Project plan – Blind App Project

Versions

Version	Date	Author(s)	Description	Status
V 0.1	25-10-2023	Ryan Houben	Initial creation	Initial
V 0.2	26-10-2023	Ryan Houben	Fill in skeleton	Initial
V 1.0	07-11-2023	Ryan Houben	Finalize for release	Release

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About the project

Dilana presented on the topic of sexual education and its implications for blind individuals. During her presentation, she discussed the challenges they encounter when searching for information on sexual education online. She also shared details about her ongoing work with blind individuals, including her efforts to provide tactile models of body parts, enabling them to gain a more comprehensive understanding of the human body through touch.

Assignment

Context

Individuals who are born blind often encounter challenges when it comes to learning about the human body. They are unable to visually discern the distinctions between males and females at a young age, which can hinder their understanding of physical appearances. Additionally, conducting online research can be problematic for them since the majority of information is presented visually. While screen readers help with text-based content, they are unable to convey the visual aspects, leaving blind individuals without access to visual representations of certain anatomical details.

Problem statement

Kids who are born blind often struggle to understand the physical differences between boys and girls, which can lead to them feeling disconnected from sighted people who learn this naturally. When blind teenagers reach the age where they need sexual education, they find it hard to access because most materials and teachings rely on pictures and visual demonstrations. This lack of inclusive sexual education leaves blind teenagers without crucial information about their bodies, relationships, and sexual health. This knowledge gap can put them at risk for physical, emotional, and social challenges related to sex and relationships.

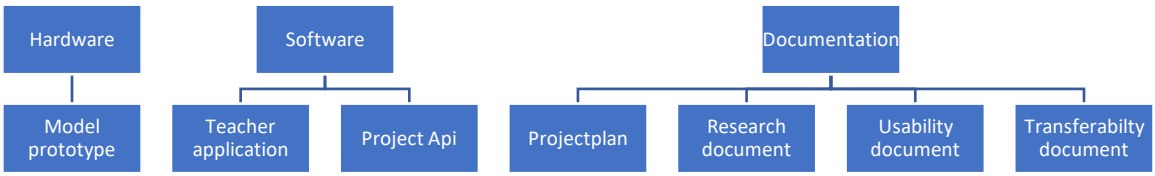
Goal

The goal is to create a smart mobile solution that provides blind teenagers at the age of 10 to 15 with accessible information about their bodies. This solution will help bridge the knowledge gap between blind and sighted individuals, ensuring that blind teenagers have equal access to important information for making informed decisions about their sexual health and relationships.

Scope

Includes	**Excludes**
Documentation	Full production ready product.
Prototypes	
Research documents	
Apps and other code	

End deliverables



Hardware:

Model prototype: This is the hardware prototype of an interactive body part.

Software:

Teacher application: A mobile application for teachers to see certain data about the children and the model.

Project API: An API that connects the application and the model together.

Documentation:

Project plan: Document with the global overview of the project.

Research document: A document with all the research that has been done on the project based on the DOT Framework.

Usability document: A document with a detailed description on how to use the application and the model.

Transferability document: A document where we advise the stakeholders on how to improve the prototype.

Research questions / Design challenges

Main research question / design challenge:

How can we incorporate the different senses in order to teach born blind teenagers at the age of 10 to 15 about the human body?

Sub research questions / design challenges:

What kind of challenges do blind individuals have interacting with sensors?

- Find at least 2 blind individuals for an interview.

What kind of sensors are appropriate to use for learning about the human body.

- Find at least 3 sensors for each sense.
- Exclude vision and tasting.

How do blind teens get sexual education on school?

- Find at least 3 methods on what they get now.
- Why is our idea better than those found methods.

Approach

Testing

Hardware:

Blind individuals will conduct the hardware testing by using our prototype with minimal instructions. If they can operate it as intended, we can confirm that the hardware is being used correctly.

Software:

All the software must be tested. This will be done with the following tests:

Unit tests: Unit tests in software development are written to assess and verify the individual components or functions of a program to ensure they perform as expected. They help identify and prevent bugs, allowing for more robust and maintainable code.

Integration tests: Integration tests in software development are designed to evaluate the interactions between various components or modules of a system to ensure they work together seamlessly. These tests help uncover issues that may arise when different parts of the software interact, ensuring the overall functionality of the application.

Load testing: Load tests in software evaluate how a system performs under varying levels of user or data load to identify its scalability and potential performance bottlenecks. These tests help ensure that the software can handle expected or unexpected surges in usage without degrading its performance.

Planning

Breakdown

Empathize: The "empathize" phase in design thinking is the stage where designers and problem solvers aim to gain a deep understanding of the people they are designing for, often referred to as the "users" or "end-users." It involves developing empathy for the users' needs, feelings, challenges, and perspectives. During this phase, designers engage in activities such as observing, listening, and interacting with the target audience to gather insights into their experiences and emotions.

Define: The "define" phase in design thinking is the stage where designers and problem solvers define the problem or challenge that they aim to address. It follows the empathize phase, during which designers gain a deep understanding of the users' needs, behaviors, and perspectives. In the define phase, the goal is to synthesize the insights and observations gathered during the empathize phase to clearly articulate the problem or design challenge.

Ideation: The "ideation" phase in design thinking is the stage where creative brainstorming and idea generation occur. It follows the empathize phase, where designers have gained a deep understanding of the users' needs and problems. In the ideation phase, the goal is to generate a wide range of innovative and diverse ideas for potential solutions to the identified problems or challenges.

Prototype: I In design thinking, a "prototype" is a tangible, often simplified representation of a design concept, idea, or solution. It is created to visualize and test the proposed design in a practical and concrete way. Prototyping is a central element of the design thinking process, and it serves several important functions:

Test: In the design thinking process, the "test" phase is one of the key stages, often referred to as "Test & Iterate." During this phase, designers and problem solvers take the prototypes or proposed solutions that they have developed and put them to the test. The primary goal is to gather feedback and insights from real users, stakeholders, or target audiences to evaluate the effectiveness and desirability of the design concept.

Delivery: In the delivery phase, we will prepare our product for delivery and handover. It's important to note that not everything will be completed by the end of the project. Therefore, the creation of a comprehensive handover document is essential to guide future development.

Project organization

Team members

Name	Contact	Role	Availability
Dilana Schaafsma	d.schaafsma@fontys.nl	Project owner	
Nienke de Helder	info@nienkedehelder.com	Product designer	
Ruud Huijts	r.huijts@fontys.nl	Teacher	
Erik Heijligers	e.heijligers@fontys.nl	Teacher	
Emanuil Karapachov	e.karapachov@student.fontys.nl	Group member	Tues – Thur
Simeon Dimov	s.dimov@student.fontys.nl	Group member	Tues – Thur
Branimir Borisov	boris.borisov@student.fontys.nl	Group member	Tues – Thur
Bran van Bebber	b.bebber@student.fontys.nl	Group member	Tues – Thur
Ryan Houben	r.houben@student.fontys.nl	Group member	Tues – Thur

Communication

Sprint deliveries:

Every 2 or 3 weeks we have a sprint delivery with Dilana. In this sprint delivery we show her the progress we made in that sprint. Discuss feedback and plan our next sprint based on the feedback.

Teams:

Our group utilizes Microsoft Teams for conducting group calls, sharing documents, and discussing the group project through chat. Additionally, we employ Teams to schedule meetings with other stakeholders.

WhatsApp:

For more urgent communication, we employ a WhatsApp group chat. In this chat, we address issues such as someone running late, being unwell, or encountering other problems.

GitLab:

We utilize Fontys GitLab for our code repositories and maintain a wiki page. Additionally, we employ a Kanban board to allocate tasks for each sprint.

Miro:

We use Miro for a variety of purposes, including brainstorming sessions and similar activities. It is a user-friendly tool that allows us to quickly jot down ideas in a visual format.

Configuration management

We use environment files for configuration keys, secrets, and similar sensitive information. These files are not uploaded to the Git repository, ensuring that secrets are not inadvertently exposed through the source code.

Finance and risks

Cost budget

We do not have any budget assigned to this project. To address this, we can leverage the resources available at IISD for acquiring hardware and 3D printing services. Additionally, we can utilize the Fontys server to host specific services and take advantage of Fontys Apple and Android developer accounts for deploying apps to the App Store and Google Play Store.

Risks and fallback activities

Risk	Prevention	Fallback activity
Illness	All documentation, code, and related materials are stored in the cloud. This ensures that if someone becomes unavailable due to illness, another person can easily take over the project.	Cloud services
Hardware failure	In the event of a laptop malfunction or any other hardware failure, we can request a temporary replacement from IISD.	IISD
Missing hardware	If we need certain hardware, we can get it from the IISD, if they don't have it available, they are willing to buy it for us.	IISD