Appendices

DESIGN FOR our future

TUDelft

IDE Master Graduation

Project team, Procedural checks and personal Project brief

This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

ⓘ **USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT**
Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

STUDENT DATA & MASTER PROGRAMME
Save this form according to the format "IDE Master Graduation Project Brief_familyname_firstname_studentnumber_dd-mm-yyyy".
Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 ! ⓘ

family name	Magyari
initials	R. given name Reka
student number	5079888
street & no.	
zipcode & city	
country	
phone	
email	

Your master programme (only select the options that apply to you):

IDE master(s): (★) IPD ( ) Dfl ( ) SPD

2nd non-IDE master: _____

individual programme: __ - __ (give date of approval)

honours programme: ( ) Honours Programme Master

specialisation / annotation: (★) Medisign
( ) Tech. in Sustainable Design
( ) Entrepeneurship

SUPERVISORY TEAM **
Fill in the required data for the supervisory team members. Please check the instructions on the right !

** chair	Fernando Secomandi	dept. / section:	DOS / MOD
** mentor	Hosana Morales	dept. / section:	SDE / KInD
2nd mentor	Diederik de Rave		
	organisation:	Attendi	
	city:	Amsterdam	country: Netherlands

comments (optional)

ⓘ Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v..

ⓘ Second mentor only applies in case the assignment is hosted by an external organisation.

ⓘ Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

Procedural Checks - IDE Master Graduation

TUDelft

APPROVAL PROJECT BRIEF
To be filled in by the chair of the supervisory team.

chair Fernando Secomandi   date 15 - 10 - 2021   signature

Fernando Del Caro Secomandi
Digitally signed by Fernando Del Caro Secomandi Date: 2021.10.15 13:13:56 +02'00'

CHECK STUDY PROGRESS
To be filled in by the SSC E&SA (Shared Service Center, Education & Student Affairs), after approval of the project brief by the Chair.
The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total: _____ EC

Of which, taking the conditional requirements into account, can be part of the exam programme _____ EC

( ) YES   all 1st year master courses passed

( ) NO   missing 1st year master courses are:

List of electives obtained before the third semester without approval of the BoE

name _____   date __ - __   signature

FORMAL APPROVAL GRADUATION PROJECT
To be filled in by the Board of Examiners of IDE TU Delft. Please check the supervisory team and study the parts of the brief marked **.
Next, please assess, (dis)approve and sign this Project Brief, by using the criteria below.

- Does the project fit within the (MSc)-programme of the student (taking into account, if described, the activities done next to the obligatory MSc specific courses)?
- Is the level of the project challenging enough for a MSc IDE graduating student?
- Is the project expected to be doable within 100 working days/20 weeks ?
- Does the composition of the supervisory team comply with the regulations and fit the assignment ?

Content: ( ) APPROVED   ( ) NOT APPROVED

Procedure: ( ) APPROVED   ( ) NOT APPROVED

comments

name _____   date __ - __   signature

Initials & Name R. Magyari   Student number 5079888

Title of Project Bringing digital scribes into hip arthrosis consultations for more computer-led clinical documentation

Bringing digital scribes into hip arthrosis consultations for more computer-led clinical documentation   project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple.
Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date   14 - 10 - 2021   12 - 04 - 2022   end date

**INTRODUCTION **
Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

In recent years, the healthcare sector has seen a rising number in clinician burnout due to the administrative burden that they face on a daily basis. On average, Dutch clinicians spend 40% of their time on administrative work (,Statement initiatiefnemers ORDZ™, 2021) which comes at the direct expense of devoting time to the patient (Dugdale et al., 1999). For every face-to-face hour physicians spend directly with patients, two more hours are spent on desk work documentation in ambulatory care (Sinsky et al., 2016). Emphasizing improving the work life of physicians is an important component of the Quadruple Aim (Sinsky & Bodenheimer, 2014), which four pillars drive innovation in healthcare in terms of improving both patient and physician experiences, reducing costs of care in order to achieve better health outcomes. Clinical documentation refers to the creation of a digital or analog record detailing a medical record of the patient which documents must be accurate, timely and reflect specific services provided to a patient (Search Health IT, 2014). Implementing technology in a clinical context brings a lot of advantages, for instance the adoption of Electronic Health Records (EHRs) offer the prospect of improved patient safety, health care quality and clinician performance (King, Patel, Jamoom, & Furukawa, 2014). On the other hand, over time the regulated use of EHR systems has decreased physician satisfaction, increased documentation times (Ehrenfeld and Wanderer, 2018) as well as negatively affected the clinician - patient relationship (Coiera et al., 2018). Utilising EHR systems suffer a number of problems that make them inefficient, not usable or well aligned with clinical workflow (Gardner et al., 2018) which is encouraged to research to contribute to clinician satisfaction.

To ease the administrative burden of clinicians, medical scribes were introduced who are trained individuals hired solely for administrative tasks, such as real-time documentation of clinician-patient encounters (Gellert, Ramirez, & Webster, 2015). Medical scribes have been shown to increase overall clinician satisfaction, satisfaction with chart quality and accuracy and charting efficiency without reducing patient satisfaction (Gidwani et al., 2017). However, medical scribes require extensive training before reaching their full potential, which is estimated to cost $6,317 (Walker et al., 2016). Additionally, they are often medical students or premedical students who tend to move on to attend medical school full time (Walker et al., 2016). The short-term position of medical scribes, in combination with their time-consuming and costly training greatly reduces their effectiveness. Overall, the use of medical scribes does not reduce the clinical documentation burden, but simply shifts it from clinicians to others.

To reduce the clinical documentation burden conducted by humans, digital scribes have the potential to take advantage of Automatic Speech Recognition (ASR), Natural Language Processing (NLP) and Artificial Intelligence (AI) to automate the clinical documentation tasks (Coiera et al., 2018). Digital scribes are intelligent documentation systems that automatically transform the recording of a clinical conversation into documentation, by generating transcripts for encounter documentation (Chiu et al., 2018). ASR is increasingly being researched and used in healthcare (Jamal et al., 2017), which technology utilises a microphone to capture analogue speech signals that get converted into digital forms which can be read by computers. The ASR system transcribes the conversation, and a set of NLP models to extract or summarize relevant information that is to be presented to the physician (van Buchem et al., 2021). NLP refers to the collective term of linguistics, computer science and artificial intelligence which deals with programming computers to process and analyze large amounts of natural language data (Brownlee, 2019). In this context the NLP tasks could be split into three extracting entities (Du et al., 2019), classification categories and summarization. While NLP comes with numerous technical challenges (Quiroz et al., 2019) in healthcare, literature suggests that many problems can be solved by meaningful human-computer interaction between clinician, computer and patient (Coiera et al., 2018).

There are also concerns related to a digital scribe's clinical utility, such as the effect on a physician's workflow which is encouraged to research in order to implement digital scribes safely in practice (van Buchem et al., 2021). To investigate the value of digital scribes and their effect on the relationship between clinician and patient, Coiera (2018 et al.) suggests that it will depend much on the way how interactions are designed. Replacing typing directly into the EHR with intrusive commands provides a design opportunity to switch to a speech-based interface. Regarding the interface, there is little consensus on the core features that should constitute a digital scribe, since there has been little exploration on the topic.

space available for images / figures on next page

Initials & Name   R.   Magyari   Student number 5079888
Title of Project   Bringing digital scribes into hip arthrosis consultations for more computer-led clinical documentation

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introduction (continued): space for images
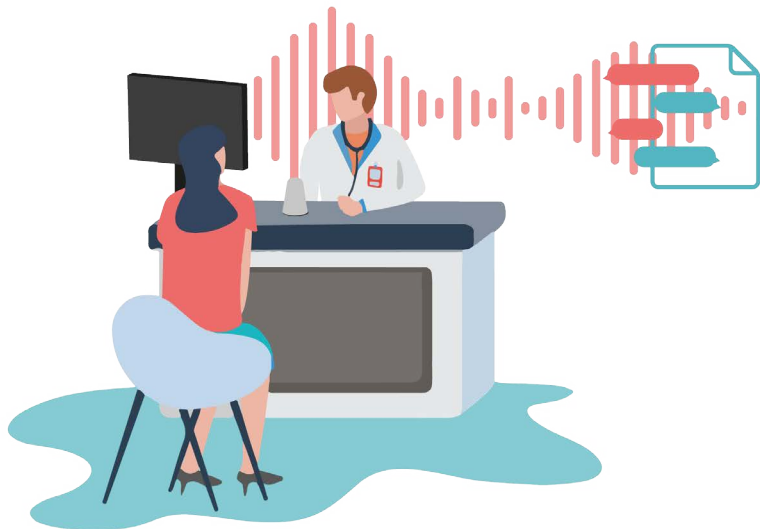
image / figure 1:   Context: hip arthrosis consultation

image / figure 2:   Overview of digital scribe

Initials & Name   R.   Magyari   Student number 5079888
Title of Project   Bringing digital scribes into hip arthrosis consultations for more computer-led clinical documentation

PROBLEM DEFINITION **
Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

The context of the project is an orthopedic clinic where consultations take place between doctors and patients who suffer from hip arthrosis. Hip arthrosis consults are short, homogeneous, occur in high volumes and have a well-structured anamnesis. The content of the consultations needs to be administered by the doctor and saved as part of the patient's Electronic Health Record. To fill out the necessary documents, digital scribes can potentially help clinicians to automate speech recognition and allow them to spend more time on talking to the patient and less on administration. Attendi is developing speech-to-text technologies for the context which needs to be researched in terms human-computer interaction during a consultation and investigated how it could benefit all involved stakeholders.

In order to bring the use of digital scribes into hospitals, the solution has to be integrated into the current and future clinical workflow of the medical professionals for better EHR development (Healthcare IT News, 2021). In order to define requirements for the product-service-system combination, the context requires a thorough understanding of the target end users and their daily schedules. It has to be examined how much time physicians spend on administrative tasks throughout the day, and to what extent the technology could support them in performing their jobs. To provide a valuable report of the transcribed consultation, design requirements need to be investigated in order to design the system fitting the context. To facilitate the interaction between the user and the software, an interface needs to be designed that supports anamnesis template completion.

ASSIGNMENT **
State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in "problem definition". Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, ... In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

The primary aim of this study is to investigate user requirements for bringing in digital scribes into hip arthrosis consultations, and design a suitable interface that supports computer-led clinical documentation between physician, computer and patient

RQ1. What is the full cycle of clinical documentation in hip arthrosis consultations and how can it be automated using NLP technologies? (Journey mapping: Visualize the experience during consultations, with corresponding touchpoints, bottlenecks, opportunities)
   1a. Which documentation tasks in hip arthrosis are time consuming/frustrating/sensitive to errors and technically feasible to automate? (Transitional journey map: Map out different activity categories and the transitions in–between; Service blueprint: Show envisioned relationships between users, touchpoints and processes with Attendi assistant)
RQ2. How can we design a clinically valuable, trusted and ethical digital scribe to aid computer–led documentation from a clinician's perspective? (Interviews, personas: Identify the needs, goals and frustrations of the end user)
   2a. Valuable: What value can be delivered to hospitals, clinicians and patients by recording and transcribing consultations?
   2b. Trusted: What are the key fears and obstacles for physicians and patients if consultations will be recorded and how can we manage those fears?
   2c. Ethical: How can the digital scribe interface ensure that the clinician remains critical about the automated suggestions for entry in the EHR?

Expected outcomes:
– List of requirements from a user perspective (primary: clinician, secondary: patient)
– High fidelity wireframes for software interface based on requirements
– Validate the envisioned interface
– UX roadmap

PLANNING AND APPROACH **
Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any, for instance because of holidays or parallel activities.

start date   14 - 10 - 2021   12 - 04 - 2022   end date

TO PLACE YOUR GANTT CHART IN THIS AREA:
- SAVE THIS DOCUMENT TO YOUR COMPUTER AND OPEN IT IN ADOBE READER
- CLICK AREA TO PLACE THE GANTT CHART

PLEASE NOTE:
- DO NOT IMPORT XLS OR ANYTHING LIKE THAT, MAKE SURE TO USE AN IMAGE
- GANTT CHART WILL SCALE TO FIT AUTOMATICALLY
- NATIVE RATIO IS 16:10
- IF YOU EXPERIENCE PROBLEMS, COVERT YOUR GANNT CHART TO PDF AND TRY AGAIN

		Sept	October				November				December				January				February				March				April
	Calendar week	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
	Project week		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	-	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**
100 work days	4 days/week, 25 weeks																										
University milestones	Kickoff (Day 0)		XX																								
	Midterm (Day 40)								XX																		
	Greenlight (Day 80)																					XX					
	Graduation (Day 100)																									XX	
I. Discover	Literature research																										
	Competitor analysis																										
	Stakeholder map																										
	User research: preparation																										
	User research: interviewing				XX	XX																					
	User research: job shadowing				XX	XX																					
	Cluster insights																										
II. Define	User persona(s)																										
	Patient journey; touchpoints																										
	Transitional journey map																										
	Reporting																										
	Define requirements																										
	Prepare midterm																										
	Vision																										
III. Develop	Patient journey (envisioned)																										
	Service blueprint (envisioned)																										
	Reporting																										
	Prototyping I																										
	User testing I																			XX	XX						
	Reporting																										
IV. Deliver	Prototyping II																										
	User testing II																						XX	XX				
	UX strategy roadmap																										
	Reporting																										
	Showcase video																										
	Final presentation prep																										
	Graduate!																										

Link to my planning: https://tinyurl.com/3z6bahxh

IDE TU Delft - E&SA Department /// Graduation project brief & study overview /// 2018-01 v30   Page 5 of 7
Initials & Name   R.   Magyari   Student number   5079888
Title of Project   Bringing digital scribes into hip arthrosis consultations for more computer-led clinical documentation

IDE TU Delft - E&SA Department /// Graduation project brief & study overview /// 2018-01 v30   Page 6 of 7
Initials & Name   R.   Magyari   Student number   5079888
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MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, ... Stick to no more than five ambitions.

To me Integrated Product Design (IPD) is interpreted in a holistic sense which makes me integrate user, technology and business/client requirements into the design process regardless whether it is a hardware or software product or their combination. I wanted to graduate on a medical project given my interests and to gain the Medisign specialisation. In healthcare, getting into the context is always challenging, that is why I set up this project to graduate with a company which personally is very motivating for me. I purposely wanted to opt for a startup experience this time and not a multinational company, where there is still room to add direct value as a (student) designer. Ultimately, I aim to become a (consultant) UX designer who is confident in communicating with diverse stakeholders and working with developers.

From my electives, I got fascinated by two subjects: Service Design and Artificial Intelligence which are integrated in my master thesis project. I have done data-centred projects, which interest in data science grew to tackling a project with AI. Artificial Intelligence is such a dynamic technology that is an exciting challenge for me to design with and for. I will aim to understand Natural Language Processing thoroughly for which collaborating with developers is key. I am particularly interested in exploring the intersection of aesthetics and functionality of AI-enabled features translated into interfaces solution that provide full user experience. Interaction design goals: collab with developers; UX with AI; utilise design systems; explore microinteractions

I aim to become the translator between people, technology and business, which requires to see the 'big picture' but still pay attention to detail. That is how service design as a skill is relevant and I would like to develop, to design the solution on a touchpoint level. To get there, performing job shadowing is a chosen method to understand the workflow of clinicians at a hospital. Such insights can be of great value to the company, which is also a learning opportunity for me to practice communicating research findings. Service design goals: perform job shadowing; map out workflows; communicate UX research findings

Last summer I did a 3-month training program where I learned about agile product development. In a cross-functional team, I had to work closely with product managers where I realized how the UX perspective can add value to product strategy and testing the value proposition. Since Attendi is yet to develop the front-end of the assistant, translating the interface into a user story to be used for upcoming development could be of value to the company. UX strategy goals are: roadmap in line with product strategy; validate value proposition based on lean UX; create user story for agile development

Phase	Method name	Relevance	RQ
I. Discovery	Interviews	Identify the needs, goals and frustrations of the end user	2a,b,c
I. Discovery	Competitor analysis	Review competitors and summarise what can we learn from them pros and cons	
I. Discovery	Job shadowing	See day-to-day operations of target end user in context	1
II. Define	Journey mapping	Visualise the experience during consultations, with corresponding touchpoints, bottlenecks, opportunities	1
II. Define	Transitional journey map	Map out different activity categories and the transitions in-between	1a
II. Define	Personas	Identify the needs, goals and frustrations of the end user	2a,b,c
II. Define	Requirements	Collect list of aspects that the product should fulfil	1,2
II. Define	MoScow	Prioritise requirements	1,2
III. Develop	Service blueprint	Show relationships between users, touch-points and processes with Attendi assistant	1
III. Develop	Storyboarding	Illustrate the user steps	
III. Develop	User flows	Translate user goals into interface flows	
III. Develop	Prototyping	Demonstrate user experience	
IV. Deliver	User testing	Ease of use	
IV. Deliver	UX roadmap	Translate insights into roadmap in line with product strategy	

Figure x: Overview of methods and their relevance

FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.

Initials & Name   R.   Magyari   Student number   5079888

Title of Project   Bringing digital scribes into hip arthrosis consultations for more computer-led clinical documentation

What: Job shadowing orthopedic surgeon, 1 clinician for a full afternoon shift
Where: UMCG outpatient clinic Polikliniek Vorm en Beweging (umcg.nl) room 7

Why:
- See day-to-day operations of target end user in context
- Shadowing lets you understand existing behaviors so that you can adapt your designs to those behaviors.
- Observing reality can highlight unintended and unexpected scenarios of use which could lead to a better understanding what makes a good product and service experience → to be translated into user requirements

Procedure TBA:
1. Arrange job shadowing
2. Consent form
3. Shadowing
4. Interview
5. Interview patient (if possible)

Tool:
- Notebook
- Experience map
  - ask the clinician to map out his experience from + to - emotions
  - → compare that with my map afterwards
- Watch to log time
- Smartphone to record interview

What to look for:
- Phases of clinical documentation journey during a consultation
  - What type of clinician tasks correspond to each phase
  - Which phases or tasks are
    - Time-consuming *(measure)*
    - Frustrating *(observe)*
    - Sensitive to errors *(+ follow up question)*
      - *in what stages of the patient journey what information is used and what can happen in terms of quality & safety if things are not documented as they should be. And what are the roots of errors? poor design? Poor interoperability? Hurry?*
  - What obstacles hinder documentation during consultation
    - What obstacles hinder documentation outside of consultation *(+ follow up question)*
    - How does the current hardware set up in a consultation room support or hinder documentation tasks *(+ follow up question)*
      - *Do they show the display to patients or keep it away? Do patients try to look at the screen?*
- How do clinicians interact with patients currently
  - What actions do they take in each phase
  - What emotions do they project and when
  - What thoughts do they might have based on observations *(+ follow up question)*
- How do patients experience a consultation
  - What (re)actions do they take in each phase
  - What emotions do they project and when
  - What thoughts they might have based on observations *(+ follow up question)*
- What activity categories occur during a 'typical' shift
  - Which activities involve patient interaction and which not
- What events might trigger changes between activity categories

What to measure
TBA why is it relevant: need a baseline, company interest, literature suggests
- How much time is spent on documentation *before* a 'typical' consultation (~ x min?)
- How much time is spent on documentation *during* a 'typical' consultation (~ 20 min?)
- How much time is spent on documentation *after* a 'typical' consultation (~ x min?)
- How much time is spent on talking, caring for the patient during a 'typical' consultation
- How much time is spent on neither if applicable?

Elaborate on after the shadowing (if there is time):
- Have a look into his daily schedule
  - if allowed due to sensitive data
- Walkthrough how he currently uses EHR + think-aloud
  - With fake patient data

Org:
- Permission to take photos / anonymous
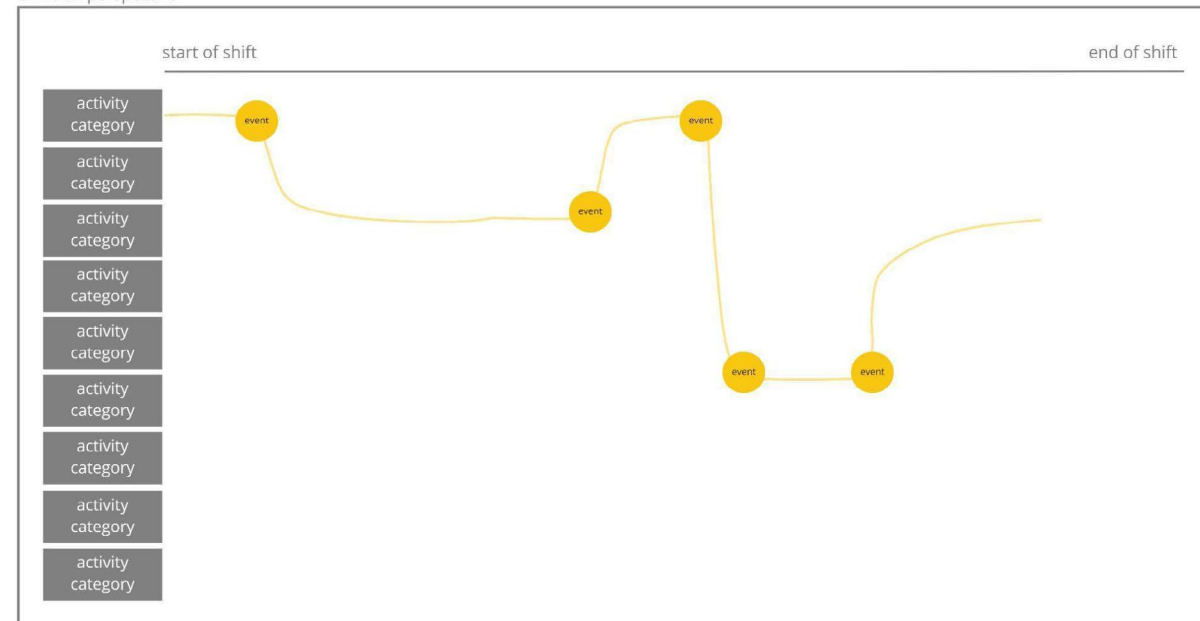- Consent form - interview
- Checklist for observations
Pilot:
Consultation with Consultant Orthopaedic Surgeon Mr Tim White

Findings/ insights to be translated into:
1. User journey of the consultation

2. Transitional journey map of clinician's shift

Clinician perspective

start of shift   end of shift

activity category
activity category
activity category
activity category
activity category
activity category
activity category
activity category
activity category
activity category

event

event

event

event

event

event

Appendix D: Interview guide

So to my understanding, you are an orthopedic surgeon, for how many years?
Are you specialized in hip or also do other surgeries?

Journey
Can you <u>describe</u> from your experience, what are the main differences between intake and recurring type of consultations from a documentation perspective?
- For patient intake
- For recurring patients

For recurring patients, do you prepare for a consultation?
- How in advance do you prepare?
- How? Do you look up their previous medical history?

Do you use EPIC or else for documentation?
What is the most frustrating for you in terms of documentation?
- Why?
Do you start on documentation during the consultation or wait until the patient leaves?
- Why?
Can the patient see the computer screen during consultation?

Recording
Did it ever happen that a patient asked to record the conversation with his/her own device? (Elwyn et al., 2015)
- Or that it happened without approval?
- What did you think of it?
- How does it make you feel?
What if you could record the consultation?
- What opportunities do you see?
  - Are any of them particular to any patient group?
- What disadvantages do you foresee?
  - Are any of them particular to any patient group?
Do you think recording the consultation would <u>influence</u> your relationship with the patient?
- If yes, how?
- If not, why not?
Do you think knowing that the recording is on:
- Would you handle a consultation differently?
- Would you pay extra attention to what you say or not say?
Do you have any concerns regarding the recorded file?
- I.e. In terms of use
  - How does it make you feel?
- In terms of storing the recordings (Joshi et al. 2020)
  - How does it make you feel?
- In terms of law and regulations?
  - How does that make you feel?
Do you see any potential use of having a proof of your provided care?
- How do you feel about that?

Features
Can you describe what <u>having control</u> over the transcription means to you? (Elwyn et al., 2015)
- Or what you would expect from it?
- Input
From your perspective, are <u>certain parts</u> of the conversation more important to record?
- Would you want to have the <u>autonomy</u> to decide on which part to record?
- Can you describe a case, when you would like to pause the recording?

So at the end of the consultation, you would have an audio file AND a transcript of the same information,
- Which is more useful to you?

- why?

Would you want to <u>double check</u> what has been said and transcribed at the end of the consultation?
- If yes, when? Why?
- If not, why not?

Would you want to <u>edit</u> the transcript of the consultation?
- If yes, when? Why?
- If not, why not?

Would you want to <u>replay</u> the conversation anytime outside of the consultation?
- If yes, in what situation? Why?
- If not, why not?

Would you want to <u>relisten</u> the conversation anytime outside of the consultation?
- If yes, in what situation? Why?
- If not, why not?

Would you want to <u>share</u> the recording with others anytime outside of the consultation?
- If yes, in what situation? Why?
- If yes, with whom?
- If not, why not?

At the end of the consult: How would you combine the information from the new consultation with the information you already had before (i.e. medical history)?
- How would it work for you?

What would you expect from an AI-assisted digital scribe system to enable you to do?

Orthopedie template

reka.magyari4@gmail.com (not shared) Switch account

Welke kant?

○ Links

○ Rechts

○ Beiderzijds

Trauma?

○ Ja

○ Nee

Hoelang klachten

○ Enkele weken

○ Enkele maanden tot een half jaar

○ Half jaar tot een jaar

○ Ongeveer een jaar

○ Jaren

○ Other:

Waar zit de pijn?

- ☐ Bil
- ☐ Lies
- ☐ Zijkant heup
- ☐ Rug
- ☐ Uitstraling naar been
- ☐ Other:

Actieradius

- ○ Alleen binnen huis
- ○ <100 meter
- ○ 100-300 meter (1-5 minuten)
- ○ 300-500 meter (5-8 minuten)
- ○ 500 meter - 1 km (8-15 minuten)
- ○ >1 km, maar beperkt (>15 minuten)
- ○ Onbeperkt

Nachtpijn

- ○ Geen
- ○ Bij bewegen
- ○ Pijn in rust

Ochtendstijfheid

- ○ Ja
- ○ Nee

Zijn er opstartklachten

- ○ Ja
- ○ Nee

Wat zijn uitlokkende factoren?

Your answer

Gebruik hulpmiddelen

- ☐ Krukken
- ☐ Rollator
- ☐ Scootmobiel
- ☐ Other:

Al fysiotherapie gehad?

- ○ Ja
- ○ Ja, alleen manuele therapie (massage)
- ○ Ja, met ook met ROM (range of motion) en spierversterkende therapie
- ○ Nee

Gebruik pijnstilling

- [ ] Paracetamol
- [ ] NSAID
- [ ] Opiaat (tramadol / morfine)
- [ ] Nee

Eerdere injectie in het heupgewricht?

- ( ) Ja
- ( ) Nee
- ( ) Ja, marcainisatie
- ( ) Ja, bursa subtrochanterica

Effect injectie

- ( ) Geen injectie
- ( ) Geen effect
- ( ) Kortdurend effect (<2 dagen)
- ( ) Langduriger effect (> 2 dagen)

Roken

- ( ) Ja
- ( ) Nee

Woonsituatie

- ( ) Zelfstandig alleen
- ( ) Zelfstandig met mantelzorger
- ( ) Zelfstandig met thuishulp
- ( ) Verzorgingstehuis

Afvalpogingen ondernomen

- ( ) Ja
- ( ) Nee

Voorgeschiedenis

Your answer

Medicatie

Your answer

Allergieën

Your answer

Intoxicaties

Your answer

4/12/22, 9:30 PM   Orthopedie template

Beroep / dagelijkse activiteit

Your answer

Sport / lichaamsbeweging

Your answer

Next   Clear form

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Appendix E: Anmanesis standard

Google Forms

'The balancer' - academic orthopedic surgeon

umcg

"EVERY TIME I LOOK AT AN MRI SCAN, I IMMEDIATELY KNOW WHICH PATIENT IT IS"

Name: Willem Joosten
Age: 38 years
City: Haren, Netherlands
Occupation: Orthopedic surgeon
Hospital: University Medical Center Groningen (academic)
Membership: European Musculo-Skeletal Oncology Society

Bio
Willem lives in Haren with his wife and two kids. He has been an orthopedic surgeon for 9 years already, where he also supervises residents. He has both oncology and orthopedic outplatient clinics. On his day off, he spends time on research. In his free time he likes to go cycling and spend quality time with his family.

Motivations
• only do documentation tasks in-between consultations
• make every consultation 'conclusion' perfect
• answer all individual questions of each patient
• keep up his energy level throughout the entire shift

Frustrations
• constant switching between notes and Electronic Patient Dossier
• complex patient cases
• always have to search for MRI scan of each patient
• each referral (correspondentie) needs to be sent separately
• copy-pasting the same conclusion in every letter (GP; ortho)

This page contains a customer journey map (full-page illustration). The text below is part of the visual.

Header:
consultation

Timeline: 1 hour | 2 days before | 3 mins | 15-20 mins | ~10 mins

Phases row:

| phases / description: goal of the pase | in advance preparation / prepare for upcoming consultation by looking up previous documentation | quick prep / quick prep of patient's file | general check / find out the general state of the patient | evaluation / check if the treatment is working with focused questions | physical examination / assess range of motion; observing patient's capacity of walking, sitting, standing, bending etc. | "counseling" / respond to patient's individual questions | documentation / enter in the hospital's EHR system what happened during the consultation; what are the medical outcomes; what is the expert conclusion; and recommended next steps |

doc
doc patient

actions:
- check previous conclusion of the patient
- prep notes
- look at MRI scan of the scheduled patient
- open patient file
- welcome patient
- have a conversation with the patient
- "how are you doing?"
- "what did the physio say?"
- searching for previous lab results
- explain lab results
- looking at MRI scan of patient
- go to & adjust the bed
- perform physical examination
- inspect body parts
- palpation
- "how does this feel?"
- "does this hurt?"
- go back to table
- discuss next steps
- Do you have any other questions?
- let patient out
- complete documentation of the consultation
- type out notes of the consult
- check conclusion
- fill out EPD
- place orders
- send referrals to colleagues "Correspondentie"
- write a letter to GP
- inform relevant care takers
- schedule next visit
- Sign & close patient file

thoughts:
- what happened with the patient since
- what he has heard from colleague about the patient
- "If I look at a scan, I immediately know which patient it is since I am very visually driven"
- for what is the patient coming?
- "is it the left or right hip? I don't remember"
- "EPIC is not intuitive"
- "The last time I ordered an MRI scan, why does not the system know that?"
- I have to remember x degrees rotation
- I have to inform the GP about this
- "I don't do anything actually, all I do is counseling"
- 1. Anamnesis
- 2. Onderzoek; Inspectie
- 3. Aanvullend onderzoek
- 4. Conclusie
- "it is a lot, but I can't make it shorter"
- "I always struggle with this because I really want the conclusion to be perfect."
- why do I have to type the same information again?
- I click on it and can not find it, why is that?
- "The conclusion should be perfect because that is going in a letter to the GP"
- writing an email

emotions:
- focused
- thinking*
- excited
- irritated
- frustrated
- caring
- focused
- conscious
- fulfilled
- frustrated
- overwhelmed
- pressured
- annoyed
- frustrated
- bothered
- accomplished

opportunities