

DESIGN FOR OUR FUTURE

A. Project Brief

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 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 Wang

initials Y given name Yun

student number 5215390

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

Entrepreneurship

SUPERVISORY TEAM **

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

** chair Prof. dr. Rietjens, J.A.C. dept. / section: DOS. / MOD.

** mentor MA. Wang, T. dept. / section: HCD. / AED.

2nd mentor _____

organisation: _____

city: _____ country: _____

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.

APPROVAL PROJECT BRIEF

To be filled in by the chair of the supervisory team.

chair _____ date ____ - ____ - ____ signature _____

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

YES all 1st year master courses passed

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

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 _____

introduction (continued): space for images

image / figure 1: _____

image / figure 2: _____

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.

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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.

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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 _____ - _____ - _____ end date

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.

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FINAL COMMENTS

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

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To create a digital health solution with enhanced PEX, you need to understand the design context and frame your design goal. We suggest you identify what influences the digital PEX in your design context, explore design considerations, and select design guidelines to address these influencing factors. We recommend that you take the below three steps.

Frame Your Design Goal

B. First templates

STEP 1 How do we address these factors through design?

STEP 2 How do we address these factors through design?

Select your design guidelines

STEP 3 How can we apply the above design constructs and methods to improve the digital patient experience?

DESIGN YOUR DESIGN GOAL

STEP 1 | WHAT ARE THE COMMON FACTORS THAT FACILITATE OR IMPEDE DIGITAL PATIENT EXPERIENCE?

Identify the specific **influencing factors** (See the webpage "define design") that lead to a positive or negative experience.

| BEHAVIOURAL | TECHNICAL | ORGANISATIONAL |
|-------------|-----------|----------------|
| | | |

STEP 2 | HOW DO WE ADDRESS THESE FACTORS THROUGH DESIGN?

Discover the **design constructs and methods** (See the webpage "define design") to address the related influencing factors, frame your design goal to improve the digital patient experience.

| DESIGN CONSTRUCTS | DESIGN METHODS |
|-------------------|----------------|
| | |

YOUR DESIGN GOAL

MY DESIGN GOAL IS TO ADDRESS (FACTORS)... BY EMPLOYING (DESIGN CONSIDERATIONS)...

STEP 3 | HOW CAN WE APPLY THE ABOVE DESIGN CONSTRUCTS AND METHODS TO IMPROVE THE DIGITAL PATIENT EXPERIENCE?

Choose among 9 design guidelines (See the webpage "define design") to address different influencing factors, which can be used to guide the design ideation process.

- PATIENT CAPABILITY**
 - Identify patients' knowledge and skill levels by understanding their technology, language, and health literacy;
 - consider their previous experience and current confidence level in using digital health;
 - improve their actual literacy and correct their perceived inability;
 - tailor design to their ability.
- PATIENT OPPORTUNITY**
 - Profile patients' identity (eg, age, gender, economic status, and daily routines) and health status (eg, illness complexity, severity, and stability);
 - consider patients' accessibility and affordance to digital health;
 - tailor design to their individual opportunity.
- PATIENT MOTIVATION**
 - Recognize patients' mindset and perceived advantages and disadvantages;
 - inform them of the potential benefits of using digital health;
 - address their concerns and worries;
 - understand their expectations and needs;
 - tailor design to their preferences to trigger their motivation.
- INTERVENTION TECHNOLOGY**
 - Increase technical usability;
 - ensure ease of use, ready to use, and timely feedback on digital health;
 - select technical features (eg, data accessibility) and delivery media or devices (eg, device ownership) to meet patients' preferences and needs.
- INTERVENTION FUNCTIONALITY**
 - Strengthen theory-based interventions (eg, behavior change techniques and evidence-based interventions);
 - improve intervention quality, considering privacy, security, and accuracy issues;
 - provide regular and continuous social support combining both remote communication and real human contact;
 - tailor health promotion and intervention structure to patients' needs and preferences.
- INTERVENTION INTERACTION DESIGN**
 - Provide personalized and consistent information, clear tutorials or technical support, and visualized data;
 - allow patients to choose personalized interactive elements;
 - follow human or user-centered design, co-design, and inclusive design methods;
 - involve multi-stakeholders and multi-disciplines in the design process.
- ORGANIZATIONAL ENVIRONMENT**
 - Reduce equipment or service cost and time;
 - improve health care providers' professional ability, communication skills, and service attitudes across the use of digital health;
 - increase workflow transparency and clarify accountability;
 - improve system integration and compatibility.
- PHYSICAL ENVIRONMENT**
 - Provide a familiar, warm, and comfortable environment rather than cold and unfamiliar settings;
 - reduce environmental distractions (eg, background noise or lighting).
- SOCIAL ENVIRONMENT**
 - Provide adequate support policies and legislation;
 - develop plausible business cases.

TEMPLATE 1

IS THIS TEMPLATE USEFUL?

★★★★★

TEMPLATES | Create Your Evaluation Plan

To ensure a positive digital patient experience in your design solution, we recommend creating an evaluation plan before you start generating design concepts. This plan should outline when to measure, what to measure, and how to measure the digital patient experience. We offer six steps to help you create a practical plan for evaluating your design later on.

| | |
|---------------|--|
| STEP 1 | Identify evaluation objectives (target audience) |
| STEP 2 | Determine the maturity stage of intervention |
| STEP 3 | Select the appropriate influencing factors or evaluation indicators |
| STEP 4 | Consider the timing of evaluation and data collection |
| STEP 5 | Determine study design, data collection and analysis methods |
| STEP 6 | Report your evaluation results, theoretical and practical implications |

CREATE YOUR OWN EVALUATION PLAN (SEE THE WEBPAGE "DEFINE EVALUATION") .

STEP 1 | IDENTIFY EVALUATION OBJECTIVES (TARGET AUDIENCE)

We provide five general evaluation purposes and their related audiences for you to consider. The selection of evaluation objectives will help you determine at what stages to evaluate your digital health intervention. For example, effectiveness and implementation studies are more appropriate for achieving evidence-based clinical usage and increasing adoption and uptake compared to efficacy studies.

| EFFICACY STAGE | EFFECTIVENESS STAGE | IMPLEMENTATION STAGE | EVALUATION OBJECTIVES (TARGET AUDIENCES) |
|----------------|---------------------|----------------------|--|
| ● | ● | ● | To broaden understanding, guide evaluation research and practice (Researchers) |
| ● | ● | ● | To improve design, development, and implementation (Designers) |
| ● | ● | ● | To achieve evidence-based clinical usage, and increase adoption and uptake (End-users) |
| ● | ● | ● | To drive ongoing investment (Investors) |
| ● | ● | ● | To inform health policy practice (Policy-makers) |

● Relatively common ● Less common

STEP 2 | DETERMINE THE MATURITY STAGE OF INTERVENTION

We present three common digital health interventions' maturity stages (i.e., efficacy, effectiveness, and implementation). They are related to different evaluation goals, target audiences, and project phases and will affect the selection of evaluation indicators at the next step. For example, the evaluation of patient outcomes (evaluation indicators) in an uncontrolled setting (effectiveness) can provide evidence for clinical use and further improvement (evaluation objective).

INTERVENTIONS' MATURITY STAGES

| | |
|-----------------------------|--|
| EFFICACY STAGE | Assess whether the DHI achieves the intended results in research or controlled setting. |
| EFFECTIVENESS STAGE | Assess whether the DHI achieves the intended results in non-research or uncontrolled setting. |
| IMPLEMENTATION STAGE | The uptake, institutionalization and sustainability of evidence based DHIs in a given context, including policies and practice |

STEP 3 | SELECT THE APPROPRIATE INFLUENCING FACTORS OR EVALUATION INDICATORS

To evaluate the digital patient experience in your solution, you can perform formative evaluations (e.g., assess inputs and processes; see the webpage "define design") at the efficacy stage or summative evaluations (e.g., assess the outputs, outcomes, and impact; see the section "evaluation design-evaluation indicators") at the effectiveness or implementation stage.

| METRICS | INFLUENCING FACTORS | DESIGN CONSIDERATIONS | EVALUATION INDICATORS | | |
|-----------------------------|--|---|---|--|--|
| | INPUTS | PROCESSES | OUTPUTS | OUTCOMES | IMPACT |
| | <input type="checkbox"/> Behavioural determinants <input type="checkbox"/> Technical determinants <input type="checkbox"/> Organizational determinants | <input type="checkbox"/> Design constructs <input type="checkbox"/> Design methods | <input type="checkbox"/> Functionality <input type="checkbox"/> Usability <input type="checkbox"/> Care Quality | <input type="checkbox"/> Emotional Outcomes <input type="checkbox"/> Perceptual Outcomes <input type="checkbox"/> Capability Outcomes <input type="checkbox"/> Behavioural Outcomes <input type="checkbox"/> Clinical Outcomes | <input type="checkbox"/> Economic Outcomes |
| EFFICACY STAGE | ● | ● | ● | ● | ● |
| EFFECTIVENESS STAGE | ● | ● | ● | ● | ● |
| IMPLEMENTATION STAGE | ● | ● | ● | ● | ● |

● Applicable ● Potentially Applicable

STEP 4 | CONSIDER THE TIMING OF EVALUATION AND DATA COLLECTION

You can evaluate the momentary experience or monitor continuous feedback before, during, and after an individual interacts with your digital health intervention (See the section "step4: timing considerations"). Regarding the time interval between the intervention and evaluation, assessments can reflect immediate experiences directly after the intervention or recalled experiences over an extended period.

BEFORE INTERVENTION A pre-test is performed before individuals adopt or implement the intervention. It assesses individuals' initial status and their anticipated perception of the intervention.

DURING INTERVENTION An evaluation performed during the use of intervention is to monitor individuals' real-time feedback and reactions.

AFTER INTERVENTION The post-test is performed right after or a long time after the completion of the interventions by individuals. It assesses individuals' changes regarding of using the intervention.

| BEFORE INTERVENTION | DURING INTERVENTION | AFTER INTERVENTION | DATA COLLECTION |
|---------------------|---------------------|--------------------|--|
| ● | ● | ● | Immediate Evaluation: Aims to collect "real-time" data on patients' experiences during and immediately after their treatment. |
| ● | ● | ● | Delayed Evaluation: Aims to obtain more substantial responses after the interventions' completion over a long period of time. |
| ● | ● | ● | Momentary Evaluation: Aims to collect transient information from individuals at a specific moment. |
| ● | ● | ● | Continuous Evaluation: Aims to gather feedback from individuals at different points along the care pathway. |

● Applicable ● Not commonly Applicable

TEMPLATE 2

STEP 5 | DETERMINE STUDY DESIGN, DATA COLLECTION AND ANALYSIS METHODS

We provide you with varied study designs, collection methods and instruments, and data analysis approaches in our guide (see the section "step 5: evaluation approaches")

Study designs often affect the strength of the evidence and determine the data collection and analysis methods. Behavioral data may provide stronger evidence than opinion data. Qualitative methods (e.g., interviews) are more appropriate to collect in-depth experience data for a smaller sample size in the early intervention development stages, quantitative methods (e.g., questionnaires) are more suitable for investigating experience data at a large scale or comparing it with other interventions during or after implementation stages.

| STUDY DESIGNS | DATA COLLECTIONS | DATA ANALYSIS |
|--|---|---|
| <input type="checkbox"/> Qualitative vs. quantitative vs. mixed methods vs. multiple methods <input type="checkbox"/> Experimental vs. non-experimental vs. semi-experimental <input type="checkbox"/> Retrospective vs. prospective vs. retrospective-prospective <input type="checkbox"/> Cross-sectional vs. before-and-after vs. longitudinal | <input type="checkbox"/> End-users' evaluations vs. domain experts' assessments <input type="checkbox"/> Questionnaires, surveys, interviews, focus groups, observations, log data... <input type="checkbox"/> Pre-set outlines, instruments, tools questions, protocols... | <input type="checkbox"/> Qualitative analysis (inductive vs. deductive analysis: thematic, content, grounded theory...) <input type="checkbox"/> Quantitative analysis (descriptive vs inferential statistics: t tests, f tests, regression) |

STEP 6 | REPORT YOUR EVALUATION RESULTS, THEORETICAL AND PRACTICAL IMPLICATIONS

Your answers to these eleven questions should reflect your evaluation processes and serve your evaluation objectives. You don't need to answer these questions right now, instead, we recommend you start considering how you would report your evaluation results and apply your findings to future research and design practices in this area.

| EVALUATION REPORTS | THEORETICAL OR PRACTICAL IMPLICATIONS |
|---|--|
| 1. Why did you do the evaluation? 2. What did you expect? 3. How did you do (what, when, where, who)? 4. What did you find? 5. What do the findings mean? 6. Who can use what findings, and how? | 1. Researchers: what research questions need to be considered for the digital patient experience? 2. Designers: what has to be improved, and how, in the digital patient experience? 3. End-users: shall we start or continue using which digital health interventions and why? 4. Investors: shall we start or continue investing in which digital health interventions and why? 5. Policymakers: where can we find the digital-health-interventions-related opportunities for informing future policy? |

WRITE DOWN ANY IDEA OR THOUGHT YOU WANT TO SHARE...

TEMPLATE 2

IS THIS TEMPLATE USEFUL?
 ★ ★ ★ ★ ★

TEMPLATES | Create Your Design Plan

| PHASE | PREPARATION | PROBLEM-THINKING | PROBLEM-SOLVING | IMPLEMENTATION | | | | |
|--------------|---|------------------|-----------------|----------------|--------|----------|---------|---------------|
| STAGE | REQUIRE | PREPARE | DISCOVER | DEFINE | DESIGN | VALIDATE | DEVELOP | COMMERCIALISE |
| DELIVERABLES | write down your expected design deliverables for each stage below, such as a "project brief" at the "require" stage; if none, skip it. | | | | | | | |
| ACTIVITIES | Write down your planned design activities at each stage below, such as a "group discussion" for generating a "project brief" at the "require" stage; if none, skip it. | | | | | | | |
| STAKEHOLDERS | Write down your recommended stakeholders to involve at each stage below, such as "clients" for conducting "group discussion" at the "require" stage; if none, skip it. | | | | | | | |
| CHALLENGES | Write down your predicted design challenges that will happen at each stage below, such as "adapting to complexity" at the "require" stage. | | | | | | | |
| STRATEGIES | Write down your suggested design strategies that will address the above challenges at each stage below, such as "embracing a holistic perspective" at the "require" stage to "adopt to complexity". | | | | | | | |

TEMPLATE 3

IS THIS TEMPLATE USEFUL?
 ★ ★ ★ ★ ★

Templates | Create Your Evaluation Checklist

Performing design evaluation is challenging. It refers to different evaluation activities, involves multiple stakeholders, and requires varied materials. To prepare yourself for the design evaluation, we recommend making a checklist of what activities you plan to conduct, which stakeholders you expect to involve, and what materials you need to deliver.

| ACTIVITIES | STAKEHOLDERS | DELIVERABLES |
|--|--|--|
| e.g. <input type="checkbox"/> Ethical approval Remarks <input type="checkbox"/> Group discussion Remarks <input type="checkbox"/> participant recruitment Remarks <input type="checkbox"/> Others | e.g. <input type="checkbox"/> Patients Remarks <input type="checkbox"/> Doctors Remarks <input type="checkbox"/> Hospital Remarks <input type="checkbox"/> Others | e.g. <input type="checkbox"/> Protocol Remarks <input type="checkbox"/> Questionnaire Remarks <input type="checkbox"/> Introduction video Remarks <input type="checkbox"/> Others |

TEMPLATE 4

IS THIS TEMPLATE USEFUL?
 ★ ★ ★ ★ ★

C. Evaluation workshop materials for participants

Workshop Content

The overall goal of this workshop is to drive digital health innovation with an enhanced patient experience.

In your given course assignment, you are required to analyze the patient and healthcare professional journeys for either the Consultation Room 2030 or the HollandPTC project, identify facilitators and barriers to its' human-centered implementation, and conclude with recommendations for its' improvement. Most of you must have finished your course assignments and are quite familiar with your project contexts. Therefore, we will use your course assignment as the starting point of this workshop.

In this workshop, imagine that your project clients are satisfied with your preliminary research insights on the Consultation Room 2030 or the HollandPTC project. Due to the design strategies you provided, they plan to update their healthcare services and want to invite you to create a digital health solution for them. They do not provide a very clear design goal, but they have mentioned they want your solution to provide a positive digital patient experience.

During this workshop, we will provide you a web-based design guide to help you understand, evaluate and improve certain digital patient experiences in your project.

| Date | Duration | Location |
|-------------|----------|--------------------------|
| 26 Oct 2023 | 4 Hours | IDE-Hall U - Wim Crouwel |

Workshop Tasks

Work on a proposal to create a digital health solution with an enhanced patient experience by following four templates (work in pairs).

- Task 1: frame your design goal and select your design guidelines;
- Task 2: create your evaluation plan;
- Task 3: create your design plan;
- Task 4: create your evaluation checklist.

Materials

- Workshop Introduction and Consent Form
- The Website of the Delft Design Guide: Digital Health
- Four Templates
- Pre and Post Questionnaires

Schedule

- **13:45-14:00 Introduction**

Material: Presentation, Workshop Introduction, and Consent form

- **14:00-14:10 Questionnaire**

Material: Pre-questionnaire (demographics, self-efficiency, expectations)

- **14:10-14:30 Learning the Web-based Guide**

Material: Website

- **14:30-14:50 Introduce the Tasks**

Material: Presentation (Research Background, Workshop Tasks Introduction)

- **14:50-15:15 Task 1**

Material: Task 1 Template

- **15:30-17:00 Task 2, 3&4**

Material: Task 2,3,4 Template

- **17:00-17:15 Post-questionnaire**

Material: Post-questionnaire

- **17:15-17:30 Feedbacks**

Material: Open-ended Questions

Consent Form

Workshop on a web-based design guide for improving the digital patient experience **Investigators: Tingting Wang, Yun Wang**

You are being invited to participate in a research study titled: workshop on a web-based design guide for improving the digital patient experience. This study is being done by Tingting Wang and Yun Wang from the Delft University of Technology.

We will investigate how participants perceive and experience the web-based design guide for improving digital patient experience. The expected duration of the subject's participation is four hours. We will ask you to finish four design tasks and will have to fill out a form simultaneously and share your feedback. Participation is voluntary. We do not foresee any risk (or discomfort) resulting from participation. We will record your information, including name, age, gender, major, and workshop pictures and recordings. Data will be stored on protected hardware that can only be accessed by authorized researchers involved in this project. Incidental findings will be handled anonymously. All personal data will be deleted after the end of the research period or sooner if they are no longer needed (i.e. after results get published). Personal data will not be used for any business purposes. The results of the research will be presented during the interim and/or final presentation at Delft University of Technology, or published in the graduation thesis and international refereed journals/conference proceedings using anonymous presentations or initials.

Yun and Tingting can be contacted for answers to pertinent questions about the research and research subjects' rights. You have the opportunity to ask questions and to withdraw at any time from the research without consequences.

Please sign if you understand this information and if you consent to participation:

NO. _____

Name

Signature

Date

Researcher Name

Signature

Date

Information

1. Full Name

2. Year of Birth

3. Highest Educational Level (e.g., the diploma or degree you received)

4. Highest Education Background (Major)

5. From which university did you obtain your highest degree?

6. Name of the University You Are Currently Registering

7. Current Major (e.g., Dfi, SPD, IPD, etc.)

8. Gender

9. Nationality

Design Experiences

1. Do you rely more on design intuition or design rationality during the design process?

e.g., When designing a chair, do you start with a spontaneous sketch based on feeling (design intuition) or begin with ergonomic research and user surveys (design rationality)?

Strongly rely on design intuition
 Rely on design intuition
 Neutral
 Rely on design rationality
 Strongly rely on design rationality

2. Which design themes are you currently focusing on, or are interested in exploring further? e.g., AI, healthcare, mobility, sustainability...

3. In which healthcare areas, such as health issues, settings, and/or channels are you primarily focused or would like to explore more deeply? e.g., health issue: mental health, chronic disease, acute disease; settings: hospitals, home settings; delivery channels: digital health, non-digital health.

| Healthcare Areas: | Clinical Settings | Delivery Channels |
|-------------------|-------------------|-------------------|
| | | |

4. Have you ever been involved in a digital health design project for any purpose?

- Yes, I have involved.
 No, I haven't involved any.

5. Have you ever used a design toolkit, such as the Delft Design Guide? Do you routinely try out new design toolkits? What did you use in general?

- Yes, I have used a design toolkit _____, and yes, I routinely try new ones.
- Yes, I have used a design toolkit _____, but no, I don't routinely try new ones.
- No, I haven't used a design toolkit before.

6. Have you ever used a healthcare-specific design tool, such as the patient journey map? Do you routinely try out new healthcare-specific design tools? What did you use in general?

- Yes, I have used a healthcare-specific design tool _____, and yes, I routinely try new ones.
- Yes, I have used a healthcare-specific design tool _____, but no, I don't routinely try new ones.
- No, I haven't used a healthcare-specific design tool before.

7. In general, in what context(s) do you use a design toolkit or tool for (multiple options)?

- Design education
- Design practice
- Design research
- Others _____

8. In general, how do you learn about a design toolkit or tool?

- Lectures/Speeches/Workshops (Supervisors/Lecturers/Coaches/Tutors/Managers/Employers)
- Teamwork/Group assignment (Design fellows/Classmates/Colleagues/Word of mouth).
- Online courses.
- Search engine (Google, Bing, Yahoo, etc.).
- Social media (LinkedIn, Facebook, YouTube, etc.)
- Online news sources (Articles, Journals, Blogs, etc.)
- Others _____

9. In general, what facilitates or impedes you from using a design toolkit or tool?

Facilitators:

Barriers:

10. In general, what forms and media make a design toolkit or tool most useful to you? e.g., forms: card decks, templates...; media: web-based, paper-based...

Forms:

Media:

11. In general, how much interest do you have in a design guide that helps you develop digital health solutions in ways that improve the patient experience?



Strongly not
Interested



Not
Interested



Neutral



Interested



Strongly
Interested

12. What would you want the design guide to include? e.g., a prescriptive design action, design process direction, fundamental concept, fact, or acquired knowledge, the scope of the area of application, the current state of the art...

13. What would make the design guide most helpful for you? e.g., increase the likelihood of reaching a desirable design consequence, productivity, work efficiency, chances of successfully completing the course, understanding the context...

(Pre) Self-Efficacy

Note: **Digital patient experience can be understood as patient experience in digital health.** Based on your previous design experiences, please assess your own competencies in performing digital health design and improving the digital patient experience without comparing yourself to others. Rate your degree of confidence by recording a number from 0 to 100 using the scale provided.

| | | | | | | | | | | | |
|------------------|----|----|----|-------------------|----|----|----|-----------------------|----|-----|--|
| 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | |
| Cannot do at all | | | | Moderately can do | | | | Highly certain can do | | | |

How confident are you that you can...

Confidence Score

- 1. understand digital patient experience?** e.g., knowing what digital patient experience is and how to improve and evaluate it.
- 2. create digital patient experience improvements?** e.g., providing patients with more convenient and accessible care with a sense of reassurance.
- 3. identify influencing factors and design considerations to generate an effective design goal for improving digital patient experience?** e.g., knowing what facilitates or impedes a positive digital patient experience.
- 4. create effective digital health design concepts?** e.g., selecting appropriate design guidelines to achieve the design goal.
- 5. create and carry out a practical digital health design process management plan?** e.g., knowing what to do next and when to involve which stakeholders throughout the whole design process.
- 6. create and carry out an actionable digital health evaluation plan?** e.g., knowing what to measure and how to measure it throughout the whole evaluation process.
- 7. create an effective evaluation checklist to prepare yourself for the design evaluation?** e.g., knowing what materials you need to prepare prior to the design evaluation.
- 8. generate evidence of an improved digital patient experience?** e.g., reporting evaluation results that reflect higher patient satisfaction and engagement..

(Post) Self-Efficacy

Note: **Digital patient experience can be understood as patient experience in digital health. After using the design guide**, please assess your own competencies in performing digital health design and improving the digital patient experience without comparing to others. Rate your degree of confidence by recording a number from 0 to 100 using the scale provided.

| | | | | | | | | | | |
|------------------|----|----|-------------------|----|----|----|-----------------------|----|----|-----|
| 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Cannot do at all | | | Moderately can do | | | | Highly certain can do | | | |

How confident are you that you can...

Confidence Score

- 1. understand digital patient experience?** e.g., knowing what digital patient experience is and how to improve and evaluate it.
- 2. create digital patient experience improvements?** e.g., providing patients with more convenient and accessible care with a sense of reassurance.
- 3. identify influencing factors and design considerations to generate an effective design goal for improving digital patient experience?** e.g., knowing what facilitates or impedes a positive digital patient experience.
- 4. create effective digital health design concepts?** e.g., selecting appropriate design guidelines to achieve the design goal.
- 5. create and carry out a practical digital health design process management plan?** e.g., knowing what to do next and when to involve which stakeholders throughout the whole design process.
- 6. create and carry out an actionable digital health evaluation plan?** e.g., knowing what to measure and how to measure it throughout the whole evaluation process.
- 7. create an effective evaluation checklist to prepare yourself for the design evaluation?** e.g., knowing what materials you need to prepare prior to the design evaluation.
- 8. generate evidence of an improved digital patient experience?** e.g., reporting evaluation results that reflect higher patient satisfaction and engagement..

Guide Content Experience

Note: Please assess your experience towards the content of the D&H Guide.

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. The content of the provided workshop tasks is strongly related to the digital patient experience. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I possessed the necessary design expertise and knowledge to successfully complete the given workshop tasks. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I closely adhered to the D&H Guide when working on the given workshop tasks. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. The D&H Guide consistently leads me towards achieving the intended design and obtaining the anticipated evaluation results. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. The D&H Guide is clear, coherent, and easy-to-understand. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. The D&H Guide is trustworthy and can be believed in. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. Using the D&H Guide enhances my efficiency in developing design and evaluation solutions, allowing me to complete tasks without detours and ensuring smooth progress. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. After using the D&H Guide, I perceive significant value and am satisfied with its impact on my design process. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Website System Usability

Note: Please assess your perception towards the website of the D&H Guide instead of only the website system.

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. I think that I would like to use the website frequently. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I found the website unnecessarily complex. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I thought the website was easy to use. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. I think that I would need the support of a technical person to be able to use the website. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. I found the various functions in the website were well integrated. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. I thought there was too much inconsistency in the website. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. I would imagine that most people would learn to use the website very quickly. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. I found the website very cumbersome to use. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. I felt very confident using the website. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. I needed to learn a lot of things before I could get going with the website. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Overall Experience

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. I am highly interested in utilizing the D&H Guide. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 1. I am inclined to use the D&H Guide in my future projects. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I would strongly recommend the D&H Guide to my peers and fellow designers. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. My satisfaction level with the instructors/ teachers is high. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. I gained valuable knowledge from this workshop. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

What made the D&H Guide most helpful for you?

What would you want the D&H Guide to include in the future?

Please provide any feedback, or comments about the D&H Guide or the workshop.

D. Evaluation workshop materials for researchers

NO. _____ Name _____

- What are the most positive aspects of the website or workshop?
- What are the most negative aspects of the website or workshop?
- Do you find this website useful for your course assignments? And why?
- Can you easily find or relocate the information you need? And why?
- Do you think the logic of the D&H guide fits your design thinking? And why?
- In what contexts do you think this guide is more useful? And who will find it more helpful?
- Will you use this website in the future or introduce it to your peers? And why?
- Could you please give us some suggestions or recommendations to further improve this website or workshop?

Schedule













13:45 14:00 14:15 14:30 14:45 15:00 15:15 15:30 15:45 16:00 16:15 16:30 16:45 17:00 17:15 17:30

| Activities | 13:45 | 14:00 | 14:15 | 14:30 | 14:45 | 15:00 | 15:15 | 15:30 | 15:45 | 16:00 | 16:15 | 16:30 | 16:45 | 17:00 | 17:15 | 17:30 | |
|----------------------|-------|---|----------------|-----------------------------------|-------|-------|-------|-----------------------------------|-------|-----------------------------------|-------|-------|-----------------------------------|-------------------------|---|-------|--|
| Introduction | | Send workshop introduction | | | | | | | | | | | | | | | |
| Send & Collect Forms | | Send Consent Form, Information, experiences and self-efficacy | | | | | | | | | | | | | | | |
| Learn the Website | | | Website Link | | | | | | | | | | | | | | |
| Introduce Task 1 | | | Send Templates | | | | | | | | | | | | | | |
| Task 1 | | | | Receive Template 1, take pictures | | | | | | | | | | | | | |
| Break | | | | | | | | | | | | | | | | | |
| Introduce Task 2 | | | | | | | | | | | | | | | | | |
| Task 2 | | | | | | | | Receive Template 2, take pictures | | | | | | | | | |
| Introduce Task 3 | | | | | | | | | | | | | | | | | |
| Task 3 | | | | | | | | | | Receive Template 3, take pictures | | | | | | | |
| Introduce Task 3 | | | | | | | | | | | | | | | | | |
| Task 3 | | | | | | | | | | | | | Receive Template 4, take pictures | | | | |
| Post-questionnaire | | | | | | | | | | | | | | Send post-questionnaire | | | |
| Focus Group | | | | | | | | | | | | | | | Audio-recording, using focus group form | | |

E. new templates

Project Plan

[D&H Guide](#)

| Phase | Preparation | Problem-Thinking | Problem-Solving | Implementation |
|--------------|---|---|---|---|
| Deliverables | | | | |
| Activities | | | | |
| Stakeholders |  |  |  |  |
| Challenges |  |  |  |  |
| Strategies |  |  |  |  |

Name

Date

| | |
|---|---|
| <p>Task Type</p> <p><input type="checkbox"/> Completing a specific design task</p> <p><input type="checkbox"/> Addressing a daily problem</p> <p><input type="checkbox"/> Improving the patient experience</p> | <p>Project Information</p> <p>Name Duration Cost Stakeholders</p> |
| <p>Client</p> | <p>Requirements</p> <p>User Technical Legal Business</p> |
| <p>Team</p> | <p>Constraints</p> <p>Risks Ethical Technical</p> |

Name

Date

Identify the specific influencing factors that lead to a positive or negative experience.

Behavioural

- Patient Capability
- Patient Motivation
- Patient Opportunity

Technical

- Technology
- Functionality
- Interaction Design

Organisational

- Organisation
- Physicality
- Society

Describe your design problem

Frame your design goal

Name

Date

PATIENT CAPABILITY

- Identify patients' knowledge and skill levels by understanding their technology, language, and health literacy;
- consider their previous experience and current confidence level in using digital health;
- improve their actual literacy and correct their perceived inability;
- tailor design to their ability.

PATIENT OPPORTUNITY

- Profile patients' identity (eg, age, gender, economic status, and daily routines) and health status (eg, illness complexity, severity, and stability);
- consider patients' accessibility and affordance to digital health;
- tailor design to their individual opportunity.

PATIENT MOTIVATION

- Recognize patients' mindset and perceived advantages and disadvantages;
- inform them of the potential benefits of using digital health;
- address their concerns and worries;
- understand their expectations and needs;
- tailor design to their preferences to trigger their motivation.

INTERVENTION TECHNOLOGY

- Increase technical usability;
- ensure ease of use, ready to use, and timely feedback on digital health;
- select technical features (eg, data accessibility) and delivery media or devices (eg, device ownership) to meet patients' preferences and needs.

INTERVENTION FUNCTIONALITY

- Strengthen theory-based interventions (eg, behavior change techniques and evidence-based interventions);
- improve intervention quality, considering privacy, security, and accuracy issues;
- provide regular and continuous social support combining both remote communication and real human contact;
- tailor health promotion and intervention structure to patients' needs and preferences.

INTERVENTION INTERACTION DESIGN

- Provide personalized and consistent information, clear tutorials or technical support, and visualized data;
- allow patients to choose personalized interactive elements;
- follow human or user-centered design, co-design, and inclusive design methods;
- involve multi-stakeholders and multi-disciplines in the design process.

ORGANIZATIONAL ENVIRONMENT

- Reduce equipment or service cost and time;
- improve health care providers' professional ability, communication skills, and service attitudes across the use of digital health;
- increase workflow transparency and clarify accountability;
- improve system integration and compatibility.

PHYSICAL ENVIRONMENT

- Provide a familiar, warm, and comfortable environment rather than cold and unfamiliar settings;
- reduce environmental distractions (eg, background noise or lighting).

SOCIAL ENVIRONMENT

- Provide adequate support policies and legislation;
- develop plausible business cases.

Why to measure

- To broaden understanding, guide evaluation research and practice (Researchers)
- To improve design, development, and implementation (Designers)
- To achieve evidence-based clinical usage, and increase adoption and uptake (End-users)
- To drive ongoing investment (Investors)
- To inform health policy practice (Policy-makers)

When to measure

Step 1 Particular evaluation stage: _____

Step 2 Interaction-related timing: _____

Step 3 Patient-related timing: _____

What to measure**How to measure**

Activities

- Ethical approval
- Group discussion
- Participant recruitment

Stakeholders

- Patients
- Doctors
- Hospital

Deliverables

- Protocol
- Questionnaire
- Introduction video

Name

Date

F. Second test forms

NO. _____ Name _____

Task

Duration

Task

1. Learn the scope of this guide

2. Read the whole webpage, and find what stakeholders should be involved at the problem-thinking stage.

3. Read the whole webpage, find how behavioural factors influence the digital patient experience and how to tackle these factors

4. Read the whole webpage, select one evaluation objective and consider which evaluation timing could be chosen.

5. Find and read one evaluation case study

Consent Form

Test on a web-based design guide for improving the digital patient experience

Investigator: Yun Wang

You are being invited to participate in a research study titled: test on a web-based design guide for improving the digital patient experience. This study is being done by Yun Wang from the Delft University of Technology.

We will investigate how participants perceive and experience the web-based design guide for improving digital patient experience. The expected duration of the subject's participation is 0.5 hours. We will ask you to finish five tasks and will have to fill out forms simultaneously and share your feedback. Participation is voluntary. We do not foresee any risk (or discomfort) resulting from participation. We will record your information, including name, age, gender, major, and workshop pictures and recordings. Data will be stored on protected hardware that can only be accessed by authorized researchers involved in this project. Incidental findings will be handled anonymously. All personal data will be deleted after the end of the research period or sooner if they are no longer needed (i.e. after results get published). Personal data will not be used for any business purposes. The results of the research will be presented during the interim and/or final presentation at Delft University of Technology, or published in the graduation thesis and international refereed journals/conference proceedings using anonymous presentations or initials.

Yun can be contacted for answers to pertinent questions about the research and research subjects' rights. You have the opportunity to ask questions and to withdraw at any time from the research without consequences.

Please sign if you understand this information and if you consent to participation:

NO. _____

Name

Signature

Date

Researcher Name

Signature

Date

Information

1. Full Name

2. Year of Birth

3. Highest Educational Level (e.g., the diploma or degree you received)

4. Highest Education Background (Major)

5. From which university did you obtain your highest degree?

6. Name of the University You Are Currently Registering

7. Current Major (e.g., Dfi, SPD, IPD, etc.)

8. Gender

9. Nationality

Guide Content Experience

Note: Please assess your experience towards the content of the D&H Guide.

Task 2

Strongly Disagree Disagree Neutral Agree Strongly Agree

- | | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. I possessed the necessary design expertise and knowledge to successfully understand the content. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I closely adhered to the webpage when working on the given tasks. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. The webpage will consistently lead me towards achieving the intended design and obtaining the anticipated evaluation results. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. The webpage is clear, coherent, and easy-to-understand. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. The webpage is trustworthy and can be believed in. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Task 3

- | | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. I possessed the necessary design expertise and knowledge to successfully understand the content. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I closely adhered to the webpage when working on the given tasks. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. The webpage will consistently lead me towards achieving the intended design and obtaining the anticipated evaluation results. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. The webpage is clear, coherent, and easy-to-understand. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. The webpage is trustworthy and can be believed in. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Guide Content Experience

Note: Please assess your experience towards the content of the D&H Guide.

Task 4

Strongly Disagree Disagree Neutral Agree Strongly Agree

1. I possessed the necessary design expertise and knowledge to successfully understand the content.
2. I closely adhered to the D&H Guide when working on the given tasks.
3. The D&H Guide will consistently lead me towards achieving the intended design and obtaining the anticipated evaluation results.
4. The D&H Guide is clear, coherent, and easy-to-understand.
5. The D&H Guide is trustworthy and can be believed in.

| | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Task 5

1. I possessed the necessary design expertise and knowledge to successfully understand the content.
2. I closely adhered to the D&H Guide when working on the given tasks.
3. The D&H Guide will consistently lead me towards achieving the intended design and obtaining the anticipated evaluation results.
4. The D&H Guide is clear, coherent, and easy-to-understand.
5. The D&H Guide is trustworthy and can be believed in.

| | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Website System Usability

Note: Please assess your perception towards the website of the D&H Guide instead of only the website system.

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. I think that I would like to use the website frequently. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I found the website unnecessarily complex. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I thought the website was easy to use. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. I think that I would need the support of a technical person to be able to use the website. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. I found the various functions in the website were well integrated. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. I thought there was too much inconsistency in the website. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. I would imagine that most people would learn to use the website very quickly. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. I found the website very cumbersome to use. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. I felt very confident using the website. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. I needed to learn a lot of things before I could get going with the website. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Improving Digital Patient Experience

G. Initial design details

What is digital patient experience?
Digital patient experience is the sum of all interactions, affected by a patient's behavioral determinants, framed by digital technologies, and shaped by organizational culture, that influence patient perceptions across the continuum of care channeling digital health.

What is digital patient experience?
Digital patient experience is the sum of all interactions, affected by a patient's behavioral determinants, framed by digital technologies, and shaped by organizational culture, that influence patient perceptions across the continuum of care channeling digital health.

Define Design



Influencing Factors

What facilitates and impedes the digital patient experience?

| | | |
|--|--|---|
| BEHAVIOURAL Patient Capability The individual's psychological and physical capacity to engage in the contextual digital health activity. | BEHAVIOURAL Patient opportunity The individual's external conditions that enable or disrupt patients to engage in digital health. | BEHAVIOURAL Patient motivation The individual's internal conditions that determine the intention and effort a patient puts into setting and decision-making and their behaviors regarding using digital health. |
| TECHNICAL Intervention technology The integration of telecommunication and computers, as well as necessary enterprise software, hardware, and integrated applications to deliver digital health care to access, store, transmit, interpret, and manipulate health information. | TECHNICAL Intervention functionality The ability of digital health to work as expected to help users meet their health goals and needs. | TECHNICAL Intervention Interactions The process of creating digital health from its ending state to a potential goal to improve interactions between patients and digital health interventions. |
| ORGANIZATIONAL Organizational environment The management of the health service system, as affected by the role, values, and practices of the involved people or community. | ORGANIZATIONAL Physical environment The tangible surroundings (such as space, light, or sound) where patients, which affects their interactions with digital health. | ORGANIZATIONAL Social environment The cultural environment (such as policy, business, or capacity) that affect patient interactions with digital health. |

What do you think about healthcare VS non-healthcare design?

Please tick all the places you think are the same and submit the form

| | | |
|--|--|---|
| DESIGN PRINCIPLES | USER CONTRIBUTES | DESIGN CONTEXTS |
| <input type="checkbox"/> Design Process | <input type="checkbox"/> Health Status | <input type="checkbox"/> Restriction of regulations |
| <input type="checkbox"/> Design Methods | <input type="checkbox"/> Health Needs | <input type="checkbox"/> Complexity of scenarios |
| <input type="checkbox"/> Design Value | <input type="checkbox"/> Engagement | <input type="checkbox"/> Maturity of industry |
| <input type="checkbox"/> Design Requirements | <input type="checkbox"/> Multi-users | <input type="checkbox"/> Sensitivity of data |
| <input type="button" value="Submit"/> | | |

Why we build this website?

The adoption and use of technology have significantly changed health care delivery. Patient experience has become a significant factor in the entire spectrum of patient-centered health care delivery. Digital health facilitates further improvement and empowerment of patient experiences. Therefore, the design of digital health is served by insights into the barriers to and facilitators of digital patient experience (PEX).

How can this website benefit you?

| | | |
|---|--|---|
| Framework A design and evaluation framework to help digital health designers or developers improve digital PEX in the design process. | Guidelines A design and evaluation framework to help digital health designers or developers improve digital PEX in the design process. | Cases Studies A design and evaluation framework to help digital health designers or developers improve digital PEX in the design process. |
| <input type="button" value="Start Explore"/> | | |

Design Considerations

What facilitates and impedes the digital patient experience?

| | | |
|--|--|--|
| DESIGN CONSTRAINTS Personalization | DESIGN CONSTRAINTS Information | DESIGN CONSTRAINTS Navigation |
| DESIGN CONSTRAINTS Visualisation | DESIGN METHODS Co-design and participatory design approaches | DESIGN METHODS User-centered design and human-centered design approaches |
| DESIGN METHODS Inclusive design approaches | | |

Why we build this website?

The adoption and use of technology have significantly changed health care delivery. Patient experience has become a significant factor in the entire spectrum of patient-centered health care delivery. Digital health facilitates further improvement and empowerment of patient experiences. Therefore, the design of digital health is served by insights into the barriers to and facilitators of digital patient experience (PEX).

How can this website benefit you?

| | | |
|---|--|---|
| Framework A design and evaluation framework to help digital health designers or developers improve digital PEX in the design process. | Guidelines A design and evaluation framework to help digital health designers or developers improve digital PEX in the design process. | Cases Studies A design and evaluation framework to help digital health designers or developers improve digital PEX in the design process. |
| <input type="button" value="Start Explore"/> | | |

Tools for Download

| | | |
|---|---|---|
| Intervention technology <input type="button" value="DOWNLOAD"/> | What are the influencing factors that lead to a positive or negative experience (digital PEX)? DEFINE DESIGN | What are the influencing factors that lead to a positive or negative experience (digital PEX)? DEFINE DESIGN |
|---|---|---|

Guideline

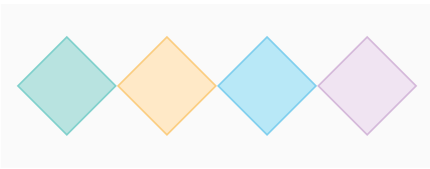


| | |
|----------------------------|----------------------------|
| Influencing factors | Influencing factors |
| Influencing factors | Influencing factors |
| Influencing factors | Influencing factors |
| Influencing factors | Influencing factors |
| Influencing factors | Influencing factors |

Tools for Download

| | | |
|---|---|---|
| Influencing factors <input type="button" value="Download"/> | Influencing factors <input type="button" value="Download"/> | Influencing factors <input type="button" value="Download"/> |
|---|---|---|

Guideline



| | | |
|---|---|---|
| DEFINE DESIGN Intervention technology | DEFINE DESIGN How to define your design goals? | DEFINE DESIGN What are the design considerations of digital patient experience? |
| DEFINE IDEATION Design Guidelines for Improving Digital PEX | DEFINE IDEATION When to measure and and evaluating digital PEX? | DEFINE IDEATION When to measure and and evaluating digital PEX? |

Content Card

Explanations, Explanations

Explanations, Explanations

Design System

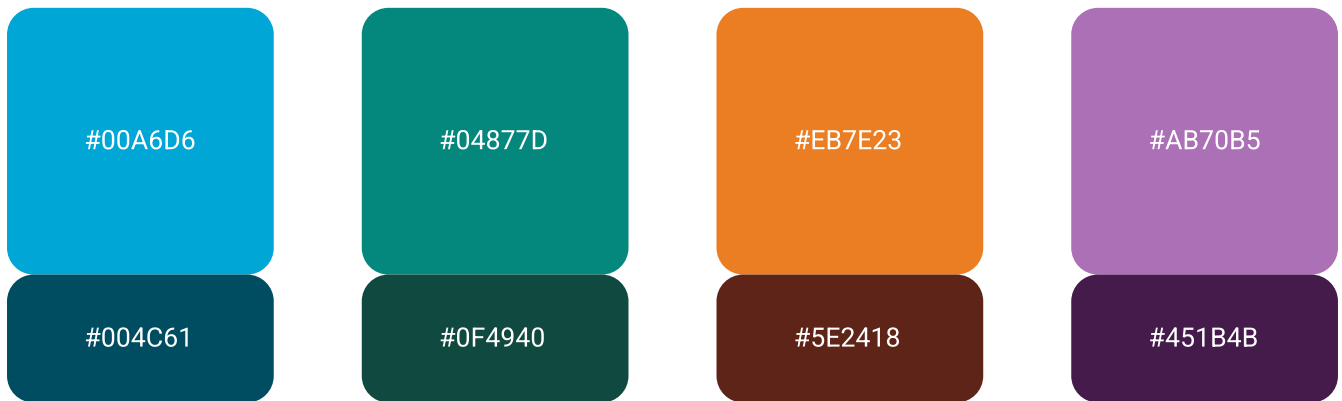
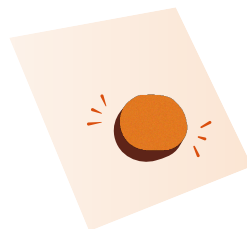
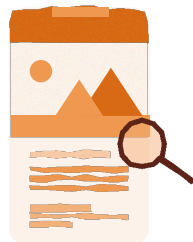
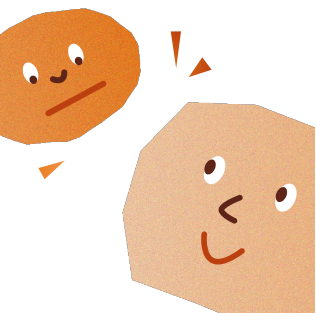
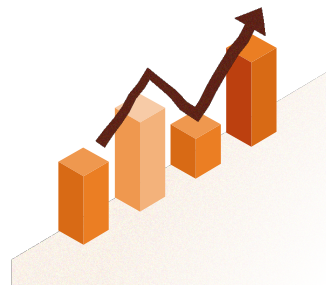
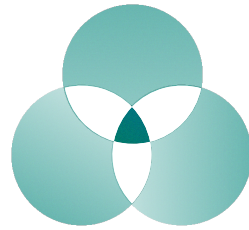
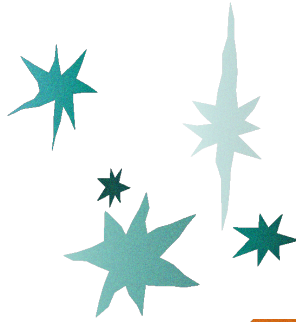
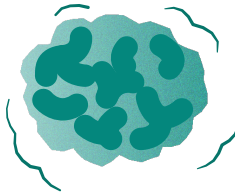
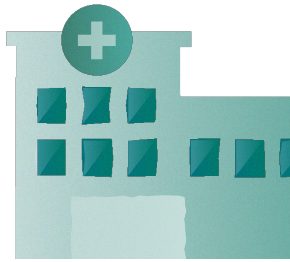
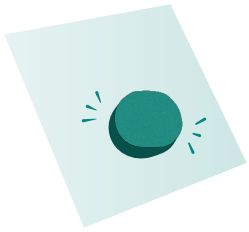
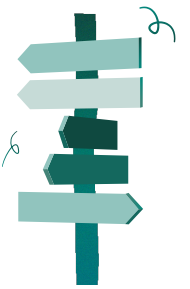
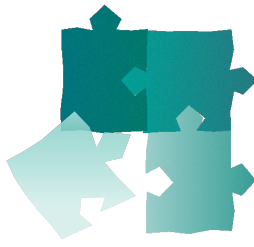


Figure 4.4.1 Color system

| | | | |
|---------------------------|----------|----------------------------|----------|
| P Navigation | 12 / 1.0 | H5 GuidelinetitleM | 18 / 1.2 |
| P Navigation_Light | 12 / 1.0 | P Body_L | 16 / 1.5 |
| H6 Tag | 16 / 1.5 | P Annotation | 14 / 1.3 |
| H1 PagedisplayS | 36 / 1.2 | H6 Filter (Label_M) | 14 / 1.4 |
| H1 PageheadlineM | 24 / 1.5 | P ideation filter | 18 / 1.2 |
| H2 CardtitleL | 22 / 1.2 | H3 CMS Title_L | 22 / 2.4 |
| H6 Lebal | 14 / 1.2 | | |





H. Evaluation analysis

Descriptive information

| Characteristics | n (%) |
|---|------------|
| Gender (N=19) | |
| • Female | 10 (52.6) |
| • Male | 9 (47.4) |
| Highest education degree (N=19) | |
| • BSc | 18 (95%) |
| • WO | 1 (5%) |
| Highest Degree University | |
| • TU Delft | 8 (42%) |
| • TH Minster, DE | 1 (5%) |
| • EAFIT UNIVERSITY | 1 (5%) |
| • M S Ramaiah University of Applied Sciences (RUAS) | 1 (5%) |
| • VU Amsterdam | 1 (5%) |
| • Tongji University | 1 (5%) |
| • Technical University of Munich (TUM) | 1 (5%) |
| • Universidade Federal Fluminense | 1 (5%) |
| • The Hague University of Applied Science | 1 (5%) |
| • Tianjin University | 1 (5%) |
| • Pontificia Universidad Católica de Chile | 1 (5%) |
| • TU Eindhoven | 1 (5%) |
| Highest education background (N=15) | |
| • Industrial design (engineering) | 11 (68.75) |
| • Product design (engineering) | 2 (12.5) |
| • Mechanical engineering | 1 (6.25) |
| • Design | 1 (6.25) |
| • Management | 1 (6.25) |
| Current major (N=19) | |
| • IPD (Integrated Product Design) | 11 (57.9) |
| • SPD (Strategic Product Design) | 5 (26.3) |
| • DFI (Design for interaction) | 2 (10.5) |
| • BMD (Biomedical Sciences) | 1 (5.3) |
| Projects (N=19) | |
| • Consultation room 2023 (Project A) | 11 (57.9) |
| • HollandTPC (Project B) | 8 (42.1) |

Table 6.1.1 Descriptive information

| Effectiveness (by comparing pre and post self-efficacy) | | F(1, 16) | P | Goal attainment |
|---|--|----------|--------|-----------------|
| 1 | Understand digital PEx | =8.864 | =.009 | ✓ |
| 2 | Create Improvements | =3.073 | =.099 | ✗ |
| 3 | Identify influencing factors and design considerations to generate an effective design goal for improving digital patient experience | =2.749 | =.117 | ✗ |
| | 3.1 Create effective concepts | =.005 | =.946 | ✗ |
| | 3.2 Create and carry out a practical design plan | =5.515 | =.032 | ✓ |
| 4 | Create and carry out an actionable evaluation plan | =25.316 | <.001 | ✓ |
| | 4.1 Create an effective evaluation checklist | =8.145 | <.001 | ✓ |
| | 4.2 Generate evidence for improvement | =.529 | <=.478 | ✗ |

Table 6.2.2: Self-Efficacy

| Metric | N | Min. | Max. | M | Std. Dev. | Goal attainment |
|----------------------|----|------|------|------|-----------|-----------------|
| Project Relevance | 17 | 2 | 5 | 3.88 | .781 | ✓ |
| Knowledge Relevance | 17 | 2 | 5 | 3.47 | .874 | ✓ |
| Usage Adherence | 17 | 2 | 5 | 3.35 | .996 | ✓ |
| Content Clarity | 17 | 1 | 4 | 2.29 | .772 | ✗ |
| Content Credibility | 17 | 2 | 5 | 3.59 | .712 | ✓ |
| Content Efficacy | 17 | 1 | 4 | 2.65 | .786 | ✗ |
| Outcome Efficiency | 17 | 2 | 5 | 3.29 | .849 | ✓ |
| Outcome Satisfaction | 17 | 1 | 4 | 2.76 | 1.033 | ✗ |

Table 6.2.1 Results of qualities

| Metric | N | Min. | Max. | M | Std. Dev. | Score |
|--|----|------|------|------|-----------|-------|
| 1. I think that I would like to use the website frequently. | 17 | 1 | 4 | 2.59 | 1.121 | 1.59 |
| 2. I found the website unnecessarily complex. | 17 | 1 | 5 | 3.00 | 1.369 | 2 |
| 3. I thought the website was easy to use. | 17 | 1 | 5 | 3.76 | 1.091 | 2.76 |
| 4. I think that I would need the support of a technical person to be able to use the website. | 17 | 1 | 4 | 1.76 | 1.147 | 3.24 |
| 5. I found the various functions in the website were well integrated. | 17 | 1 | 5 | 3.65 | .702 | 2.65 |
| 6. I thought there was too much inconsistency in the website. | 17 | 1 | 4 | 2.29 | .920 | 2.71 |
| 7. I would imagine that most people would learn to use the website very quickly. | 17 | 1 | 5 | 3.59 | 1.121 | 2.59 |
| 8. I found the website very cumbersome to use. | 17 | 1 | 4 | 2.47 | .800 | 2.53 |
| 9. I felt very confident using the website. | 17 | 1 | 5 | 3.41 | 1.004 | 2.41 |
| 10. I needed to learn a lot of things before I could get going with the website. | 17 | 1 | 5 | 2.24 | 1.393 | 2.76 |
| <p>For items 1,3,5,7, and 9 the score contribution is the scale position minus 1. For items 2,4,6,8 and 10, the contribution is 5 minus the scale position.</p> <p>SUS = 2.5 * (1.59+2+2.76+3.24+2.65+2.71+2.59+2.53+2.41+2.76)=63.1 (✓)</p> | | | | | | |

Table 6.2.3: The System Usability Scale Result

I. Questionnaire for the case study

Design Knowledge Websites Familiarity

We are conducting a survey to gather insights into your familiarity with 15 design knowledge websites.

The survey will only take around **10s** to complete. Your responses will be kept private and anonymous and will be studied to find useful insights. Participation in this study is completely voluntary. If you decide not to participate there will not be any negative consequences. Please be aware that if you decide to participate, you may stop participating at any time and you may decide not to answer any specific question. Your personal data will be stored on the researchers' computers and processed so long as it is required for the research project. By submitting this form you are indicating that you have read the description of the study, and that you agree to the terms as described.

If you have any questions, please contact me at [REDACTED]. Thank you so much for starting this survey.

1. Please choose the design knowledge website that you know before answering this survey *

- Core77 (www.core77.com)
- Design Kit by IDEO (<https://www.designkit.org/>)
- Design Method Toolkit (<https://toolkits.dss.cloud/design/>)
- Design-Apple Developer (<https://developer.apple.com/design/>)
- Interaction Design Foundation (IDF) (<https://www.interaction-design.org/>)
- iitoolkit (<https://www.iitoolkit.com/>)
- Laws of UX (<https://lawsofux.com/>)
- LUMA Institute (<https://www.luma-institute.com/>)
- Material Incubator (<https://www.materialincubator.com/>)
- Nielsen Norman Group (<https://www.nngroup.com/>)
- Project UMA (<https://www.project-uma.com/>)
- Service design tools (<https://servicedesigntools.org/>)
- SAP Design Services (<https://community.sap.com/topics/fiori>)
- Theory & Techniques Tool (<https://theoryandtechniquetool.humanbehaviourchange.org/>)
- Usability.gov (<https://www.usability.gov/>)
- None of them

This content is neither created nor endorsed by Microsoft. The data you submit will be sent to the form owner.

J. Workshop transcript

YUN

YW:

So the first question is, what do you think about this workshop, positive experiences and negative experiences just share your thoughts.

S1:

I think it's nice. I think it's hard to do it in a project that it's not so long. I mean, it's more the project that we are doing maybe is not that deep for us to have a lot of things.

YW:

Understand, because now you're doing more conceptual design and it's very hard for you to maybe consider. What about you guys?

S2:

Yeah, actually we just started our project, I think the duration time is 4 days, four days in total or five days four days. So it's not really long and our project doesn't. We are like, given the brief by the Yankee and we under this broad topic and we explore ourselves, so it's not really complex for us.

And how about you guys?

S3:

We actually agree with this very well. Yep, it's quite a lot for the relative simplicity of this project, yeah. And it was like it was very like, it's difficult, like too complicated.

yw

What do you think about the four templates? They all like to complex? Did you notice the difference?

S2:

That's the second task. Uh, evaluation. I think it's too complex and usually I don't know, but in my project I don't really think so much in the design and for I think for the small or medium size of the project, Its just doesn't really make a difference If you think the evaluation before or during or after the project, yeah.

I think that refers to the questions that we think about before because we had like worried about whether this process is aligned with something and will process because then I think you already know history and want to prepare for that great design and it was before you came into the concept. So we are asking about that is aligned with your daily working process.

S1

I think it's ok, but also like I don't think you will do everything at the same time. So they come in different moments and yeah I think doing the whole process in now, yeah, like in like we did it today, it's a lot and you will normally do one and then do other things and then come back to the one or the 2nd and do it more space.

S4

While I am doing it's like, it this is something for people who have never learned design or just learned a little bit. But actually for us, if we have experienced some projects, all this we know what we are going to do So we just for most of the checkpoints, we just don't have enough time to finish all of them.

YW

Yeah, that comes to the information offered too much. That might be too complex, and if we offer too little, that might be hard to understand. And also, even though we already considered you've already experienced the complexity of this website, right? So it's hard for me to make the balance that I grew up with you. some most negative experiences of this workshop?

S5:

Yeah, I think it's just the overall density. Also a little quite I have to look at it if like I didn't understand the templates just by looking at templates, you also have to switch to websites. So I think in essence it makes it harder in the beginning, and it helps that you guys have explained a little bit. Yeah, but still the template itself is also simplified like, What do you want me to do? But the website was quite clear, then you kind of have to switch all the time.

S2

for some templates, we don't know whether we're gonna write or just choose. And also in a second template, there are like a full table, right? But we don't know which items we are going to choose.

S5

OK, sometimes the instructions are not very clear.

so do you think the second template is the most terrible or have any?

S1

I think that's like 1 Looks more like an information sheet and template to actually work on.

YW

Because so we offer too much information. do you think, we should offer more information with the website and for the temptation,

S1

I mean I think that following the logic of everything that it's information on the website and do it on the template. I would say that a lot of those things could move to the website.

YW

Yeah, ohh this situation we consider is that if you don't have any network or connection to the website, maybe you can also get the information you want.

S1

But maybe you can go download the PDF like a guideline for that.

YW

Yeah, that's a very good point. And the next question is about the website. Do you think it is useful for you to finish the assignemnt and why?

S1

The ohh I think it's good that it has a lot of things to consider on. I'm not SURE for the assignment because as we tell you, the assignment is very superficial. but maybe yeah For future projects, I do think that the website is too much text and yeah, no one is gonna read all of that.

S2

You can also make pictures of instead of text. People like looking at pictures or video. It's don't show until transfer the information, but you don't want to read everything.

S2

I think in the real practice for the website is based on, I think from from thinkings paper right? So most of the terms are designed logics are in that paper, but not a common practice. So also for example the planning part or the you have four diamonds in the design practice, but usually maybe just two, or several loops of iterations. and also in the I'm planning part. So what I know is most product manager companies have their own way of planning things. it's better to you can transform the the planning into Excel. That's the best. that's most common way of doing that.

yw

It's just more like making the knowledge to put it into practice.Can I ask about this like two diamond?Like once we saw the four diamonds that it was something that ohh

S2

I mean a I think people use different way of doing design. In here they have 4 phases and ending point is implementation or commercialization. But sometimes the endpoint is design proposal is very different.

YW

And maybe you just this is just my quick, I will ended in the points that you want right, like we offered processes but we couldn't like said that which phase is mandatory. May we should explain this logic?

S2:

Yeah

Yun

Another question is can you easily find the information that you want on the website that you need? Is that easy for you ?

S3

Yeah I think the website went quite well.

S2

Might a search button on the website.

YW

Yeah, I will try to make it. So another question is, do you think the logic? Do you think the the guide, the logic inside of this guide can be fitted in design thinking?

S1

I mean, I do think so.

S2

Yeah, **And maybe I just adapted myself.**

S1

Yeah, maybe just take some things and yeah.

Yw

And then the next one is in general, in what context do you think this guy will be 5 and who you find it the most?

S5

For project manager.

S2

I'm not really sure for designers, maybe for us SPD as well.

S1:

Yeah I think it will be helpful, for designers and and yeah, people part of the stakeholders.

S2

But but but the the the whole task is more like interaction focus. The most of the items. but uh, but then it's kind of mismatch with product manager because they don't really think they tell them why.

Yw

Why do you think it should be actionable but useful for not designers but pm?

S2

this isn't like planning page, right? So in that phase, you don't really need to think about what your actions should be look like. So you can decide on that phase when when you need to think about it.

YW

So I guess it might be a problem for the templates.

S2

Yeah

YW

So I still have two questions. Will you see this website Helpful and recommendate it to your peers in the future.

S1

Yeah

S3

If they're interested in the topic and then I would,

S1

but not like, not for everyone.

yw

And OK, so when last question is, can you give me some suggestions

S3

This comes back to the first question where it's like a lot, relatively little time, project phase and no instruction

S2

Yes, **I think you can separate the three of the four task into different groups. So then, not every group have to go through the whole process.**

YW

So yeah, I think that for us, yeah, The thing is, you are the first group that we are testing. So yeah, so I think this like separately separately would be should be helpful.

TONY

S1

I feel like they shouldn't do this in the last week. Yeah.

tS:

Shall we start? Yeah. What you guys talking about is, like, great. Is there also a question on that on the second question. OK, OK. So I'll start it. What what are the most positive aspect of the website or the Workshop on today?

S1

I use the the website quite a lot. Yeah, like a surfing the website is quite easy in my opinion. There are no...Maybe we found like one Bug. At some point we had to like scroll to get to the bottom otherwise so very little bugs.

S2

The information was also nice. And it looked good, right?

Ts

you guys already mentioned something, so I just wondering what are the most negative aspect of the website or the workshop?

S2:

I think that like for the concept development that we're at like in the stage of the project that we're doing per se, this wouldn't like happen now. It would be later in the design process. So like for every step that we had to do, there was a lot of just yes making up stuff.

S3

Yeah, right now we're literally, concept, you just getting an idea of the problem and this really felt like already as like designing stage. There are a lot of steps in between. I feel like some, like you said, there's a lot of guessing and a lot of like the entire research step is like, not only the literature research, but research actors. That's completely different. So it was a little bit harder.

S2

Yeah. And then, I don't know if that kind of goes hand in hand with this, but I felt like was just reading the instructions of, like, when you had to do in the workshop, that it wasn't fully explained. Oh, what to do? Like, I felt like there was some parts. Yeah. Like, I wasn't sure, like, for this one, for example, this one. I wasn't sure if these were like examples or if I had to, like, use them. So maybe I think if that is clear, it would be nicer too.

S3

Yeah, and this was the least clear one for me, yeah. To be honest, I still have to do it alone.

Yeah, that was also my partner was there. Then the first hour. So we did the first one then afterwards.

TS

Then may I ask what do you find this website useful for or useful for your course assignment?

S1

Maybe if you had to make a further development of the idea concept or whatever. Yeah, I might use it also if honestly, I don't. I don't even know if it fits the the scope of the solution I'm thinking of.

S3

And also it is focused on just digital. Mm hmm. Right, digital design and. I don't even know if the solution for the project we're doing now is gonna be digital. I have to say so. That was something discussed for the first template we were like, yeah, this is completely focused on digital and we're not really sure if our design is gonna be digital at all. So I would use this if I was sure I was gonna do digital design. That would be useful.

s1

But I still think, uh, first aid, the, I mean, there are some good aspects to the whole toolkit like regardless of of the second template that I I agree with everyone that it was super weird to navigate. You kind of lay down a lot of aspects that you, I don't know, the first one you we I wasn't even thinking about, like the the goals. Like divide them into technical goals, organisational goals and I think that's it's like it's something nice to have. That makes you like think about how do you state the project very well. But again, what she said, it's bigger than anything I can say now like you, we were not even sure the project was gonna be

digital for us. So, that's kind of. It feel demotivating. Yeah. Because in the end when you don't really do it with a purpose, it's just like let's fill this up.

S2

Yeah, that's true. We kind of did it this because we knew we had to fill it out, but for this project I wouldn't do this.

TS

I'm curious to know, can you easily find or relocate the information you need from the website for the optional.

S3

Yeah, because of the headings. The top, It's easy to navigate through the different places and because the faces are not that big, I feel like it's easy in that page to

S2

One thing that I didn't like to say is, given that there are very strong chronological order that the website is supposed to have. I think if we didn't have the explanation on it like you were going like. On each tab, explaining like first you do this, second you do this. I think if I didn't have that I would have not or it would have taken longer for me to realise that this is the first step and this is the last step of a process, because most often that bar in a website is just like a yeah, it's not. It's not like a navigation thing. It's just the sites you want to go through in a website.

S3

usually in phases or you have on the left. Yeah with like 1234. Or you have an infographic in them and then you can click on the phases.

S1

So maybe just yeah, improve on that side like on make it a logical thing to follow. OK, but in anyway, I mean you presented it so it it wasn't a problem, but I can't imagine it being a problem.

It's just like if you're new to the website

S1

if I am a user and I don't have the workshop and I just stumble up on this toolkit, yeah, it might be like, OK, what's my stage? this one. And then you find a template, but I don't think I would relate them like quickly enough to be like, OK, maybe you start with one and then you realise, oh now I need to do this and these. So the next one makes sense and that would be like a, you know what? I'm not gonna use it. If it was me, it made your life easier.

TS

Thank you for answering. May I ask, do you think the? Logic of the D&H guide fits your design thinking?

S2

Yep, I think I took this mm hmm.

S1

I don't wanna answer and

TS

why you think that way.

S1

I feel like there's a chronological order to what has to be done and it kind of goes hand in hand with the design process, like the concept kind of of like the first one, right? Here of like so problems you know that could be with the design goal and then you went over to what was needed for like the testing and implementation kind of thing. Yes, factors things like that. That's a collection and then you went with like the design plan and then the final like Checklist

S2

I dislike the design stage that you plan for the design. But I don't think you planned, I've never done planning like this for a design. Preparation, it's like you've never designed. You're just thinking, starting in preparation. You have problem thinking, problem solving, and then implementation. So, I don't. That also makes, I kinda miss the actual design phase."

S1 you never get to design anything or.

S2

Yeah, I myself feel that in the problem stages, so many problems should have been clearer, but it wasn't. It's like 'discover, define.' Yes, you have it here in the design, but I think it goes very superficially. And then, do you give the same weight to each, or how? It's just me being picky, for no reason, but...

S3

you could also because your gate is with it and this is like a graphic thing all designers get because it's a double thing. If you would implement that double diamond, maybe also, yeah, sheet or I don't know, to make it a little bit more clear because after I got this, it was a lot clearer to this was all like this was designing, which was the process. Yeah. This is like double diamond, which you do to on top of it as well. But it was a little bit hard to get. I can get what you mean.

TS

eah. And if I understand you correctly you correctly, you were saying is missing the design phase like the brainstorming like the leading phase of

S1

yeah like right now we've been that we talked about it, it's it's there but it's very. Not hidden, but it doesn't, I didn't notice. That's what I said it, so I went. I went through the design stage and and you just like, in this case? I was like, yeah, I need to make a platform and that's all the design thinking I put into it. Like make a design platform that needs to do this and that. But you don't really dive in to like, OK, is it the PC platform or mobile platform? I don't know.

S3

I also think that is because we needed to do a lot of guessing. Maybe if you have a clear concept, it will be easier

TS

Then my following question is, in what context do you think this guide is more useful and who will find this more useful?

S1

I'm from IPD too. I get the feeling that it's a very SPD like approach.

S3

Yeah. Yeah, I agree.

S1

it's it's not a I mean, it's not bad, but it's I, yeah, I felt that it's more like an overview of a project than really tools helping you to develop each phase of the project.

Its like, this is my project. This is how I'm gonna this is a problem. This is what I have to do and this is how I'm gonna implement it. Yeah, but then you keep everything there like you don't go deep on there. I don't know literature research to really understand the problem or you don't really go deep into the design. What are the design considerations are how are you gonna achieve your goals?

S3

I select the method I believe it's fit. It's the one where you make it more abstract and abstract and then go back to making the yeah. Is it right? Yeah. If you like. That's a real IPD method. And this feels very far away from that because it's it's very Text based and fitness for example is also very visually based. I also think that makes a big difference. If this would be for example, this part would be very visually based. That also would really help.

ts

And may I ask, what's the technical design? So we still design like products, but that actually needs to be embodied to be made. Yeah, physical products and SPD strategic. So it's more than marketing side, OK. Yeah. the third one is to design for interaction. Ah, yeah. No one can explain that.

S1

Not even their students?

S3

No, it's no, it's more user. Experience more experience.

ts

And then the following question will be, will you use this website in the future or introduce it to your peers?

S1

Now that I know it exists, if I think it's a good fit for projects, yeah. But it it won't become my Bible. Because I'm an IPD. I still like this is a bit. Yeah. I don't know. I hope I don't end up working on digital products, to be honest. That's I don't like that. It's a personal statement, but yeah.

TS

Then my last question is, could you please give us some suggestions or recommendations to further this website or workshop.

S3

I don't really think there's an extra one. I think the most important ones we already mentioned.

TS

So like you're probably mentioned like maybe **getting some orders on the design development stage.**

S2

Yeah, I think if like there's if I remember correctly, one would be **make it more clear what's an example and what's an exercise.**

S1

well, when to use the design templates in the design process

s2

then the umm chronological of the whole toolkit that in the website it's not really clear what we talked that you kind of presented how to use the website.

S1

I think another one would be mainly maybe like if it's not presented like if you do all the this all at once where if we go doing it in like sections as the project progresses. So maybe like during one stage you do the first template. And then more things happen and then you go on to the second and then so **Maybe it's like a month-long workshop or just a sit-down kind of session.**

S2

The Yeah, the design part was super. I would think it didn't went by unnoticed in a way the like this, this stage of deciding the solution. In my opinion. But then that goes hand in hand with the more SPD approach that I'm feeling strategic design rather than technical. And I think that's it's.

TS

Perfect. Yeah. Thank you so much for your time.

S3

Yeah. It wasn't insightful, though. We were kind of critical, but it was insightful.

TS

Yeah. And we were critical because we asked. Yeah.

Tingting

T:

Uh, so my first question that I want to know is what are the most positive aspects of the website or the workshop that you want to share with us?

S1:

I do like to visuals of the website. I think like the illustrations, they were all very nice. I also see the value of having like, that information available. Umm, I think from me those are the suppositively part.

S2:

Yeah, I think so, it was nice to have like a guide that you just read and, like, write something and you don't never think about really, so you read things about it step by step through this., like always like with the guide, so I think that was nice.

S3:

Yeah, I like about the workshop that you discuss with fellow designers, what the design process should look like and umm.

T:

Umm, thanks yeah.

S4:

So the outline of the the website is really clear and also the visualizations were nice in contrast with each other.

T:

Thanks. Thanks for your positive back.

S5:

Yeah. Yeah, I agree with upset really. But I also like there was like a little things you could find finally, if like information on there just like all things the present. It was nice.

T:

So now, yeah, we also want to know what are the negative most the negative parts or aspects of this workshop or the website. So then later on, we can keep improving it.

S1:

I think during this part with the preparation from things, so I was so confused. I didn't know where to look and which one is to choose and I I didn't understand it actually.

T:

So you feel like too much information or the

S1:

yeah, because you have to look here but also here but and also here and very

S2:

you also have the letters and they also have something But I still don't know what exactly.

S1:

I have no clue.

T:

OK, I understand. Yes, sometimes as a researcher will always want to provide the details because details make the things different and make things more how say that more uh, that was like probably more understandable for the designer. But of course, if we make things to detail or we provide too much information, also make the designer feel better. Overwhelmed.

S1:

Yeah, yeah, I think it should be Maybe split in sections to 1st focus and preparation and then explain something which page rules what you can choose and step by step plan and then uh like the next step after that. So, but there's too much in one visual, One step.

t: Sometimes we always want to comfort everything into one page, but later on we found, Yeah, its not very good way. And our website, we're trying to provide more step by step, uh, like a guide for this defined design or design ideation. Do you think the information on the website is better than this page or no?

S:

no

S3:

Can I say something about it? I I think it's too much text on websites. You need to read a lot before you can start to understand what's meant. Maybe you can start with a small fix and a visual or something and then explain more later.

S1:

Or umm, or maybe use a bit colors and I don't know, but, making it easier to to read this

S4:

Because also, when I look at the first page, there's an introduction, like a headline, but underneath there is another introduction. It seems like everything is important, and we need to read everything very clearly to understand what's happening. But by reading so much text, it eventually makes it more confusing."

S2:

I think when you're working on the like process, she just wanna go on and like start. Yeah, doing things, doing things and those reading a lot and then you have to stop about uh doing stuff and yeah, your creative session kind of. Yeah.

S4:

Gets interrupted.

S2:

Yeah, I don't know how it was for you, but for us, when we were doing this part, the main question that we had that we had to go to the website to understand before we got the the paper was a what exactly were the parts that were within preparation within probably thinking. So maybe if you just add a small description within like the actual template, you would already solved that. So maybe understanding what are the questions that people have when they're doing that and just adding like because we're ready to have some placeholders there? so If you add something similar, should just explain like the. So for example, for we initially put as preparation like that's research, but that's research is supposed to be here.

T:

So yeah, probably need to. Yeah. Fund the have to say that you have found a more simple way to present or to show the most important information and also we need to introduce some keywords like the preparation or problem thinking with that these terms mean or

S2:

yeah or it's just like because people are interpreted in different ways. Because, like preparation could mean different things for different people depending on their process i think and then? I think it also goes with that because like of course, it's really nice to have the website and have like extra information. But I would expect that if I have a template that I can do it without actually looking at the website.

T:

Yeah, probably. We ask you to do too much like tasks during this workshop. First you need to work on the template and later on you also need to look through the how website and there are also some overlap information and I feel like it's hard to zoom in the mouth or to like change your Tasks.

S2:

I feel like for some of the tasks that you didn't understand what I had to do, I had to look into the website. And I think like I should understand what I need to do without having to look at the website and then I look at the website if I need like. ohh I'm sort of like I don't know like I understand what I need to do but I don't know what to do. Then I go to the website.

S1:

I think like if you take that workshop was really nice if like 5 steps. OK, step one, you do this. OK, you can be like busy 15 minutes working on that part because Step 2 and then you just you know what to do because it's like a short small text explains everything and you you can really do something at this.

T:

Yeah, that's also very important part for us to consider because when we're trying to develop this website or the all of the research studies, actually we do not have a very specific context because we're just trying to have a broad focus like way you don't have a specific health issues, want to focus on or very specific project or patients type of patients for us to focus on. So maybe this kind of thing also make us a little bit, like lose the focus and want to include everything in our website or in one template. And also we want to connect your course assignment with this template. So probably these two also like sometimes not much very well.

S3:

And in general for the workshop. At the beginning I was very confused because and I didn't know what digital patients experience was in general. And then eventually I found out what it was, but then I was like, OK, so do we actually need to make something for, like, the one page's thing? And but then like after an hour, I just realized that we had to try out using like an imaginary concept that we want to create. Umm, so it was very late in the process that I eventually found out. Ohh it's more of trying out the method umm as if you were really trying out the method and giving feedback on the method then really making something really using something for the method.

T:

Yeah, for the for the templates or the course assignments or the workshop tasks or purpose is trying to help you engage with the yeah website. The probably that part also make you feel better confused because there are different like explanations and also different information. And yeah, I I totally understand. This part should be good for their improved.

S4:

Yeah, but I also sometimes just missed like the goal. Why we're we're doing it like I was just doing it because I had to. Yeah, I'll just step, but at some point, I was like, what am I really doing? And for example, the template for we are feeling that we already did it before. So we're just doing it again. Let me run like that's why are we doing this? So it was a little bit sometimes the goal was not exactly clear.

And also it needs what they already said that he didn't have like steps because it's really hard to sometimes we there were no checkboxes we just add like an error or something. I don't know why.

S3:

So like the the for template too specifically for some of the steps that was a lot of explanations, but they didn't end with like OK, now do this. And so we were like, OK, I understand. Like what you're saying? But then what now? So I think that's one thing,

just making sure that like it's very clear what I'm supposed to do. Because if it's a step, I'm expecting that I need to make a decision and the other thing that I also remember that I felt was when we were doing this. Umm, the way that the things were ordered for me would make more sense, but then it's first, I don't know if that's the case for everything everyone. **But to think first of the tasks that I'm gonna do and then of the deliverables and the way that it was organized, it was more like think of the deliverables and then of the tasks.** Yeah, but I don't know. That's just for me.

T

I think we need to tell you more about the purpose of this workshop, not only about the user test for all website, but also by trying to find a way to introduce or summarize or research findings and want to think about how can we, uh, How can we make sure designers can understand what we identify from Different research staff is, and whether we can apply this Research findings in the design practice. We think design education could be a umm, context **could be a usage context for** all research because we think for medesign students after you finish your graduation project you probably will go to the industry and there are the healthy healthcare design itself is quite complex and also quite challenge. So how can we have more like systematic thinking or how can we prepare ourselves for all of this complexity? And know what kind of steps we need to take in the future and also uh already perceived some kind of challenges and also there's some strategies from others. So that's our initial ideas. And also we were thinking this templates or this design guide somehow can help you understand the healthcare industry better and to help you understand the topic better and help you to get some knowledge or some design skills. But probably we need to introduce this part or to explain this part better.

S4

No, I think it's. It's definitely like, for me. It already felt like some parts of the information already, like **made me think of stuff that I wouldn't have thought if I didn't have them there.** I think it's really just like **refining it bit how you put that information within the templates.**

t

How to present those information and how to make sure that it's easier for the designers or the my students or others design Professionals understand it. So yeah, it's more about the way of presentation or the way for us to introduce this information.

S4

Exactly

t

And my next question is, I was saying we want to know like, do you found this website useful for your course assignment or, probably some of you already mentioned,

s3:

uh, not specifically for this assignment because we need to make a patient journey. umm. Nothing. **it's it's part of the umm the the problem thinking I think. the rest is not so useful.**

S5

I think for us as well, I think I mentioned, I don't think it was reviewed, but that for example we had way more insights in terms of the health professional side and then a lot of the content that you have on the website, of course it's patient. **It's really focused on the patient. So it was also a bit yeah, it's hard to use because of that.**

T:

And then I also want to know can you easily to fund or relocate the information you are looking for when you use the website for?

S2

Yeah, sometimes there was even more information if I scroll for. I thought I had Looked **was it the end of the page, but it was more below it.**

T

probably too much, right?

S3

I just just **too much space between things, I think.**

S2

I think about at the same time. I think it really **depends on how you intend people to use it.** Yeah, because like, **if the idea is I use the template and then if I want extra information, I go to the website and then it makes sense that the website has a lot of information** because like for example I would expect that if I'm confused in one of the templates and then I go to the website, you're gonna have extra information that I don't have on the templates that will help me understand that. But then, if the idea is that no, actually people can just use the website, then maybe you need like some sort of. Ohh here is like the summary and then if you want to read more, here is everything

S5

yeah or some kind of navigation directing to a specific step in the a face.

T
navigation part.

And then I'm also curious about, like, do you think the logic, the design guide ohh face to your design thinking because for example, we ask you first to consider what kind of influencing factors were influenced the digital version stress later on. You also need to make a validation plan or design plan and then you need to come up with a checklist. So do you think this logic?

S3
Umm, I think it's weird that you plan at the end.

T
Ohh which part?

S3
So, like uh, both the checklist and this part. I understand that maybe you won't be able to fill it as a whole at the beginning, but it also doesn't make sense that I'm planning preparation after I already have a design goal. And I already found like how my evaluation is gonna be that. So like maybe this is like something that should be on your side while you're doing the other stuff and then fill it. I don't know. I don't have an actual random, but for me that was the yeah thing that didn't.

T
Yeah, this is also a challenge for me because I'm trying. I'm doing different studies and different study, have different goals and after each study you have different outcomes for them. This framework and also some other like influencing factors related or design goes related structures or frameworks. I also trying to combine them together or compress them together but I cannot find a very smooth way to introduce all of the information because this part is more focused on like you already dive into the design ideation part, you need to make a plan for your to find ideation or conceptualization, but for the first part of the design goal or this kind of thing, just trying to and it's more like a something or some knowledge will help you to have before you start your project. For example, you you already have a system thinking or an overview of what kind of factors were influenced your project. You can pick some of them and then you can based on these factors to to like already come up with some to like go, but maybe later on after you finish the user research or user test are attracted to your to then go. So yeah, probably they have different layer or different level. One is more on the research level. you, just like some desk research to help you understand your Howard design context or project the others is more like on a practical level, you can start to do user research, start to do something. Definitely I need to make

S5:
maybe in the website you could have like an overview of how you can use it with an iterative process.

T
I should introduce this even more detailed way and then we also want to know like in

what context do you think this design guide is more useful and for who like who will found it more useful. in more traditional design practice or you designed Acacia or probably just fertilize research researchers or designers or healthcare providers, yeah.

s4
I don't know. Cuz personally this doesn't really interest me. So I think I will not use it because I will not never come to an assignment with in which I have to use it. So I have no clue

S2
It can be useful for just students because I think they're giving maybe information that for someone that is a professor I and has work experience might be already known

T:
So another questions.cYeah, you already mentioned in the future probably we're not using it or were you use it to in the future, if we improve it, like provide a more simple versions or more like smoothing version where you use it or introduce it to their peers.

S1
Don't think so. Actually, like I don't know, there were like a lot of things I already knew. So they were like with a lot of, in my opinion, new information like like I know how to do conduct like surveys and that I need to do and what kind of deliverables because I will have after that. I was time so confused that I would never recommend it to somebody to use it because I just

didn't know what I was doing it and why I was doing it. Yeah, maybe it's because of my background, because I am an ipd student. And so I'm like really critical thinking and I'm just more into, like, making real products. So maybe I'm just not like the right target group for this methods. Like I can imagine for example, you do dfi? You probably have more experiences with these kind of methods? So maybe it's easier for you to understand?

S5:

Yeah but like normally I would use it, but not necessarily like has a process that I would follow step by step, but more is like resources that I can use.

t

So it's more like a resource. not really like the step by steps to guide you to do exactly when you want to understand some specific context or you want to look there as information would be helpful.

S5: definitely

T:

And do you have any more suggestions or recommendation for us to improve it or make it better?

S:

I think that was it.