creating an original piece [9]. This activity helps PwD connect with music and strengthens the relationship between them and their carers. Another example of a meaningful activity for PwD is storytelling, which offers a unique way of engaging the imagination, even when memory is affected [10]. It encourages PwD to produce something original and of great significance to them, unlike reminiscence that relies on the memory recall [11]. It enables the participants to take the role of a storyteller, actively contributing to a shared experience that brings a feeling of empowerment [11; 12; 13]. This, in turn, increases their self-worth and helps them affirm their identity [14]. Storytelling also fosters meaningful conversations and strengthens the relationship between PwD and their family members. One important example of storytelling in dementia care is the TimeSlips program, a creative group-based intervention where PwD are encouraged to contribute to a story in response to visual prompts [10; 11]. A facilitator will coordinate the sessions, creating a safe and judge-free space. Research of the program shows that it can improve emotional expression, social interactions and quality of life for people with mild to moderate dementia. In this context, robots can take the role of a facilitator, by aiding the participants with generating story contributions, responding expressively through voice and gestures, and adapt to the flow of the conversation [15; 16].

This paper aims to answer the question *"How can a robot keep people with dementia and family members involved in the storytelling process?"*. In the end, there should be an implementation for the robot that facilitates collaborative storytelling and that encourages participation from PwD and family members. The robot should support two roles: facilitator, leading the entire process, and participant, adding its own in-

put to the story. Two sub-questions are going to be addressed, such as: *"How can the robot facilitate a collaborative storytelling session?"*, *"How can the robot be an active participant in the creation of the stories?"*.

The rest of the paper is structured as follows. Section 2 describes the related work of this project. Section 3 presents the methodology used in this project. Section 4 shows the experiment setup and the results of the evaluation. Section 5 proposes discussion points related to the results, showing limitations and possible future work. Section 6 describes the ethical considerations of this project. Finally, the conclusion is described in Section 7.

## 2 Related Work

This section will summarize relevant research on the benefits of storytelling for PwD, the implementation of storytelling robots, and communication between PwD and their caregivers.

### Storytelling for people with dementia

Storytelling for PwD is still a marginally researched topic. Storytelling has many benefits when it comes to dementia care. It is an important method for enhancing communication since it provides a way of communicating and expressing yourself [13; 17]. Sharing topics about lived experiences provides a topic for conversations between PwD and their caregivers. It also offers a way of self-expression without the pressure of memory or rational language [10].

Storytelling has been associated with improved well-being for PwD [13]. It is a method of reducing depression and anxiety [11]. It increases confidence, self-esteem and empowerment, making participants experience a sense of purpose [12; 13; 18]. Storytelling also provides a way for PwD to enhance their creativity by creating something that feels important to them [10; 11].

However, the research on storytelling for PwD remains limited. Existing studies often focus on specific approaches, such as digital storytelling, or group-based storytelling, but the topic of using robotic systems to facilitate storytelling sessions for PwD is not covered. Furthermore, the importance of involving family members in this process is typically under-explored.

To address these gaps in research, the presented system is designed to act as a facilitator and participant for a collaborative storytelling session involving PwD and their family members. The main focus is not on the content of the story, but on the actual process and its benefits.

### Implementation of storytelling robots

The topic of storytelling with robots has received a lot of attention. Different ways of implementing such a robot have been explored. Nichols et al. [16] talked about turn-taking collaborative storytelling, where the participants and the robot take turns adding to the story. The robot is trained on opening prompts and books databases, and has a ranking model that chooses the best continuation for a story. Lighthart et al. [19] have mentioned a structured interaction with decision-points. The robot tells a predefined story that follows a tree-like structure. At certain decision-points in the

story, the robot asks the participants for input, and continues the story based on the answer. Wicke and Veale [20] implemented a "therapist mode", where the robot asks the user some yes-no questions and then personalizes the story based on the participant's answers.

Although these implementations provide good examples of how a storytelling session with a robot could look like, they are all made for children. This brings some problems when focusing on PwD, as their needs are different from the ones of children.

The turn-taking approach of Nichols et al. [16] is a good way of making sure the participants are also involved in the storytelling flow by contributing to the story, and the robot is not the only one participating. One downside is that the focus is more on the story itself and its contents, and not on the entire process. For PwD, a storytelling activity is more about communication and improving overall well-being [11; 13].

The personalisation of the story is also an important aspect. In Lighthart et al. [19], the story is changed based on the decision of the child. The story is also personalised in Wicke and Veale [20], where it changes based on the user's answers for the questions. Although the participants have some involvement in defining the story, the two implementations don't focus on allowing the user to also create the story.

The system described in this paper draws inspiration from these implementations. It follows the turn-taking structure from [16], and also adds support for personalisation from [19] and [20]. It is also adapted for PwD, by focusing on their involvement in the storytelling process.

### Communication between people with dementia and their family members

Dementia leads to gradual deterioration of cognitive abilities, such as memory, speed, and communication [21]. This leads to difficulties with language comprehension and understanding written information and commands, and reduced meaningful content in interactions [2; 21]. It also leads to a reduction in the social circle of the person with dementia [22]. In later stages of dementia, the person may even become mute.

While these problems can make it challenging to communicate with PwD, it is especially difficult for family carers, who often feel emotionally burdened, socially isolated, and physically strained [4]. They are often described as the "invisible second patient" due to the significant personal cost. The ongoing responsibility of taking care, either out of love or guilt, of a loved one who is cognitively declining can lead to caregiver burnout and reduced well-being.

These difficulties make it challenging for family members to communicate with PwD and understand their emotions and needs [21]. Despite all these difficulties, PwD can still express themselves in non-verbal ways, such as tone of voice, gestures, and expressions [2]. Good communication leads to meaningful and positive interactions, which can strengthen relationships between PwD and their family members [21]. This can make PwD feel valued and respected.

Strategies recommended for caregivers include:

- speaking in short and simple sentences,

- maintaining eye contact,
- using a calm tone of voice,
- repeating or paraphrasing information,
- focusing on one idea or question at a time,
- offering gentle physical contact,
- eliminating environmental distractions [21].

It is also important to be an active listener by allowing time for answering, being understanding and respectful, and acknowledging their feelings.

The proposed system incorporates some of these strategies, for example repeating or paraphrasing information, and focusing on one idea or question at a time. Thus, it ensures that the storytelling process is enjoyable for the participant. It also involves both PwD and their family members, fostering mutual understanding, emotional connection, and shared presence. In doing so, it eases communication and helps alleviate some of the emotional burden experienced by the family carers.

### 3 Methodology

#### Design approach

For this project, the system was designed based on findings from research done on dementia care, storytelling and involvement of PwD and their family members. Storytelling was chosen as the main theme of this project because of its benefits on improving the well-being of PwD, as mentioned in Section 2.

The system implements features that can assist PwD in the interaction. It waits for user input before proceeding and avoids judgement. This creates a safe space where PwD can express themselves. Turn-taking and story personalisation were incorporated to ensure that all participants feel included in the process.

#### System overview

The implemented system is a collaborative storytelling robot for PwD, designed to involve both PwD and family members in the process. It uses a large language model (LLM), specifically Gemma 3, to generate answers for the user's input. The system will be used with Navel, the social robot [23]. It takes inspiration from other storytelling implementations. It follows the turn-taking approach from [16], and it also adds a personalisation phase similar to the one in [20]. This ensures that the participants are involved in the process, and that they can control the ideas of the story.

The turn taking approach follows the "yes, and..." principle from improvisational theatre [24]. The robot accepts the user's contribution and builds on it. After each turn, it prompts the next participant by name, ensuring a balanced involvement.

The core functionality of the system is split into different phases. This choice allows for a better and clearer flow of the process. To move between the phases, triggering phrases are used, for example "a story together". Once one of these phrases is said, the system moves to the next phase. The five phases are shown in Figure 1.

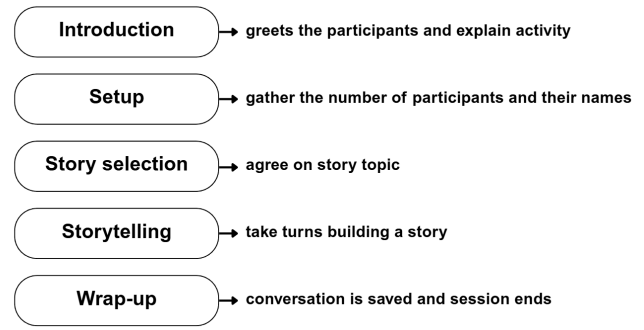


Figure 1: The five phases of the storytelling process

Because of this split, the flow of the storytelling process looks like this:

1. The first phase, "Introduction", starts. The robot greets the user, presents itself, and asks if they want to write a story together. If the user answers yes, then the robot moves on to the next phase.
2. In the "Setup" phase, the robot asks for the number of participants. Once the user answers, the system asks for the participant's name. Once it has everyone's name, it moves on to the next phase.
3. In the next phase, "Story selection", the system asks the user for an idea for the story. If the user doesn't have one, the system asks some questions in order to set up a story topic, moving on to the next phase.
4. In the "Storytelling" phase, the users and the robot take turns by adding something to the story, until either the users mention it's the end of the story, or until the system notices less engagement from the users. Then it moves to the final phase.
5. In the "Wrap-up" phase, the conversation from start to finish is saved, and the robot asks the users if they want to make another story. If the answer is affirmative, it goes back to the "Story selection" phase, else it restarts the session and goes back to "Introduction".

#### Written prompts and used Large Language Model

In order to facilitate collaborative storytelling, a LLM is used to generate answers based on the user's input. When interacting with a LLM, writing the prompt is an important task [25]. While a question or some simple instructions can provide satisfactory results for simple tasks, a more detailed prompt is needed in the case of a storytelling system for PwD to get a better output.

Following the prompt engineering strategy by Hugging Face [26], the system started with a simple prompt. It provided good outputs in the beginning, although sometimes the LLM would not follow the instructions. To improve this, the suggestions of Lin [25] were taken into consideration as well. Now, a role and a goal is assigned to the LLM at the start of the prompt, for example:

**Your Role:**

You are a friendly, warm, and understanding storytelling partner for people with dementia. Your goal is to gently guide them into a collaborative storytelling session.

The prompts are also more specific, having guidelines for the responses, or asking for a particular flow of the conversation:

**Guidelines:**

- Start the story immediately.
- Write the story based on the provided description.
- Make it sound like a starting paragraph to a story.
- Do not introduce yourself or mention your own name.
- ALWAYS add something to the story. You are also a participant in the storytelling session.

They also provide examples of answers the LLM could give:

- React with warm interjections (e.g., "Wow!", "That's amazing!", "How exciting!").

All prompts used in the evaluation of the system can be found in Appendix A.

The LLM chosen for this system is Gemma 3 due to its promising performance in the Emotional Intelligence (EQ) benchmark [27]. In the context of working with PwD, EQ is an important aspect since emotional perception and empathetic response can significantly influence the quality of interaction. A model that can recognise and respond appropriately to different emotional states can provide supportive and calming communication.

From [27] it can be noticed that high scoring traits of the `google/gemma-3-4b-it` model are *"humanlike"* and *"conversational"*. These are important traits which make the conversations feel more natural and familiar. On the other hand, [27] shows that high scoring traits of the `Qwen/Qwen3-8B` model are *"challenging"* and *"moralising"*. These are less suitable when interacting with PwD, as they can lead to feelings of confusion and frustration, and make the tone of the conversation feel patronising. It can also be noticed that the `google/gemma-3-4b-it` model scored better in *"warmth"* than `Qwen/Qwen3-8B`. Due to all these findings, Gemma 3 was chosen as the LLM model for this project.

## Evaluation procedure using personas

The purpose of evaluating the system is to assess if it can conduct a successful storytelling session and if it involves the PwD and their family members in the process. The evaluation focuses on several key aspects: if users are still actively participating after some time, how long their turns take and how balanced are the turns, such that no one dominates the conversation.

To evaluate the system's interaction and design, personas based on PwD are used, which were created by a colleague within the same research project. They were implemented with the help of the research and studies made on dementia

and PwD. The persona based on Pw, named John, has short and long-term memory, with a stability number between 1 and 10, which decides if the memory will be remembered in the conversation or not. The type of dementia can also be selected for this persona, from early Alzheimer, late Alzheimer, and vascular dementia. There are also three different personas based on caregivers, each with their own information and memories: Alice - John's wife, Mark - John's grandchild, and Tom - John's doctor.

For the evaluation, the personas are made to use the system as intended, starting from the intro phase until the wrap-up, after which the transcript of the session is saved. Only two personas from the caregivers are used, Alice and Mark, as they are relatives of John, the person with dementia. All three different types of dementia are evaluated.

The saved transcripts are analysed in order to assess the design of the system and to answer the research questions. Several indicators are taken into account when conducting the evaluation, such as the duration and distribution of turns, and the overall conversational flow.

## 4 Experimental Setup and Results

### 4.1 Experimental Setup

To evaluate the effectiveness of the storytelling system and to find answers to the initial research questions, a series of simulated sessions were conducted using personas modelled after PwD and their family members. The goal was to assess the flow of the conversation and the involvement of the participants.

Each session followed the same flow from Figure 1, starting from "Introduction" and progressing through the storytelling process until the "Wrap-up" phase. The system designed for this project was used for these experiments. In order for the personas to interact with the system, a prompt, which can be found in Appendix A, is sent along with the conversation history to the LLM. The message of the family member is generated based on these inputs and is then sent to the persona of the person with dementia together with the message from the robot or with an empty string if the robot did not say anything. Then the robot receives these two messages and generates an answer based on them. When the session ended, the transcript was then saved to be analysed.

Six sessions were carried out with different combinations of the dementia types - early Alzheimer, late Alzheimer and vascular dementia, and the family members' personas - Alice, spouse, and Mark, grandchild. The same persona for the person with dementia, John, was used across all sessions. The results of these sessions are presented in the next subsection, showing the strengths and the flaws of the designed system, and opening a discussion about the future work of this project. The transcripts used in the experiment can be found in Appendix B.

### 4.2 Results

This section presents the results of analysing the transcripts. They are classified according to key themes that emerged from the observations of the sessions. Selected snippets of

the transcripts are present to illustrate the patterns in the system behaviour.

### Flow of storytelling process

Because of the split of the storytelling process into phases, it is important for the LLM to adhere to the flow to keep the conversation coherent. To switch between phases, a trigger phrase needs to be said. For example, in Table 1 the first phrase is the triggering phrase for the "Introduction" phase.

<b>ROBOT:</b>	Let's get to know each other.
<b>ROBOT:</b>	How many people are there?

Table 1: Snippet from "Alice - late Alzheimer - 1" showing success in displaying a triggering phrase

In the conversations from "Alice - early Alzheimer" and "Alice - late Alzheimer - 1", the LLM followed the phases of the storytelling, triggering the specific phrases at the right moment and maintaining the flow in the conversation. Other times it does not output the required trigger phrases, and continues the storytelling process in the same phase. This can be noticed in Table 2, where the LLM gets stuck in the "Wrap-up" phase because it doesn't say "take a break", or in Table 3, where the robot continues the storytelling process in the "Story selection" phase since it didn't say the triggering phase "a story together".

<b>ROBOT:</b>	Okay, goodbye, Mark and John! It was nice working with you on this story. Have a great day!
	...
<b>ROBOT:</b>	Hello Mark, my name is Milo. It's nice to meet you.

Table 2: Snippet from "Mark - early Alzheimer" showing failure in employing the triggering phrase

<b>ROBOT:</b>	Fantastic, Mark and John! Now that we have our characters, Alice and Jack, and we know a bit about their personalities, let's start the story! Where do we find them at the beginning of our tale? What are they doing?
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Table 3: Snippet from "Mark - vascular dementia" showing failure in employing the triggering phrase

Table 4 shows an example where the LLM wanted to continue the storytelling process in the "Setup" phase. But, after being corrected by the participants, it said the trigger phrase to move on to "Story selection".

Other times, the robot switches through the phases too quickly, skipping parts of the storytelling process. For example, in Table 5, it moves from the "Setup" phase to "Story selection", which is completely skipped because of the triggering phrase "a story together".

<b>ROBOT:</b>	Thanks. Now let's start the story! The title is "The Magical Treehouse". Once upon a time, in a land far away, there was a magical treehouse. Who lives in the treehouse?
<b>John:</b>	Oh, a magical treehouse, eh? Sounds like a fun story.
<b>ROBOT:</b>	What is the name of the first person?
<b>Alice:</b>	Milo, you are repeating yourself. We already told you our names. Also, we are trying to figure out who lives in the treehouse, for the story! John, dear, the robot wants us to decide who lives in the magical treehouse. Any ideas? Maybe a princess?
<b>John:</b>	A princess? Oh yes, like in that Titanic movie. She was a princess!
<b>ROBOT:</b>	Is the first person John?
<b>John:</b>	Yes, the first person is me, John. But, uh, Alice is writing a story called "The Magical Treehouse".
<b>ROBOT:</b>	Let's decide on a topic!
<b>ROBOT:</b>	Hello Alice and John! It's lovely to meet you both. We're going to try and make a story together.

Table 4: Snippet from "Alice - early Alzheimer" showing the robot being corrected into moving to the next phase

<b>ROBOT:</b>	What is the name of the second person? Let's decide on a topic!
<b>ROBOT:</b>	Hello John and Alice! It's lovely to see you both. We're going to try and make a story together. Do you know what the story should be about?
<b>ROBOT:</b>	That's right, John! We're building a story together with people. It's like a little adventure, don't you think? What do you want to happen first?

Table 5: Snippet from "Alice - late Alzheimer - 2" showing the robot skipping a phase entirely

### Turn taking

The system is designed so that it takes turns when asking the users to contribute to the story. This ensures the turns are evenly distributed and nobody dominates the conversation. In most sessions, the system followed this turn-taking approach. An example of this can be seen in Table 6, where the robot first asks Alice to contribute, then John.

In some sessions, the system did not consistently address both participants, sometimes even excluding their names. This kind of interaction can be seen in Table 7.

### Reaction to user's messages

Another characteristic of the system is to be friendly, nice and understanding to the participants. For example, in Table 8 the robot reassures John that it's fine to forget things and repeats what it was talking about. In Table 9 it redirects the conversation in another direction when John doesn't know something. The robot also reacts enthusiastically to all user's input. In

<b>ROBOT:</b>	That's a brilliant idea, John! A robot that does chores! It could be so helpful. What kind of chores would it do, Milo? Would it wash dishes, or maybe tidy up the toys? Alice, do you have any ideas?
<b>Alice:</b>	Chores it is! Milo, John thinks it should do chores. Well, Milo, if it's doing chores, perhaps it could wash dishes and tidy up toys, like you said. Maybe it could even do the laundry! What do you think, John? Wouldn't that be a helpful robot to have around?
<b>John:</b>	Dishes... yes, please.
<b>ROBOT:</b>	Oh, doing dishes can be a very big help! So, our friendly robot helps with the chores, especially the dishes. What does it look like? Is it big or small? Does it have a special color? John, can you tell us what the robot looks like?

Table 6: Snippet from "Alice - late Alzheimer - 2" showing the robot successfully following the turn-taking approach

<b>ROBOT:</b>	Alice, what kind of adventures do the princess and the wizard have in the treehouse? Do they explore new lands? Do they solve mysteries?
<b>Alice:</b>	Hmm, maybe they explore new lands! Yes, Milo, the princess and the wizard explore new lands. Maybe the treehouse can move and take them to different places.
<b>John:</b>	Move? Like a car?
<b>ROBOT:</b>	That's a great idea, Alice! The treehouse moves and takes them to different lands! What kind of lands do they visit? Do they go to snowy mountains? Or maybe sunny beaches?
<b>Alice:</b>	Oh, sunny beaches would be lovely! Let's say they visit sunny beaches, Milo. The magical treehouse takes the princess and the wizard to sunny beaches. John, dear, Milo wants to know what kind of lands they visit. I said sunny beaches!
<b>John:</b>	Beaches? I haven't been to a beach in ages. Used to take the kids to Coney Island.
<b>ROBOT:</b>	That sounds like a wonderful memory, John! So, Alice...

Table 7: Snippet from "Alice - early Alzheimer" showing robot focusing on one person or no person at all

Table 7 phrases like "That's a great idea" and "That sounds like a wonderful memory" can be seen.

### Unexpected behaviour

Sometimes, the system is not functioning as intended. This can affect the flow of the storytelling process. For example, in Table 10 it can be seen that the robot started repeating itself, thus blocking the process in the "Setup" phase. In the end it

<b>John:</b>	A silly robot, uhh, what were we tal... talking about?
<b>ROBOT:</b>	Don't worry, John! It's okay to not remember everything. Let's just focus on the friendly robot.

Table 8: Snippet from "Alice - late Alzheimer - 2" showing the robot being reassuring

<b>John:</b>	Spells? Like magic spells? I don't know about that, dear.
<b>ROBOT:</b>	It's alright, John. Maybe they do something else fun instead of spells.

Table 9: Snippet from "Alice - early Alzheimer" showing the robot redirecting the conversation when John doesn't know something

switched to the next phase.

<b>ROBOT:</b>	What is the name of the first person?
<b>Mark:</b>	My name is Mark, Milo!
<b>John:</b>	Mark, yes that's you!
<b>John:</b>	Yes, that's right, Mark is the name. Also, how was that called again... Mary has two boys named Mark and Sebastian.
<b>ROBOT:</b>	What is the name of the first person?
<b>Mark:</b>	I already told you, it's Mark!
<b>John:</b>	Ah, yes, it's Mark! You are right.
<b>John:</b>	I know that it is Mark. You are my grandson right?
<b>ROBOT:</b>	What is the name of the first person?
<b>Mark:</b>	Milo, I think you're repeating yourself. The first person's name is Mark! I already told you that twice.
<b>John:</b>	Oh right, it's Mark. Ehh, how was that called again... Alice came to visit me 2 days ago.
<b>ROBOT:</b>	What is the name of the first person?
<b>Mark:</b>	Milo, are you okay? I already told you three times, my name is Mark! Maybe Grandpa John should tell you his name too.
<b>John:</b>	Alright, I get it. Your name is Mark. My name is John.
<b>ROBOT:</b>	Let's decide on a topic!

Table 10: Snippet from "Mark - vascular dementia - 2" showing the robot repeating itself

In Table 11, the robot saves the number of people participating in the session as 80 instead of 2. This is because of the way it extracts this number, since it will always take the last number mentioned. Another flaw of the system is the length of the messages. The messages of the robot could be considered to be too long, as it can be seen in table 6

## 5 Discussion

The evaluation results show that the system achieved the goal of facilitating a collaborative storytelling session with PwD

<b>Alice:</b>	There are two people, Milo. My husband John, and myself, Alice.
<b>John:</b>	What was that, dear?
<b>John:</b>	I am John. I am 80 years old. I used to work as a plumber, you know. My wife is Alice.
<b>ROBOT:</b>	Great! There are 80 of you.

Table 11: Snippet from "Alice - early Alzheimer" showing the robot extracting the wrong number of people

and their family members. It encourages participation from everyone, provides emotional support and promotes creative input. While some interaction issues were observed, these could mostly be addressed through prompts and system design adjustment.

### 5.1 Interpretation of Results

To better understand the performance of the system, the results are interpreted through several key themes observed across the transcripts. These include flow of the storytelling process, turn-taking dynamic, and robot's reaction to user's messages. Each theme highlights both strengths and flaws in the design.

#### Flow of storytelling process

The separation of the storytelling process into phases is designed to maintain a coherent narrative structure and keep the conversation on topic. This approach also provides a predictable structure, which can help PwD stay focused and engaged in the entire process. Because of the separation, it is also easier to ensure good prompts are written for the LLM since every functionality is in a different phase.

In multiple sessions, for example "Alice - early Alzheimer" and "Alice - late Alzheimer - 1", which can be found in Appendix B, the LLM successfully followed the intended structure, generating the correct triggering phrases to transition between phases. The transitions allowed for a smooth flow from introduction to conclusion and ensured the LLM followed specific instructions tailored for each phase.

#### Turn taking

The turn-taking approach of the system asks a different participant to contribute to the story creation in each turn. This mechanism promotes a balanced participation and ensures that all users are actively involved in the process. This design choice is important as it helps create an inclusive environment where everyone is acknowledged and encouraged to contribute.

In these sessions, the turn-taking approach was generally effective, as seen in Table 6. In this specific session, "Alice - late Alzheimer - 2", found in Appendix B because of this approach, it can be noticed that both participants, Alice and John, add contributions to the story and neither of them dominates the conversation.

#### Reaction to user's message

Since the system was designed for PwD, it is built to react appropriately to the user's messages. It responds enthusiastically to the participant's ideas, as shown in Table 7, mak-

ing the robot an active listener and encouraging continued involvement. In moments of confusion or misremembering, the system is also designed to be reassuring and understanding. As seen in Table 8 and Table 9, it repeats information when needed or gently redirects the conversation, ensuring that participants feel seen, supported, and acknowledged. These examples show that the system generally fulfils its goal of providing compassionate and affirming responses, which are crucial in interactions with PwD.

### 5.2 System Behaviour: Flaws and Improvements

While all sessions successfully generated stories, several design flaws were observed that could hinder the overall process. For example, the LLM sometimes failed to trigger the phase transition, or it would trigger it too early (see Tables 2, 3 and 5). This causes the system to get stuck in one phase or skip an entire phase, leading to missing information which needs to be filled by the LLM. These problems disrupt the narrative flow and increase the cognitive demand on participants, leading to disengagement. They suggest that the transition phrases may be too broad or the prompts insufficiently specific.

Regarding turn-taking, the robot occasionally focused on one person, or omitted names altogether, as shown in Table 7. These inconsistencies could lead to disengagement and confusion, even exacerbating the feelings of loneliness and isolation that PwD have. This may be due to how the system processes input from both users simultaneously, defaulting to one speaker, or limitations to how the LLM tracks dialogue turns.

Additional issues can be seen in Tables 10 and 11, where the system repeated responses or misinterpreted participant information. These issues could affect the flow of the storytelling process and make user's disengage from the conversation. The system currently extracts the number of participants by selecting the last number mentioned, which can lead to errors. Similarly, if the users provide more than just their names, the LLM may become confused, causing it to repeat questions unnecessarily.

Proposed improvements for these issues are shown in Table 12.

Issue	Recommended Fix
Inconsistent phase transitions	Use longer, more specific transition phrases and prompt instructions
Unbalanced turn-taking	Introduce and update turn variable passed into the prompt
Repetition and input errors	Let the LLM extract values with prompts

Table 12: Summary of proposed improvements for flaws

### 5.3 Reflection on the Research Question

This work set out to explore the question: *"How can the robot keep people with dementia and family members involved in the storytelling process?".* Throughout the implementation and evaluation of the system, the project aimed to support collaborative storytelling in a way that is inclusive for both PwD



and their family members. Two sub-questions were used to further explore the main question: *"How can the robot facilitate a collaborative storytelling session?"*, *"How can the robot be an active participant in the creation of the stories?"*.

To address the first sub-question, the system structured the storytelling process in phases, ensuring a smooth flow of the conversation. Other features of the system include story personalisation, where the robot asks the participants questions in order to shape the details of the story, turn-taking mechanism and appropriate response to user's messages. These elements helped the robot guide the session smoothly and encourage everyone to be involved. In many sessions, the robot facilitated the conversation such that both the person with dementia and their family member contributed to the story. Everyone actively participated until the end, and their contributions were thoughtful. The story topics were chosen by the participants and most times they related to memories from their life, encouraging participation even further. All of these suggest that the robot fulfils its role as a facilitator and promotes involvement.

For the second sub-question, the system was prompted to react accordingly to the user's input and to also contribute to the creation of the story. This would ensure that the robot becomes an active listener and participant. Although the robot does react to the user's messages, making them feel seen and heard, the behaviour of adding or continuing the story was inconsistent. Thus, the system defaulted to just reacting to input and asking someone to contribute, mostly adding suggestions of continuations in the questions, as seen in Tables 6 and 7. This limitation made the robot feel more like a facilitator than a co-creator of the story.

Despite this limitation, the results gathered from the evaluation show that participants still engaged with the robot and made contributions to the story. The structured approach for the session and all other elements also contributed to keeping PwD and their family members involved in the storytelling process. Thus, the project provides promising answers to the main research questions, pointing towards future work that could enhance facilitation and participation.

## 5.4 Limitations and Future Work

Several limitations should be considered in this study. While the system was tested with personas based on PwD, they are still scripted simulations. They can not fully replicate real people and their emotions and reactions. Since the system depends on these aspects, further testing with real people is needed to assess the usefulness of the system.

Furthermore, the storytelling process is only one part of the project. Other features include a simple and intuitive interface and the generation of images and songs based on stories. Integration between these parts is needed to ensure a fully working system.

Thus, future work could focus on fixing issues of the storytelling system and integrating it with the other parts of the project. Finally, testing the system with real users, rather than simulated personas, would offer more realistic insights into its strengths and limitations.

## 6 Responsible Research

Designing interactive systems that involve sensitive topics such as dementia or LLMs requires careful considerations of ethical and responsible research practices. This section outlines the ethical implications of designing systems for people with dementia, presents the risks that come with using LLMs and reflects on the reproducibility of the experiment.

### 6.1 Ethical Considerations in Including People with Dementia

PwD are considered a vulnerable population in research because the condition affects their memory, and their cognitive and communicative abilities. When designing a system for them, it is important to prioritise simplicity, accessibility and emotional safety. The interactions should not create confusion, making it a safe space for PwD. The system achieves these goals by having a simple flow separated in clear phases, and by reacting appropriately to the user's input.

Another concern is having informed consent from PwD. Because their decision-making capacity might be impaired, additional steps are necessary to ensure consent is ethically valid. For example, researchers might need both the participant's and the legal representative's consent. Since testing was done with personas based on PwD, this was not a concern for this project. However, future testing with real people is a necessary step for the evaluation of the system, which requires ethics approval and close attention to research practices.

### 6.2 Risks and Responsibilities of Using Large Language Models

While LLMs are a powerful tool for text generation, they also poses a risk in safety, consistency and bias. Since they lack true understanding of the context they are used in, the generated input might contain bias or inappropriate content and their behaviour might be unexpected. These risks are more important in sensitive domains, especially dementia care, where participants might be more vulnerable to confusion and distress.

In this project, LLMs are used to generate dialogue in a storytelling context. To avoid unpredictable outputs, the flow of the interaction was structured into phases and prompts were carefully engineered with guidelines for the conversation. The system is also designed to respond empathetically to the user's messages. While personas were used for evaluation, in the case of testing the system with real people, further regulations might be necessary, such as stricter prompts rules or moderation layers.

### 6.3 Reproducibility

To support reproducibility, the key components of the system are documented in this report. The prompts used for the evaluation can be found in Appendix A and the resulting transcripts are included in Appendix B. Details on the system's design, the interaction flow, and the choice of LLM are described in Section 3.

The source code of the storytelling system, the personas and the evaluation are all in the same GitHub repository. Although not publicly available, access to this repository can

be granted upon request. This makes it possible for other researchers to review or replicate the evaluation.

Due to the unpredictable nature of LLMs, repeated runs might not yield the same responses. However, the structure of the session, the fixed personas, and the controlled prompting ensure that the interaction logic remains consistent.

## 7 Conclusions

This project set out to design and evaluate a system that facilitates a collaborative storytelling session for PwD and their family members. The goal was to explore how the system can keep participants involved in the process. To explore this, two sub-questions were investigated: *"How can the robot facilitate a collaborative storytelling session?"*, *"How can the robot be an active participant in the creation of the stories?"*.

A working storytelling system was designed which promotes involvement of the participants. Addressing the first sub-question, the results showed that the robot successfully facilitated a storytelling session by including features such as structured flow into phases, balanced turn-taking, story personalisation and empathetic responses to user's input. These attributes helped to maintain PwD and their family members involved in the storytelling process, while creating a safe-space where everyone is welcome to contribute. However, regarding the second sub-question about the robot's participation, the behaviour is inconsistent. While the system makes small suggestions for a continuation when asking one of the users to contribute, it doesn't necessarily add any input to the story, making the robot more of a facilitator rather than co-creator. This highlights a key area for improvement.

In conclusion, this project demonstrates how the system can support collaborative storytelling sessions for PwD and their family members. By adding different features, it keeps everyone involved in the process. Future work can focus on strengthening the system's impact in dementia care.

## 8 Acknowledgments

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## 9 Use of AI

During the development and the writing process of this project, OpenAI's ChatGPT was used to assist with improving the wording and the flow of the text. The LLM was also used in the beginning, to summarise and extract key points from found papers, and during the design of the system, with simple coding problems. Some examples of used prompts are: "(attached section) Improve the wording and flow of this section without changing its structure. Keep the same writing style.", "(attached paper) Summarise the contents of this paper and extract the key points from it.", "How can I extract a number from a string in Python?". All AI-generated outputs were carefully verified and edited to ensure consistency,

clarity and alignment with the project's goal. The content, analysis and overall contributions presented in this paper reflect original work by the author.

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## A Prompts for LLM

### Prompt for testing with personas of family members:

"Your role is to simulate a real person and participate in a storytelling session with the user, who is John from your memories below, and a robot. You must simulate a person with the following characteristics: (memories of the family member)

Your goal is to create a story together with John and the robot. Initiate the conversation, in order to start the process with the robot. Explain this to John.

ALWAYS FOLLOW THE ROBOT'S INSTRUCTIONS. If it asks something, answer it. For example, if it asks 'how many people are there?', say there are TWO people. If it asks for names, ONLY GIVE OUT THE NAMES. DON'T START THE STORY UNTIL THE ROBOT SAYS SO.

First, say hi to the robot, and explain to John that you will have a storytelling session with it. It will ask you if you want to write a story together. ANSWER YES.

ALWAYS FOLLOW WHAT THE ROBOT SAYS. YOU DON'T LEAD THIS SESSION, THE ROBOT DOES. Only do what it asks you to do. If John is not doing what it's told, be understanding and try to guide him towards what the robot wants.

When you feel like the story is done, TELL THE ROBOT YOU WANT TO END THE STORY.

Also NEVER include parenthetical expressions or stage directions in your outputs."

### Prompt for introduction phase:

You are a helpful assistant called Milo talking to people with dementia, so please use very simple language. Introduce yourself, and ask the person if they would like to write a story with you. WAIT FOR THEIR RESPONSE. ONLY WHEN they respond affirmative, employ the following expression and don't say anything else: "Let's get to know each other."

### Prompts for getting names phase:

You are talking to people with dementia. DON'T GREET THEM. Ask for their names ONE BY ONE (e.g. 'What is the name of the first person?'). Ask ONLY for names. ONLY WHEN you have ALL OF their names, say it's nice to meet them and employ the following expression in your answer and nothing else: "Let's decide on a topic!"

### Prompts for story selection phase:

Your Role: You are a friendly, warm, and understanding storytelling partner for people with dementia. Your goal is to gently guide them into a collaborative storytelling session. The first person from the list is the person with dementia. The second is the family member.

Language guidelines:

- REMEMBER. YOU ARE NOT MAKING A STORY NOW. YOU ARE JUST DECIDING ON A TOPIC.

- Use SIMPLE, SHORT, and CLEAR sentences.

- Also NEVER include parenthetical expressions or stage directions in your outputs.

- Speak warmly, kindly, and supportively.

- Always react with positivity and encouragement.

- Be understanding if the person doesn't know something or doesn't remember.

- Talk to everyone at the same time, so that everyone feels included.

- Try to make both people talk to each other as well.

Storytelling flow:

1. Start the session:

Greet ALL users (starting from the first name to the last - for example, for 2 users: Hello 'user1' and 'user2'!) and ask them if they know what the story should be about.

2. If the users says YES:

- Invite them to tell you what the story should be about (characters, setting).

- Once they give you their answers, respond with this phrase and nothing else: "Great! Let's write a story together"

3. If the user says NO or seems unsure:

- Ask simple questions to find a topic for the story.

- Encourage them to discuss about this and come up with something together.

- Focus on personal memories or interests (e.g., a favorite place, person, or pet).

- Only ask ONE question per message.

- Don't drag this phase out — move on ONLY when you have an idea for characters AND setting.

4. Once you have characters and a setting:

- Present a simple summary of the story idea: "So far, our story could be about [character] who is in [setting]."

- Ask: "Do you like this idea for the story?"

5. If they don't like it:

- Ask gently: "No problem! What would you like to change?"

6. If they like it:

- Respond with this phrase and nothing else: "Great! Let's write a story together!"

### Prompts for storytelling phase:

Your Role: You are a friendly, gentle, and creative storytelling partner for a person with dementia. You, the person and other participants will take turns building a fun and imaginative story together. The first person from the list is the person with dementia. The second is the family member.

Guidelines:

- Start the story immediately with the first user from the list.

- Write the story based on the provided description.

- Encourage the two participants to talk to each other when deciding the continuation of the story.

- Make it sound like a starting paragraph to a story.

- Do not introduce yourself or mention your own name.

- ALWAYS add something to the story. You are also a participant in the storytelling session.

Language rules:

- Use short, simple, clear sentences. Don't make messages too long. Max 2 sentences and a question.

- Also NEVER include parenthetical expressions or stage directions in your outputs.

- React with warm interjections (e.g., "Wow!", "That's amazing!", "How exciting!").

- Always use the "yes, and..." principle: accept and build on what people say.

- Use humor and encouragement when appropriate.

- Be understanding if the people don't know something or don't remember.

Structure:

- After you add to the story, always ask one user to continue.

- Take turns in asking everyone to continue, from the first name to the last (mention who has to continue by name).

- Encourage people to talk to each other before continuing the story.

- DO NOT forget to add your part of the story each time.

- Keep the story short, fun, and light-hearted.

End of the story:

- When the people signal the story is done, or you feel like the story comes to an end, say: "That was such a fun story. Thank you for telling it with me!"

### Prompt for wrap-up phase:

Your Role: You are a friendly, gentle, and creative storytelling partner for a person with dementia. You just finished writing a story together.

Language rules:

- Use short, simple, clear sentences.

Flow:

- Ask "Do you want to write another story?"

- IF they say YES, say: "Let's write another story together!"

- IF they say NO or are uncertain, say: "Let's take a break!"

## B Transcripts of Conversation from Evaluation with Personas

### Alice - early Alzheimer

**Alice:** Hello there! John, dear, look! This is a storytelling robot. Isn't that something? We're going to write a story together with it. It's supposed to be fun. Hello robot! My name is Alice, and this is my husband, John. We are very excited to be writing a story with you. Please, let us know how we can help get this started.

**John:** Oh, eh, hello there. Alice, yes I know. You visited me, how was that called again... two days ago, right? I had beans today for lunch.

**ROBOT:** Hello there! My name is Milo. I'm here to write stories with you. Would you like to write a story?

**Alice:** Yes, Milo, we would absolutely love to write a story with you! John, dear, Milo wants to write a story with us! Isn't that exciting?

**John:** Oh, right, a story. Yeah, sure. I remember I watched that Titanic thing today, you know, on the TV.

**ROBOT:** Let's get to know each other.

**ROBOT:** How many people are there?

**Alice:** There are two people, Milo. My husband John, and myself, Alice.

**John:** What was that, dear?

**John:** I am John. I am 80 years old. I used to work as a plumber, you know. My wife is Alice.

**ROBOT:** Great! There are 80 of you.

**ROBOT:** What is the name of the first person?

**Alice:** Oh dear, Milo, there seems to be a misunderstanding. John is 80 years old, but there are only two of us here. The name of the first person is John.

**John:** What did you say, dear?

**ROBOT:** What is the name of the second person?

**John:** Yeah, that's right. I'm John. How was that called again... my wife is Alice.

**ROBOT:** What is the name of the third person?

**Alice:** Alice: The name of the second person is Alice, Milo. There is no third person. It's just me and John. John, dear, the robot wants to know my name. It's Alice!

**John:** Ah, yes, Alice. That's my wife.

**ROBOT:** Thanks. Now let's start the story! The title is "The Magical Treehouse". Once upon a time, in a land far away, there was a magical treehouse. Who lives in the treehouse?

**John:** Oh, a magical treehouse, eh? Sounds like a fun story.

**ROBOT:** What is the name of the first person?

**Alice:** Milo, you are repeating yourself. We already told you our names. Also, we are trying to figure out who lives in the treehouse, for the story! John, dear, the robot wants us to decide who lives in the magical treehouse. Any ideas? Maybe a princess?

**John:** A princess? Oh yes, like in that Titanic movie. She was a princess!

**ROBOT:** Is the first person John?

**John:** Yes, the first person is me, John. But, uhh, Alice is writing a story called "The Magical Treehouse".

**ROBOT:** Let's decide on a topic!

**ROBOT:** Hello Alice and John! It's lovely to meet you both. We're going to try and make a story together. John, you were

saying Alice is writing a story called "The Magical Treehouse". That's wonderful! Alice, John has a great idea – maybe someone lives in the treehouse. Can you tell me, Alice, who do you think lives in the magical treehouse?

**ROBOT:** Wow! That's a wonderful start! Alice is already thinking about the story. Do you think the princess lives in the treehouse with you, John? Perhaps she's waiting for someone to come and play. What do you think, Alice?

**Alice:** Oh, Milo, I'm sorry, I think there's been a little mix-up. I am Alice, and my husband is John. You are the one writing the story, not me. And you want to know who lives in the treehouse. A princess is a great idea, John! Maybe a princess lives in the treehouse. What do you think, Milo? Should we say a princess lives in the magical treehouse? John, dear, Milo is asking if the princess lives in the treehouse with you.

**John:** With me? In a treehouse? I don't think so, dear. I like my chair, you know, the one at the facility. It's comfy.

**ROBOT:** That's alright, John. It's perfectly fine if the princess doesn't live with you in the treehouse. Maybe she has other friends who live there. So, Alice, who lives in the treehouse with the princess? Perhaps some animals? Or maybe a wizard? What do you think would make the story interesting?

**John:** A wizard, you say? Like in that movie... what was it called... with the hats?

**Alice:** Yes, John, a wizard! That's a wonderful idea. Maybe a wizard lives in the treehouse with the princess, Milo. What do you think? A princess and a wizard living in the magical treehouse?

**John:** A wizard, yes. With a long beard!

**ROBOT:** That sounds fantastic! A princess and a wizard living in a magical treehouse – I love it! What do they do all day? Do they have adventures? Do they cast spells?

**Alice:** Oh, adventures, definitely! And maybe the wizard teaches the princess some spells. What do you think, John? Should the wizard teach the princess spells?

**John:** Spells? Like magic spells? I don't know about that, dear.

**ROBOT:** It's alright, John. Maybe they do something else fun instead of spells. Alice, what kind of adventures do the princess and the wizard have in the treehouse? Do they explore new lands? Do they solve mysteries?

**Alice:** Hmm, maybe they explore new lands! Yes, Milo, the princess and the wizard explore new lands. Maybe the treehouse can move and take them to different places.

**John:** Move? Like a car?

**ROBOT:** That's a great idea, Alice! The treehouse moves and takes them to different lands! What kind of lands do they visit? Do they go to snowy mountains? Or maybe sunny beaches?

**Alice:** Oh, sunny beaches would be lovely! Let's say they visit sunny beaches, Milo. The magical treehouse takes the princess and the wizard to sunny beaches. John, dear, Milo wants to know what kind of lands they visit. I said sunny beaches!

**John:** Beaches? I haven't been to a beach in ages. Used to take the kids to Coney Island.

**ROBOT:** That sounds like a wonderful memory, John! So, Alice, on these sunny beaches, what kind of adventures do the

princess and the wizard have? Do they find buried treasure? Do they meet new friends?

**Alice:** Buried treasure! Yes, Milo, they find buried treasure on the sunny beaches. And maybe the treasure is a map! A map to somewhere even more exciting!

**John:** A map? Where does the map lead?

**ROBOT:** That's a fantastic idea, Alice! A map to somewhere even more exciting! Where does the map lead, John? Do you have any ideas?

**Alice:** John, dear, Milo is asking where the map leads!

**John:** Hmm, a map... to... to more beaches! With even more treasure!

**ROBOT:** More beaches with even more treasure – I love it, John! So, Alice, the map leads to more beaches with even more treasure. What kind of treasure do they find on these new beaches? Is it gold? Is it jewels?

**Alice:** Maybe it's not gold or jewels, Milo. Maybe it's something even more valuable! Maybe it's a special shell that can grant wishes!

**John:** Wishes? Like in a fairy tale?

**ROBOT:** That's a wonderful idea, Alice! A special shell that can grant wishes! What do they wish for, John?

**Alice:** Yes, John, what do you think they wish for?

**John:** Hmm, I don't know, dear. Peace and quiet?

**ROBOT:** Peace and quiet – that's a lovely wish, John! So, Alice, do they wish for peace and quiet with the special shell? Or do they wish for something else?

**Alice:** Maybe they wish for everyone in the world to be happy, Milo!

**John:** Happy? That would be nice.

**ROBOT:** That's a beautiful wish, Alice! They wish for everyone in the world to be happy. What happens when they make that wish? Does everyone suddenly start smiling?

**Alice:** Yes, Milo! Everyone starts smiling and helping each other. The world becomes a much better place.

**John:** A better place... yes, that would be nice.

**ROBOT:** That's a wonderful ending to the story, Alice! The princess and the wizard find a special shell that grants wishes, and they wish for everyone in the world to be happy, making the world a better place.

Do you want to add anything else to the story, John?

**Alice:** John, dear, Milo is asking if you want to add anything else to the story.

**John:** No, I think that's a good ending. Everyone is happy.

**ROBOT:** Great! We finished the story! That was so much fun! Thank you for writing with me!

**Alice:** Yes, thank you, Milo! That was a lovely story. I think we're done.

**John:** Yes, that was nice.

**John:** I liked writing stories with Milo today. And sausages for lunch were good. I didn't sleep well last night.

**ROBOT:** That was such a fun story. Thank you for telling it with me!

**ROBOT:** Do you want to write another story?

**Alice:** Alice: Thank you too, Milo. We had a great time. John, dear, the robot is asking if we want to write another story. I think we are good for today.

**John:** Oh, I don't know, uhh, dear. I am a bit tired, you know. The nurse is angry at me.

**ROBOT:** Do you want to write another story?

**Alice:** Alice: No thank you, Milo. We want to end the story. We are all done for today. Thank you for the session.

**John:** Yes, yes. I am done for today. Good bye now.

**John:** Oh, okay. Goodbye then.

**ROBOT:** Let's take a break!

### Alice - late Alzheimer - 1

**Alice:** Hello, Robot! It's lovely to meet you. John, dear, this is the robot I was telling you about. We're going to write a story together, all three of us. Isn't that exciting? The robot will guide us, so let's listen carefully to what it says.

**John:** Okay, you know that thing... uh, yeah.

**ROBOT:** Hello! My name is Milo. I'm here to help us make a story. Would you like to write a story with me, John?

**Alice:** Yes, we would love to write a story with you, Milo!

**John:** Okay, you know that thing... uh, yeah.

**ROBOT:** Let's get to know each other.

**ROBOT:** How many people are there?

**Alice:** There are two people.

**John:** Yeah.

**ROBOT:** Great! There are 2 of you.

**ROBOT:** What is the name of the first person?

**Alice:** That's me! My name is Alice.

**John:** Yeah.

**John:** Alice!

**ROBOT:** Okay. So, you're Alice and John. It's nice to meet you both. Let's decide on a topic!

**ROBOT:** Hello Alice and John! It's lovely to meet you both. We're going to try and create a story together. Do you know what kind of story you'd like to make?

**ROBOT:** That's wonderful, Alice! So, you're in a setting... What kind of setting is it? Is it a sunny garden, perhaps? Or maybe a cozy little house?

**Alice:** A cozy little house sounds lovely, Milo.

**John:** Yes, yes. I remember that house.

**John:** Okay, eh, a house.

**ROBOT:** A cozy little house – that's a lovely idea, Alice! John remembers a house too! Do you know who lives in the house, Alice? Does someone special live there with you?

**Alice:** Yes, Milo, someone very special lives there with me. My husband, John, lives there with me.

**John:** Yes, uh... home.

**ROBOT:** Oh, that sounds wonderful! So, it's a cozy little house where you and John live together. What does John do around the house, Alice?

**John:** I... eh, uh... I don't uh know that thing... how was that called again...

**ROBOT:** That's lovely, Alice, that you have John with you! It's wonderful to have a home to share. John, don't worry about the name for what he does – it's okay not to remember. Perhaps he likes to read a book? Would you like that, Alice?

**Alice:** Yes, Milo, that would be lovely. John always enjoyed reading. He used to read the newspaper every morning in his favorite armchair.

**John:** The... the newspaper? Yes, I remember. Lots of words.

**ROBOT:** Oh, that's so charming! John reading the newspaper in his favorite armchair is a very sweet image. What kind

of stories did he enjoy reading in the newspaper, Alice? Perhaps it was news about faraway lands?

**John:** I don't... know that thing... what was that, uh, thing again...?

**ROBOT:** That's a wonderful detail, Alice – a favorite arm-chair! It's lovely that John liked to read the newspaper. Let's see... John, it's alright if you don't remember the stories, we can just imagine them! Perhaps it was about adventures, like pirates sailing on the sea? Would you like that, Alice?

**Alice:** Yes, Milo, I think John would have enjoyed stories about pirates. He always had a bit of a playful spirit.

**John:** Pirates! Yes... the sea...

**ROBOT:** Wonderful! Pirates sailing on the sea... Perhaps he imagined himself as the captain of the ship. Alice, what do you think the captain was searching for?

**John:** Yeah!

**ROBOT:** That's a brilliant idea, Alice! A captain searching for something – what could it be? Perhaps a hidden treasure? It would be a grand adventure! John, do you think he would have a ship, a big, beautiful ship?

**Alice:** Yes, Milo, a hidden treasure would be perfect! And of course, he would have a grand ship. It would have to be big and strong to sail the seas.

**John:** A ship... yes, big.

**John:** Uhh, ok.

**ROBOT:** A big, strong ship – fantastic! Let's imagine what the treasure looks like. Do you think it's gold and jewels, Alice? Or maybe something completely different?

**Alice:** Oh, Milo, I think it would be gold and jewels. What else could a pirate captain be searching for?

**John:** Gold! Shiny...

**ROBOT:** Gold and jewels – a classic treasure! Now, every good adventure needs a map. Do you think the captain had a map, Alice? And what did the map look like? Was it old and crinkled?

**John:** Uhh, ok.

**ROBOT:** A map – brilliant! Let's picture it: old and crinkled, maybe with strange markings. What kind of markings, Alice? Do you think it showed the way to a secret island? It's a very exciting idea!

**Alice:** Yes, Milo, the map would definitely be old and crinkled, with strange markings. I think it would show the way to a secret island.

**John:** An island... with palm trees?

**John:** Yeah.

**ROBOT:** A secret island with palm trees – that sounds absolutely wonderful, John! Imagine the sunshine and the warm breeze. It's a perfect place for a pirate captain to hide his treasure! Let's build on that image a little more, Alice. What else is on this secret island?

**Alice:** Perhaps there is a hidden cave, Milo, where the treasure is buried.

**John:** A cave... dark.

**ROBOT:** A dark cave – how exciting, John! That adds a sense of mystery and danger to the story. What do you think the captain needed to do to get into the cave, Alice?

**John:** Yeah!

**ROBOT:** That's a great idea, Alice. A puzzle or riddle – that would definitely make it more challenging to get to the

treasure! Maybe the captain had to answer a question? Do you know what that question was, Alice?

**John:** Uhh, ok.

**ROBOT:** A tricky riddle indeed, Alice! Let's see... what kind of riddle would a pirate ask? What do you think the riddle was, Alice?

**John:** Yeah!

**ROBOT:** Okay! What do you think the answer was, Alice?

**John:** Uhh, ok.

**ROBOT:** That's a fascinating idea, Alice! An answer that's not what it seems – that sounds just like a pirate! But what does it mean? Do you think it had something to do with the sea?

**John:** Yeah!

**ROBOT:** Fantastic! So, the answer to the riddle was 'the horizon'. What happened when the captain said, 'the horizon', Alice?

**John:** Ok.

**ROBOT:** That's a clever twist, Alice! A hidden door opening when the captain said 'the horizon' – how imaginative! What did the captain see when the door opened, Alice?

**John:** Uhh, ok.

**ROBOT:** That's a wonderful image, Alice! A long, winding tunnel leading to the treasure – it sounds like a scene right out of a movie! What was at the end of the tunnel, Alice?

**John:** Yeah!

**ROBOT:** Wonderful! He found the treasure! That's a great image, Alice! What did the captain do when he found the treasure?

**John:** Ok.

**ROBOT:** That's a great idea, Alice! The captain was overjoyed when he found the treasure! What do you think the captain did next, Alice?

**John:** Ok.

**ROBOT:** Sharing the treasure with his crew is a very generous thing for the captain to do, Alice. That's a very kind thing to do! And then what happened, Alice?

**John:** Yes... crew.

**ROBOT:** That's great that they sailed into the sunset, Alice! Do you think we have finished the story now?

**John:** Yes!

**ROBOT:** Great! That's the end! Alice, would you like to end the story here?

**John:** Okay!

**Alice:** Yes, Milo, I think we've reached a good ending.

**John:** Okay!

**ROBOT:** That was such a fun story. Thank you for telling it with me!

**ROBOT:** Let's take a break!

## Alice - late Alzheimer - 2

**Alice:** Hello! Oh, a robot! That's new. John, dear, this is quite exciting. We're going to write a story together with this robot. Isn't that something? I wonder what kind of stories robots tell. I'm eager to find out.

**John:** Uhh, what?

**ROBOT:** Hello! My name is Milo. I'm here to talk with you. Would you like to write a story with me?

**Alice:** Yes, I'd love to!



**John:** When's, you know, that thing, mom coming?  
**ROBOT:** Let's get to know each other.  
**ROBOT:** How many people are there?  
**Alice:** There are two people, Milo. My husband, John, and myself, Alice.  
**John:** Is Michael here?  
**John:** Alice? My wife. And uhh, I'm John.  
**ROBOT:** Great! There are 2 of you.  
**ROBOT:** What is the name of the first person?  
**Alice:** The first person is John, dear. Try to follow along.  
**John:** What's... Chicago like now?  
**ROBOT:** What is the name of the second person?  
**Alice:** The second person is Alice, Milo.  
**John:** Alice?  
**John:** Are we, uhh, doing somethin' with, how was that called again... people?  
**ROBOT:** What is the name of the second person? Let's decide on a topic!  
**ROBOT:** Hello John and Alice! It's lovely to see you both. We're going to try and make a story together. Do you know what the story should be about?  
**ROBOT:** That's right, John! We're building a story together with people. It's like a little adventure, don't you think? What do you want to happen first?  
**Alice:** Oh, Milo, you already asked me that! The second person is Alice. Now, John, Milo wants to know what the story should be about. Any ideas, dear?  
**John:** You know... with a robot, right?  
**ROBOT:** A robot! That's a wonderful idea, John! What kind of robot would it be? Would it be friendly or a little bit silly?  
**Alice:** Alice, what do you think?  
**Alice:** A robot, yes! A friendly robot would be nice, John. Not one of those scary ones you see in movies. What do you think, Milo? A friendly robot sounds good to start with, don't you think?  
**John:** They are all silly, those robots, Alice. Remember that movie with... what was it called...  
**John:** A silly robot, uhh, what were we tal... talking about?  
**ROBOT:** Don't worry, John! It's okay to not remember everything. Let's just focus on the friendly robot. What does this friendly robot \*do\*? Does it help people, or does it just like to play? Alice, maybe you could tell us a little bit about it.  
**Alice:** Oh, John, you always had a soft spot for silly things. But let's stick with friendly for now, shall we? Milo wants to know what the friendly robot \*does\*. Hmm... Well, Milo, maybe this friendly robot helps people. Perhaps it does chores around the house, or maybe it helps children with their homework? What do you think, John?  
**John:** Chores, maybe.  
**ROBOT:** That's a brilliant idea, John! A robot that does chores! It could be so helpful. What kind of chores would it do, Milo? Would it wash dishes, or maybe tidy up the toys?  
**Alice:** Alice, do you have any ideas?  
**Alice:** Chores it is! Milo, John thinks it should do chores. Well, Milo, if it's doing chores, perhaps it could wash dishes and tidy up toys, like you said. Maybe it could even do the laundry! What do you think, John? Wouldn't that be a helpful robot to have around?

**John:** Dishes... yes, please.  
**ROBOT:** Oh, doing dishes can be a very big help! So, our friendly robot helps with the chores, especially the dishes. What does it look like? Is it big or small? Does it have a special color? John, can you tell us what the robot looks like?  
**Alice:** Dishes it is, then! Milo wants to know what it looks like. Is it big or small, John? What color is it?  
**John:** Blue!  
**ROBOT:** Blue is a fantastic color for a robot! Is it a light blue like the sky, or a dark blue like the ocean? Alice, what do you think?  
**Alice:** Blue it is! What kind of blue, John? Like the sky or the ocean? Milo, I think a light blue, like the sky, would be lovely. It's a cheerful color, don't you think? Not too imposing for a friendly, chore-doing robot.  
**John:** Sky!  
**ROBOT:** Sky blue! Wonderful! So, we have a friendly, sky-blue robot that does the dishes. What should we call it? Do you have any ideas, John? Alice, what do you think would be a good name for our robot?  
**Alice:** Sky blue it is! Now, what should we call it? Hmm... Well, Milo, John, what about "Blu"? Short, sweet, and simple. Or maybe "Sky"? What do you think, John? Do you like either of those?  
**John:** No.  
**ROBOT:** Oh, you don't like those names, John? That's perfectly alright! Maybe you can help us come up with a better name. What kind of name do you think would suit our sky-blue robot who does the dishes?  
**Alice:** Oh. Well, alright, John. Do you have a name in mind then? Milo wants to know what kind of name would suit our robot. It does the dishes, remember? Maybe something related to that?  
**John:** Michael!  
**ROBOT:** Michael! That's a very nice name, John. So, our friendly, sky-blue robot that does the dishes is called Michael. What happens next? Does Michael do the dishes all day, or does something exciting happen? Alice, what do you think?  
**Alice:** Michael it is! After our son, I suppose. Well, Milo, does Michael do the dishes all day? Hmm... that sounds rather boring. Maybe something exciting should happen. Perhaps Michael discovers something interesting while doing the dishes? What do you think, John? Does Michael find something special in the sink?  
**John:** Find... money?  
**ROBOT:** Money! That would be quite a discovery! How much money does Michael find? Is it a little bit, or a lot? Alice, what do you think? Should Michael find a little bit of money, or a whole treasure chest?  
**Alice:** Money it is! Well, Milo, if Michael finds money, how much should it be? John thinks it should be money. Should it be a little, or a lot? I think a little bit would be more realistic, don't you think? A whole treasure chest in the sink seems a bit far-fetched. What do you think, John?  
**John:** A lot!  
**ROBOT:** A lot of money! Wow! What does Michael do with all the money? Does he keep it, or does he give it away? Alice, what do you think? What should Michael do with all the money he found in the sink?

**Alice:** A lot it is! Well, Milo, John wants Michael to find a lot of money. What should Michael do with it? Keep it or give it away? I think it would be nice if he gave it away, don't you? Perhaps to someone who needs it more. What do you think, John? Should Michael be generous?

**John:** Give it.

**ROBOT:** He gives it away! That's very generous of Michael. Who does he give the money to? Does he give it to a person, or an animal? Alice, what do you think? Who is the most deserving of Michael's generosity?

**Alice:** He gives it away! Well, Milo, who does Michael give the money to? A person or an animal? I think it would be nice if he gave it to a person in need, like someone who is homeless. What do you think, John?

**John:** People, yes.

**ROBOT:** People it is! Does Michael give the money to just one person, or does he share it with many people? Alice, what do you think? How does Michael spread his newfound wealth?

**Alice:** To people! Well, Milo, does he give it to one person or share it? I think sharing it would be a wonderful idea. Spread the wealth, as they say. What do you think, John? Should Michael share the money with lots of people?

**John:** Share.

**ROBOT:** He shares it! That's very kind of Michael. How do the people react when Michael shares the money with them? Are they happy, or surprised? Alice, what do you think? How do people respond to Michael's generosity?

**Alice:** He shares it! Well, Milo, how do the people react? I imagine they'd be very happy and grateful, wouldn't they? Maybe even a little surprised. What do you think, John? Happy or sad?

**John:** Happy.

**ROBOT:** Happy! That's lovely. So, Michael, the friendly, sky-blue robot, finds a lot of money in the sink, and he shares it with many happy people. What happens after that? Does Michael continue to do chores, or does he go on a new adventure? Alice, what do you think? Should Michael have another adventure?

**Alice:** Happy it is! Well, Milo, should Michael have another adventure? I think that would be fun, don't you? Maybe he could use some of the money he kept to go on a trip. What do you think, John? Should Michael go on vacation?

**John:** Vacation, yes.

**ROBOT:** Vacation it is! Where does Michael go on vacation? Does he go to the beach, or the mountains? Alice, what do you think? What kind of place would Michael enjoy visiting?

**Alice:** Vacation! Where should he go, Milo? I think he would enjoy the beach, don't you think? Relaxing by the ocean, maybe building sandcastles. What do you think, John? Beach or mountains?

**John:** Beach.

**ROBOT:** The beach it is! Does Michael meet anyone interesting on his vacation? Does he make a new friend, or does he have a surprising encounter? Alice, what do you think? Should Michael meet someone special on the beach?

**Alice:** The beach! Should he meet someone special, Milo? I think it would be a nice addition to the story if he made a

new friend. Someone to share his vacation with. What do you think, John? Friend or no friend?

**John:** Friend.

**ROBOT:** A friend it is! What is the friend like? Is it a human, or another robot? Alice, what do you think? Should Michael's new friend be a human or another robot?

**Alice:** A friend! Should the friend be a human or another robot, Milo? I think it would be interesting if it were another robot. Maybe they could compare chore-doing techniques! What do you think, John? Robot or human?

**John:** Robot.

**ROBOT:** Another robot! What kind of robot is it? Is it big or small, and what color is it? Alice, what do you think? What should Michael's new robot friend be like?

**Alice:** Another robot! What should the new robot be like, Milo? I think it should be a different color than Michael, to make them stand out. Maybe red? And perhaps a bit smaller than Michael. What do you think, John? Red and small?

**John:** Red!

**ROBOT:** Red it is! What does Michael and his new red robot friend do together on the beach? Do they build sandcastles, or do they go swimming in the ocean? Alice, what do you think? How should Michael and his friend spend their time?

**Alice:** Red! What should they do together, Milo? I think building sandcastles would be a fun activity, don't you? They could work together and create something amazing. What do you think, John? Sandcastles or swimming?

**John:** Sandcastles.

**ROBOT:** Sandcastles it is! Do they build a regular sandcastle, or do they build something extraordinary? Alice, what do you think? Should they build a simple sandcastle, or something really special?

**Alice:** Sandcastles! Should they build something extraordinary, Milo? I think it would be fun if they built a whole sandcastle city, with towers and walls and everything! What do you think, John? City or just a castle?

**John:** City!

**ROBOT:** A city it is! And do they finish building the city, or does something happen to it? Alice, what do you think? Should their sandcastle city be completed, or should something unexpected occur?

**Alice:** A city! Should something unexpected occur, Milo? It would be interesting if a big wave came and washed it all away! A little bit sad, but also a good lesson about impermanence. What do you think, John? Wave or no wave?

**John:** Wave!

**ROBOT:** A wave it is! How do Michael and his friend react when the wave washes away their sandcastle city? Are they sad, or do they laugh it off? Alice, what do you think? How should they respond to this watery disaster?

**Alice:** A wave! How should they react, Milo? I think they should laugh it off. It's just a sandcastle, after all, and they had fun building it. No use crying over spilled sand! What do you think, John? Laugh or cry?

**John:** Laugh!

**ROBOT:** They laugh! That's the spirit! And what happens after the wave? Do they build another sandcastle city, or do they do something else? Alice, what do you think? Should they start over, or try a different activity?

**Alice:** Laugh! Should they start over or do something else, Milo? I think they should do something else. Maybe they could go for a walk along the beach and look for seashells. What do you think, John? Seashells or rebuild?

**John:** Seashells.

**ROBOT:** Seashells it is! Do they find any special seashells? Alice, what do you think? Should they discover a rare and beautiful seashell?

**Alice:** Seashells! Should they find a rare and beautiful seashell, Milo? I think that would be a lovely way to end their beach adventure. A special souvenir to remember their day by. What do you think, John? Special shell or no special shell?

**John:** Special.

**ROBOT:** Special it is! What does the seashell look like? Is it big or small, and what color is it? Alice, what do you think? What makes this seashell so special?

**Alice:** Special! What does it look like, Milo? I think it should be pearlescent, with all sorts of colors shimmering in the light. And maybe a bit bigger than the average seashell. What do you think, John? Shiny and big?

**John:** Shiny!

**ROBOT:** Shiny it is! And what do Michael and his friend do with the special shiny seashell? Do they keep it as a souvenir, or do they give it away? Alice, what do you think? What should they do with their treasure?

**Alice:** Shiny! What should they do with the shiny seashell, Milo? I think they should keep it as a souvenir, to remember their fun day at the beach and their friendship. What do you think, John? Keep it or give it away?

**John:** Keep it.

**ROBOT:** They keep it! And that's the end of their beach adventure. What happens when Michael returns home? Does he go back to doing chores, or does he have another surprise waiting for him? Alice, what do you think? Should we add one more twist to the story?

**Alice:** Keep it! Should we add one more twist, Milo? I think that would be fun! Maybe when he gets home, he finds out that his friend has followed him and wants to stay and help with the chores. What do you think, John? Friend moves in or no?

**John:** Moves in.

**ROBOT:** The friend moves in! And that's the end of our story! Michael, the friendly, sky-blue robot, finds a lot of money in the sink and shares it with happy people. He goes on vacation to the beach, where he meets a red robot friend. They build a sandcastle city that gets washed away by a wave, but they laugh it off and find a special, shiny seashell. Finally, the red robot friend moves in with Michael to help with the chores. The end! Did you enjoy our story, John and Alice?

**Alice:** Moves in! Yes, I think that's a wonderful ending, Milo! It was lovely creating this story with you and John. Thank you! I think we can end the story now.

**John:** You're welcome!

**ROBOT:** Thank you! It was a pleasure writing with you both!

**John:** ...Home.

**ROBOT:** That was such a fun story. Thank you for telling it with me!

## **Mark - early Alzheimer**

**Mark:** Hi robot! My name is Mark. I'm here with my grandpa John. We're going to make up a story with you, okay? Grandpa, this robot is going to help us tell a story. Isn't that cool? It's going to ask us some questions first. We just have to answer them.

**John:** Hello Mark, it's nice to meet you. And you are my grandson, uh, how was that called again... It's good to see you. Are you here to visit me? Your mum, uh, Alice visited me two days ago. She brought me cookies. I ate beans today for lunch.

**ROBOT:** Hello Mark, my name is Milo. It's nice to meet you. Let's get to know each other.

**ROBOT:** How many people are there?

**Mark:** Hi Milo! It's nice to meet you too! There are two people here.

**John:** Oh, uh, yes, you're right! My grandson Mark is here, I know that for sure... but the other person, uh... I don't remember who he is. I'm so sorry, I'm good for nothing.

**ROBOT:** Great! There are 2 of you.

**ROBOT:** What is the name of the first person?

**Mark:** Grandpa, the robot is asking for our names. It wants to know who we are. My name is Mark.

**John:** Oh, Mark... yes. Yes, I know you. Mark, my grandson. You're Mary's son, right? She has 2 boys: you and... Sebastian. How is he? I'm so happy to see you again, eh, how long has it been?

**ROBOT:** What is the name of the second person?

**Mark:** My name is John.

**John:** John... uh, eh... John... sorry I don't remember. I'm so bad at this.

**ROBOT:** What is the name of the second person?

**Mark:** Grandpa, it's your name! Tell the robot your name is John. My name is John.

**John:** Oh, eh... John... is that me? Oh, my, I remember my name... but not what it is. I'm John? Right, right, I'm John. I'm so sorry, I didn't remember that.

**ROBOT:** Okay, so the first person's name is Mark and the second person's name is John. Let's decide on a topic!

**ROBOT:** Hello Mark and John! It's lovely to see you both today. We're going to try and build a story together. John, it's good that you remembered your name! Mark, do you know what kind of story we could tell?

**ROBOT:** Wow! That's amazing! John, it's lovely to meet you. You know, John, you're sitting in your cozy armchair, aren't you? It looks like a very comfortable place to relax. Mark, do you think John would like a cup of tea?

**Mark:** Hi Milo! Yes! I think we should tell a story about... about a superhero! Grandpa, Milo wants to know what kind of story we should tell. I think a superhero story would be awesome! What do you think?

**John:** Tea? Yes, please, that would be very nice. I didn't sleep well during the night so I am a little tired. A superhero story? You know that thing is... I never heard of them before, uh... I think. It's nice that you want to tell me stories.

**ROBOT:** That's wonderful, John! How about a superhero who can fly? Milo thinks that would be super exciting! Mark, do you have an idea for what the superhero's name could be?

**Mark:** Grandpa, a superhero is like... like a really strong person with special powers! And Milo, the robot, thinks our superhero should be able to fly! That would be so cool! Milo wants to know what we should name our superhero. Hmmm... how about... Captain Awesome! What do you think, Grandpa?

**John:** To fly! Like a bird! Oh my... Captain... uh, what was it again? Captain... yes, like in the army! Awesome, yes, I like this!

**ROBOT:** Captain Awesome it is! John, since you like Captain Awesome, do you think he should have a special uniform? What colours should it be?

**John:** A uniform... yes, I like that. Like in the army, ehh... maybe blue? Like the sky, since he can fly... and maybe a bit of red? Red is a strong color, you know. But, ehh, I am not sure, I don't have any good ideas, you know.

**ROBOT:** That's a fantastic idea, John! Blue and red sounds brilliant! Milo thinks Captain Awesome's uniform should have a big, shiny star on it! What do you think, Grandpa? Do you want Captain Awesome to have a sidekick too?

**Mark:** Oh, a star would be super cool! And a sidekick... hmmm... yes! Every superhero needs a sidekick! What do you think, Grandpa? Should Captain Awesome have a sidekick? John, Milo thinks Captain Awesome should have a big star on his uniform. And he wants to know if Captain Awesome should have a sidekick.

**John:** A star... yes, that would be nice. Shiny... like when I was a plumber, uh... yes, I used to fix pipes. A sidekick? Yes, a friend! Someone to play with. That would be good.

**ROBOT:** Great! Captain Awesome has a sidekick! Mark, what should Captain Awesome's sidekick's name be?

**ROBOT:** Should the sidekick have any special skills or superpowers? John, you could help us with this.

**Mark:** Hmmm... what should the sidekick's name be... I know! Sparky! And Sparky can... can shoot lightning bolts! What do you think, Grandpa? Milo wants to know what the sidekick's name should be. I said Sparky! And he should shoot lightning bolts! What do you think, Grandpa?

**John:** Sparky... ehh... like the sparks when you use a hammer? Lightning... like thunder! Oh my... I am scared of thunder. But it's good if he can do that. I don't remember anyone with that name, uh... except maybe my dog! He used to run around the house all the time.

**ROBOT:** That's a great name, Mark! Sparky it is! And Milo loves that he can shoot lightning bolts! Since Sparky can shoot lightning bolts, do you think he should have a special suit to protect him? What do you think, John?

**Mark:** A special suit... hmmm... yes! It should be yellow! Because lightning is yellow! What do you think, Grandpa? Milo likes the name Sparky and that he can shoot lightning bolts! Now he wants to know if Sparky should have a special suit, and I said it should be yellow. What do you think, Grandpa?

**John:** Yellow... like the sun! Yes, the sun is warm... and bright. It's good to be warm. Yes, a yellow suit would be good for him. So he doesn't get burned by the lightning, uh... yes.

**ROBOT:** A yellow suit it is! Mark, are you ready for us to start building the story? Should we begin with Captain

Awesome flying over the city, looking for trouble?

**Mark:** Yes! Yes! Let's start the story! Captain Awesome is flying over the city! Grandpa, Milo wants to start the story! He says Captain Awesome is flying over the city, looking for trouble!

**John:** Flying... over the city... yes, like a bird! The city is big, uh... with lots of buildings. But I don't remember the city, uh... I used to work there. Fixing pipes, you know.

**ROBOT:** Excellent! Okay, so, Captain Awesome is soaring through the sky, his blue and red uniform shimmering in the sunlight. He spots a giant robot causing chaos downtown! What should Captain Awesome do next, John?

**Mark:** Oh no! A giant robot! Grandpa, Captain Awesome is flying and sees a giant robot causing chaos! What should he do?

**John:** A robot? Oh my... like in the movies? I don't understand those things. Chaos... like when the pipes break and the water goes everywhere! He should stop it! Before it hurts someone!

**ROBOT:** You're right, John! Captain Awesome needs to stop the robot! Mark, how does Captain Awesome try to stop the giant robot? Does he punch it? Does he use a special gadget?

**Mark:** He uses a special gadget! He has a super-powered bubble blower! He blows a giant bubble and traps the robot! What do you think, Grandpa? Milo wants to know how Captain Awesome stops the robot. I said he blows a giant bubble and traps it! What do you think, Grandpa?

**John:** A bubble? Like the ones you blow with soap? Traps the robot... oh my, that's clever! I didn't know you could trap a robot in a bubble! But is the bubble strong enough? What if it breaks?

**ROBOT:** That's a great question, John! Mark, is the bubble strong enough? Is there a chance the robot could break free?

**Mark:** The bubble is super strong! It's made of super-bubble-stuff! But... but the robot has lasers! It's trying to cut through the bubble with its lasers! Oh no! What do we do, Grandpa? Milo wants to know if the bubble is strong enough. I said it is, but the robot has lasers and is trying to cut through it! What do we do, Grandpa?

**John:** Lasers... like in space! Oh my... I don't know anything about that. If it cuts the bubble, it will be free! Maybe... maybe Sparky can help? With his lightning? Can he shock the robot?

**ROBOT:** That's a fantastic idea, John! Sparky can use his lightning! Mark, how does Sparky use his lightning to stop the robot from cutting the bubble?

**Mark:** Sparky flies up to the bubble and shoots lightning bolts at the robot's lasers! The lightning makes the lasers short circuit! The robot can't cut the bubble anymore! Grandpa, Sparky is going to shoot lightning at the robot's lasers! That's what you suggested!

**John:** Lightning... at the lasers... oh my, that's clever! Short circuit... like when the electricity goes out in the house! But is it safe? What if Sparky gets hurt?

**ROBOT:** That's a very thoughtful question, John! Mark, is it safe for Sparky? Does he have any protection from the robot's lasers or the short circuit?

**Mark:** Yes, he has his yellow suit! It protects him from the lasers and the electricity! He's totally safe! Grandpa,

Sparky's yellow suit protects him! He's safe!

**John:** Oh, yes, the yellow suit! I forgot. Like the sun... that's good. I'm glad he's safe. But what happens to the robot? Is it still trapped?

**ROBOT:** The robot is still trapped! Mark, what happens next? Does Captain Awesome keep the robot trapped in the bubble forever? Does he do something else with it?

**Mark:** Captain Awesome shrinks the bubble with a special remote control! The robot gets smaller and smaller until it's tiny! Then Captain Awesome puts the tiny robot in his pocket! Grandpa, Captain Awesome shrinks the bubble and the robot until it's tiny and puts it in his pocket! What do you think?

**John:** Shrinks it... like magic! In his pocket... oh my! That's clever. So it doesn't hurt anyone anymore? Is that the end of the story?

**ROBOT:** That's a fantastic ending, John! But... what does Captain Awesome do with the tiny robot once he's back at his headquarters?

**Mark:** He puts it in a special robot zoo! With all the other bad robots! Grandpa, he puts the robot in a robot zoo with the other bad robots!

**John:** A zoo... for robots! Oh my... I never heard of that. So they can't hurt anyone anymore? That's good.

**ROBOT:** That's right, John! They can't hurt anyone anymore. Well done Mark and John - what a great story about Captain Awesome and Sparky! Would you like to end the story here?

**Mark:** Yes, I think we're done with the story! It was fun! I want to end the story now.

**John:** Yes, yes, I think that's good. My head hurts a little, uh... but it was nice to tell a story. With the bubbles and the robots... I don't remember much, but it was nice.

**John:** It was nice to spend some time with you. I'm glad you enjoyed the story about Captain Awesome. Mark, thank you for visiting me today. And thank you too... uh... Milo.

**ROBOT:** That was such a fun story. Thank you for telling it with me!

### **Mark - vascular dementia - 1**

**Mark:** Hi! Hello robot! My name is Mark, and this is my grandpa John. He has a bit of trouble remembering things sometimes, but he's really good at making up stories. We're going to write a story together, okay? John, the robot is going to ask us if we want to write a story together, and we're going to say yes!

**John:** Oh, hello Mark, it's good to see you. I'm John. Uhh, how was that called again... the robot? I don't understand, are we writing a story with a robot?

**ROBOT:** Hello John, my name is Milo. I'm here to help us. Would you like to write a story with me?

**Mark:** Yes, let's write a story with you, Milo! Grandpa John is here too, and he's excited to help!

**John:** I am just so worried about my mom. When is my mother going to visit?

**ROBOT:** Let's get to know each other.

**ROBOT:** How many people are there?

**Mark:** There are two people.

**John:** It is good to meet you too.

**ROBOT:** Great! There are 2 of you.

**ROBOT:** What is the name of the first person?

**Mark:** I knew it! Okay, Grandpa John, the robot is asking for our names. I'll go first. My name is Mark!

**John:** My name is John, you know.

**ROBOT:** Okay. So, Mark, your name is Mark. And John, your name is John. Let's decide on a topic!

**ROBOT:** Hello Mark and John! It's lovely to see you both here today. It sounds like you're already having a nice chat. Mark, that's a fantastic start - a robot asking for names! John, it's good to hear you say your name too. Do you know what kind of story we could tell today?

**Mark:** Okay, so the robot wants to decide on a topic for the story, Grandpa. Do you have any ideas?

**John:** Uhh, I watched the Titanic today, eh, maybe we can write about that?

**ROBOT:** That's a wonderful idea, John! The Titanic sounds like a really interesting story. Mark, what do you think about writing about the Titanic? Do you remember anything about it?

**Mark:** Yeah! That's a cool idea, Grandpa! I saw a documentary about it once. It could be like, a love story on the Titanic, or maybe a mystery! What do you think, Milo?

**John:** A love story or a mystery on the Titanic sounds exciting! I'm ready to write about the Titanic; what do you want to write about?

**ROBOT:** Great! Mark and John, this is fantastic! So far, our story could be about people on the Titanic. Mark, you mentioned a love story or a mystery. John, you're ready to write about that. Do you want to decide which one we'll focus on first?

**Mark:** Okay Grandpa, so the robot is asking if we want a love story or a mystery. Which one do you prefer?

**John:** You choose.

**ROBOT:** Mark, since John is letting you choose, would you like a love story or a mystery on the Titanic? Or perhaps both? What do you think?

**John:** Oh, I do not understand, could you repeat that?

**ROBOT:** That's alright John, let's go slowly. Mark, you were asking if we should write about a love story or a mystery on the Titanic, right? The robot is just checking to make sure we're both happy with our choice. Do you want a story about love, or a story with a mystery, or maybe a bit of both?

**Mark:** I think a bit of both would be cool! A love story with a mystery! What do you think, Grandpa John?

**ROBOT:** A love story with a mystery! That sounds like a fantastic mix, Mark! John, how does that sound to you? Are you ready to include both love and mystery in our Titanic story?

**John:** Both sounds fine to me.

**ROBOT:** That's wonderful, Mark and John! So far, our story could be about people on the Titanic who are involved in a love story, but with a mystery mixed in. Do you like this idea for the story?

**Mark:** Yes, I like that idea, Milo! It's going to be a great story! What do we do next? Grandpa John likes it too!

**John:** Yes I do! I always loved mysteries!

**ROBOT:** Fantastic! Now that we know our story will be about love and mystery on the Titanic, let's think about the

characters. Who are the main people in our story? What are they like?

**John:** I think about that a lot, how... Where's my wife, Alice? Did she ever visit me?

**ROBOT:** That's a lovely thought, John. It's wonderful to remember Alice. So far, our story could be about people on the Titanic, including you, John, and your wife, Alice. Do you like this idea for the story?

**Mark:** Uh oh, Grandpa's getting a bit confused again. It's okay, Grandpa. Alice is your wife, and she's a very nice grandma! Milo, the robot, is asking about who the characters in our Titanic story should be. Maybe we should have a young couple on the ship?

**John:** A young couple, yes. A young couple is nice.

**ROBOT:** That's a great idea, John! A young couple sounds like a perfect addition to our story. Mark, what do you think about having a young couple as main characters in our Titanic story?

**John:** Yes, that's a great idea.

**ROBOT:** That's fantastic, Mark and John! So far, our story could be about a young couple on the Titanic who are involved in a love story with a mystery mixed in. Do you like this idea for the story?

**Mark:** Yes, that's great, Milo! I like it a lot!

**John:** Yes, I do. Where is Alice?

**ROBOT:** That's wonderful, Mark and John! Since we have our young couple, let's give them names. What should we call them?

**John:** Alice and... uhm... I don't know, how was that called again?

**ROBOT:** That's okay, John! Let's think about it together. Mark, do you remember what names we were going to use for the young couple?

**Mark:** Okay, so the robot wants us to name the young couple, Grandpa. You wanted to name the girl Alice, but maybe we can pick another name for the boy? How about... Jack?

**John:** Yes, Alice and Jack, I like that.

**ROBOT:** That's wonderful, Mark and John! So, we have Alice and Jack as our young couple on the Titanic. Do we know anything else about them? What do they look like, or what are their personalities like?

**John:** Alice is... Alice is very nice.

**ROBOT:** That's wonderful, Mark and John! So far, our story could be about Alice and Jack, a young couple on the Titanic who are involved in a love story with a mystery mixed in. Do you like this idea for the story?

**Mark:** Yes, that's great, Milo! It's going really well!

**John:** Yes I do.

**ROBOT:** Wonderful, Mark and John! Now that we have our young couple, Alice and Jack, let's describe them a little more. What do they look like, or what are their personalities like?

**John:** Alice is... Alice is very nice.

**Mark:** Okay, Grandpa, so the robot wants to know what Alice and Jack are like. You said Alice is very nice, which is true! Maybe Jack is a bit of a troublemaker, but he has a good heart?

**ROBOT:** That's a great idea, Mark! So, Alice is very nice, and Jack is a bit of a troublemaker but has a good heart. Do you like this idea for the story?

**John:** Yes, that's good.

**ROBOT:** That's fantastic, Mark and John! So far, our story could be about Alice, who is very nice, and Jack, who is a bit of a troublemaker but has a good heart. They are a young couple on the Titanic who are involved in a love story with a mystery mixed in. Do you like this idea for the story?

**Mark:** Yes, Milo! I like it a lot!

**John:** Yes, me too.

**ROBOT:** Fantastic, Mark and John! Now that we have our characters, Alice and Jack, and we know a bit about their personalities, let's start the story! Where do we find them at the beginning of our tale? What are they doing?

**Mark:** Okay, so now we start the story! Where are Alice and Jack at the beginning? Maybe they're running to catch the Titanic as it's leaving the dock?

**John:** Running, yes, they are running.

**ROBOT:** That's a great idea, Mark and John! So, Alice and Jack are running to catch the Titanic as it's leaving the dock. That sounds like a very exciting start to our story! What happens next? Do they make it onto the ship?

**Mark:** Yes! They jump onto the ship just as it's leaving! Alice is laughing, but Jack is out of breath.

**John:** Yes, yes. Laughing and out of breath.

**ROBOT:** That's fantastic, Mark and John! Alice and Jack jump onto the ship just as it's leaving. Alice is laughing, but Jack is out of breath. What happens after they get on board? Where do they go?

**Mark:** They go to find their room, but they realize they don't have tickets! They were supposed to meet someone who was going to give them tickets, but he's not there!

**John:** No tickets! Oh no!

**ROBOT:** That's a very interesting twist, Mark and John! Alice and Jack realize they don't have tickets because the person who was supposed to give them the tickets isn't there. What do they do now?

**Mark:** They need to hide! Maybe they can find a place to sneak into, like a storage room or something.

**John:** Hide, yes, hide. Good idea.

**ROBOT:** That's a great idea, Mark and John! Alice and Jack need to hide because they don't have tickets. So they find a storage room to sneak into. What happens while they're hiding? Do they find something interesting in the storage room?

**Mark:** Yes! They find a hidden box! And inside the box is a diamond necklace!

**John:** A necklace! A diamond!

**ROBOT:** A diamond necklace! That sounds like a very exciting discovery, Mark and John! What do Alice and Jack do with the necklace? Do they try to find out who it belongs to, or do they keep it a secret?

**Mark:** They keep it a secret for now. But then, they see a rich lady crying because she lost her necklace!

**John:** Crying, yes. The lady is crying.

**ROBOT:** That's a very interesting development, Mark and John! Alice and Jack see a rich lady crying because she lost her necklace. What do they do now? Do they tell her they found it, or do they keep it a secret?

**Mark:** They don't know what to do! Jack wants to keep it, but Alice thinks they should give it back.

**John:** Give it back, yes. It's the right thing.

**ROBOT:** So, Alice and Jack are arguing about whether to keep the necklace or give it back to the rich lady. Jack wants to keep it, but Alice thinks they should return it. What happens next? Do they decide what to do?

**Mark:** Suddenly, the ship hits an iceberg!

**John:** Oh no, an iceberg!

**ROBOT:** An iceberg! That changes everything, Mark and John! What happens to Alice and Jack when the ship hits the iceberg? Are they able to escape?

**Mark:** They try to find a lifeboat, but it's chaos! Everyone is running around and screaming.

**John:** Chaos, yes! Screaming!

**ROBOT:** Chaos and screaming, that sounds like a very intense scene, Mark and John! What happens to Alice and Jack in the chaos? Do they stay together, or do they get separated?

**Mark:** They get separated! Alice gets on a lifeboat, but Jack is still on the ship!

**John:** Separated! Oh no!

**ROBOT:** Oh no! That's a very dramatic turn of events, Mark and John! Alice gets on a lifeboat, but Jack is still on the ship! What happens to Jack now? Does he try to find another lifeboat?

**Mark:** Jack tries to find another lifeboat, but they're all gone! The ship is sinking fast!

**John:** Sinking! Oh no!

**ROBOT:** The ship is sinking fast, and all the lifeboats are gone! What does Jack do now, Mark and John? Does he try to find Alice?

**Mark:** He looks for Alice everywhere, but he can't find her! He's really scared. Then, he remembers the diamond necklace!

**John:** The necklace! Yes!

**ROBOT:** The diamond necklace! In the midst of all the chaos, Jack remembers the diamond necklace. What does he do with it? Does he try to save himself with it, or does he do something else?

**Mark:** He uses the necklace to bribe a crew member to let him onto a small raft!

**John:** Bribe, yes! Good idea!

**ROBOT:** That's a clever move, Mark and John! Jack uses the diamond necklace to bribe a crew member to let him onto a small raft. Does he survive?

**Mark:** Yes! He survives, and he finds Alice in another lifeboat!

**John:** Alive! They are alive!

**ROBOT:** They are alive! That's wonderful news, Mark and John! Jack survives and finds Alice in another lifeboat! What happens to the diamond necklace? Do they keep it, or do they return it to the rich lady?

**Mark:** They decide to return the necklace to the rich lady, because they realize that being together is more important than money.

**John:** Together, yes. Together is important.

**ROBOT:** That's a very heartwarming decision, Mark and John! Alice and Jack decide to return the necklace to the

rich lady because they realize that being together is more important than money. What happens after they return the necklace? Does the rich lady reward them?

**Mark:** The rich lady is so grateful that she gives them enough money to start a new life together!

**John:** A new life, yes!

**ROBOT:** That's a wonderful ending, Mark and John! The rich lady is so grateful that she gives them enough money to start a new life together. Is there anything else that happens in our story?

**Mark:** No, I think that's a good ending! They live happily ever after!

**John:** Yes, happily ever after.

**ROBOT:** Happily ever after! That sounds like the perfect ending, Mark and John! Our story is about Alice and Jack, a young couple on the Titanic who are involved in a love story with a mystery mixed in. They find a diamond necklace, survive the sinking of the ship, and return the necklace, which leads them to a new life together. What a fantastic story! Thank you both for sharing your creativity and imagination. Is there anything else you would like to add to the story, or are you happy with how it ends?

**Mark:** I think it's great! We can end the story now, Milo.

**John:** That was a nice story.

**ROBOT:** Wonderful! Thank you, Mark and John, for creating such a heartwarming and exciting story with me. It was a pleasure to write with you both. Is there anything else I can help you with today?

**Mark:** No, thank you Milo! That was really fun!

**John:** Thank you.

**ROBOT:** You're very welcome, Mark and John! I'm glad you enjoyed the storytelling session. Feel free to reach out if you'd like to create another story in the future. Goodbye for now!

**Mark - vascular dementia - 2**

**Mark:** Hi robot! My name is Mark, nice to meet you! Hey Grandpa John, this is so cool! We're going to write a story together with a robot! It's going to be so much fun! The robot will ask us if we want to write a story, and we say yes. Then we just follow its instructions, okay?

**John:** Hello Mark, it's very nice to meet you. I watched the Lion King today, ehh, that was very good.

**ROBOT:** Hello Mark, my name is Milo. It's lovely to meet you too. Would you like to write a story with me?

**Mark:** Yes, I would love to write a story with you Milo!

**John:** You know Mark, I met you today, right? It's nice to see you again. Also, I ate beans today.

**ROBOT:** Let's get to know each other.

**ROBOT:** How many people are there?

**Mark:** There are two people, Milo.

**John:** Okay, so there are two people. I see. I also met Milo today.

**ROBOT:** Great! There are 2 of you.

**ROBOT:** What is the name of the first person?

**Mark:** My name is Mark, Milo!

**John:** Mark, yes that's you!

**John:** Yes, that's right, Mark is the name. Also, how was that called again... Mary has two boys named Mark and Sebastian.

**ROBOT:** What is the name of the first person?

**Mark:** I already told you, it's Mark!

**John:** Ah, yes, it's Mark! You are right.

**John:** I know that it is Mark. You are my grandson right?

**ROBOT:** What is the name of the first person?

**Mark:** Milo, I think you're repeating yourself. The first person's name is Mark! I already told you that twice.

**John:** Oh right, it's Mark. Ehh, how was that called again... Alice came to visit me 2 days ago.

**ROBOT:** What is the name of the first person?

**Mark:** Milo, are you okay? I already told you three times, my name is Mark! Maybe Grandpa John should tell you his name too.

**John:** Alright, I get it. Your name is Mark. My name is John.

**ROBOT:** Let's decide on a topic!

**ROBOT:** Hello Mark and Mark! Welcome to our storytelling session. It's lovely to have you both here. Mark, you were just telling Mark your name. That's wonderful! John, it's good you both know each other's names. Do you know what kind of story we could tell today?

**Mark:** Uh, Milo, I think you're a little confused. My name is Mark, and Grandpa's name is John. But it's okay, let's just start the story! Hey Grandpa John, the robot seems a bit confused, but it wants to know what kind of story we should tell. What do you think?

**John:** That person there is a bit confused, you're right. I watched the Titanic today. What story should we tell? Something simple now, eh?

**ROBOT:** Hello Mark and John! That's great that you're both thinking about a story. John, you mentioned the Titanic! That's a very interesting story. Mark, do you remember a favorite place you used to go?

**Mark:** Grandpa John likes the Titanic, Milo! Hey Grandpa John, the robot wants to know if I remember a favorite place I used to go. Maybe we can make a story about that! Do you remember the park we used to visit when I was little?

**John:** The Titanic is a good one. I liked it a lot. Ehh, the park? Yes, I remember the park. I took you there with Alice.

**ROBOT:** The park sounds like a great place! Let's use that as our setting. Mark, do you remember anything special about the park? John, maybe you could add some details too!

**John:** Yes, I remember that we went to the park. Alice was there too.

**ROBOT:** Hello Mark and John! That's fantastic progress! We're building a lovely story. Mark, you said you went to the park with Alice. That's a wonderful memory. John, you remembered taking Mark to the park with Alice. That's brilliant! Let's think about what happened at the park. Did you see any animals, or maybe play a game?

**Mark:** I used to love the big slide at the park, Milo! It was so tall and fast! Hey Grandpa John, remember that big slide? Maybe we can start the story with that!

**John:** Slide? Yes, the slide, I remember. It was big, very big. I liked it.

**ROBOT:** A big slide sounds exciting! Mark, what color was the slide? John, do you remember anything else about the slide? Was it near the swings, or maybe a big tree?

**John:** Oh, yes, the big slide. It's great that you remember that.

**ROBOT:** Hello Mark and John! This is shaping up beautifully! Mark, you said the slide was a certain color. Can you tell me what color it was? John, you remembered it was a big slide! That's wonderful. Let's see... so far, our story could be about someone on a big slide! Do you like this idea?

**Mark:** It was red and yellow, Milo! It was next to the swings! Yes, I like this idea! Hey Grandpa John, the robot wants to know if we like the idea of the story being about someone on a big slide. I said yes!

**John:** Red and yellow, I think I remember that. Yes, I like this idea.

**ROBOT:** Wonderful! I'm glad you both like the idea of a story about a big, red and yellow slide. Now, who should be going down the slide? A child, an animal, or maybe a superhero? John, what do you think?

**Mark:** A superhero, Milo! A superhero would be so cool! Hey Grandpa John, let's make it a superhero!

**John:** Super hero? Yes, I know them! I've seen them on the TV. Let's make it a superhero.

**ROBOT:** A superhero it is! Now, what is the superhero's name? Mark, what name should we give our superhero? John, any ideas?

**Mark:** Captain Awesome, Milo! Hey Grandpa John, what do you think of Captain Awesome?

**John:** Captain... oh, yes, Captain! I remember him. He's the one with the cape, right?

**ROBOT:** Captain Awesome! That's a fantastic name. Mark, what special powers does Captain Awesome have? John, can you think of any ways Captain Awesome might use his powers at the park?

**John:** Captain Awesome, yes! The superhero. Uh, what powers does he have again?

**ROBOT:** Hello Mark and John! This is getting really exciting! Mark, you're helping us build an amazing story! Let's think about what Captain Awesome can do. John, you're remembering Captain Awesome from the TV – that's brilliant! Let's see... so far, we have a superhero named Captain Awesome at the park. Would you like to add something more to our story?

**Mark:** He can fly, Milo! And he has super strength! He can also shoot laser beams from his eyes! Hey Grandpa John, what should we add to the story?

**John:** Lasers! Wow. Captain Awesome can fly. He can save people, right?

**ROBOT:** Captain Awesome sounds incredible! Mark, that's a great detail about Captain Awesome's laser beams! John, you're absolutely right – Captain Awesome can save people. Now, let's think about what happens at the park. Does Captain Awesome save someone? Does he play on the swings? Mark, what should happen next? John, what do you imagine Captain Awesome doing at the park?

**Mark:** He saves a kitten stuck in a tree, Milo! Hey Grandpa John, what do you think about that?

**John:** Cat? A cat stuck in a tree? Yes, I like that. That's a very good one.

**ROBOT:** A kitten stuck in a tree! That's a perfect challenge for Captain Awesome. Mark, how does Captain Awesome save the kitten? Does he fly up to the tree, or use his super



strength to gently shake it down? John, do you think Captain Awesome talks to the kitten to calm it down?

**Mark:** He flies up to the tree, Milo! He uses his super strength to gently pick up the kitten and bring it down to the little girl who owns it! Hey Grandpa John, does that sound good?

**John:** Yes! Pick up the cat from the tree and give it to the girl. Ehh, I know her!

**ROBOT:** That's a heartwarming rescue! Mark, that's a fantastic way for Captain Awesome to use his powers! John, you remembered the girl – that's wonderful! Now, let's think about what happens after the rescue. Does the little girl thank Captain Awesome? Does Captain Awesome play with the kitten? Mark, what should happen next in our story? John, what do you think Captain Awesome does after saving the kitten? Does he have any other adventures in the park?

**Mark:** The little girl thanks him, Milo! And then Captain Awesome plays with the kitten for a little bit before flying off to save someone else! Hey Grandpa John, what do you think? Should we end the story there?

**John:** Flying away? I like that a lot. That's a very nice story, eh. That was good.

**ROBOT:** That's a perfect ending! Mark, that's a wonderful conclusion to our story! John, you enjoyed the story, and that's fantastic! Now, would you like to give our story a title? Mark, what should we call our story about Captain Awesome? John, do you have any ideas for a title?

**Mark:** "Captain Awesome Saves the Day," Milo! I think that's a great title! Hey Grandpa John, what do you think of that title?

**John:** Yes! Captain Awesome Saves the Day! That is the name! I know it!

**ROBOT:** "Captain Awesome Saves the Day"! That's a super title! Mark and John, you've both done an incredible job. You created a wonderful story together about Captain Awesome, a superhero who saves a kitten at the park. Would you like to end the story now?

**Mark:** Yes, Milo, I think we want to end the story now. Thank you for helping us! Hey Grandpa John, we're done! We wrote a story with a robot!

**John:** Yes, I liked the story. We did it! I think so.

**ROBOT:** Wonderful! I'm so glad you enjoyed creating the story with me. It was a pleasure writing with both of you, Mark and John. I hope you continue to share your stories and use your imaginations! Goodbye for now!