

Deliverable D
Detailed Design, Prototype 1, and BOM

Submitted by

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List of Acronyms

Table 1. List of acronyms

Acronym	Definition
Y/N	Yes/No
N/A	Not applicable
CR	Colour range
RGB	Red, green and blue
BW	Black and white
CAD	Canadian Currency

1 Introduction

Following our second meeting with our client Mr. Paris, we've gathered a good amount of feedback concerning our different concepts. We've been told the pros and cons of each concept giving us a more refined view concerning our client's needs and what the final prototype should look like. Our next step consists of putting all the feedback into use by improving our design to meet or even surpass our client's expectations.

2 Detailed Design

Client Feedback

After having the client meeting we have made many very important observations. The client had very few problems with the idea of having an assistant reading out the text. The only problem the client had with it was regarding more personal messages, such as bank statements. The client mentioned that he really liked the idea of having someone read out longer readers as he found the artificial voice doesn't sound as engaging and would prefer a more organic sound, such as a real person speaking. The client also reiterated from the last meeting that the interface is very important to him and needs to be high contrast, have adjustable text size, and have large buttons. Another piece of feedback we took from the client was that he wishes to be able to toggle the product on and off when he desires.

Updated Design

Full Software Mode:



Image 1. Prototype in full software mode

In this side of the product, the customer will be able to use the “software aided” screen reader which will give him a variety of options to choose from, ranging from the colour of the screen and the contrast to the type of language or voice they want to use. This mode of the app is very effective when it comes to reading messages or short texts, as the user wouldn’t feel the need to hear a real human voice to guide him through his tasks. The way the user is going to be able to navigate through his texts is through simple shortcuts he can customise himself. There are going to be four main shortcuts; up, down, left and right, these are the essential shortcuts needed to operate the software aided mode since there are no other ways to navigate through the screen in our customer’s condition.

Human Aided Screen Reader:



Image 2. Prototype in human aided mode

Following our conversation with Mr. Paris, we offered the idea of having a real person narrate text to him when needed, based on Mr, Paris' response to the idea, it was pretty obvious that he really liked the concept, and that's because our client reads often and finds an artificial voice quite boring when it comes to hours or listening, but thanks to this mode, Mr. Paris will be able to experience an enjoyable hearing session as the readers are going to change their tone when needed, raise their voice when appropriate, lower it and do all types of narration styles to make our client's experience as close to reality as possible. This mode is going to be aided with an auto subtitle bar, though this might look unuseful due to our client's condition, it could come in handy to other users with better sight, it is up to the user to customise his/her screen the way they wish anyways. The way these options work are fairly simple, the software is going to ask the user the permission to share their screen with our Trialogue employee, once sharing is complete, the narrator is going to begin reading whatever the client wishes to be read.

Product Assumptions

The critical product assumptions for our prototype are that this product must be able to read any text, even text that is non-selectable and on images. The product also must be simple to use. This includes having large buttons, adjustable text size and high contrast colours. This product also must be able to work on all platforms and programs seamlessly.

3 Prototype I

Prototype Testing

Due to our product being software-based we can not test our prototype against all of the target specifications as our prototype is just a detailed image showing interface. Target specifications such as being affordable, working on all platforms/programs, voice recognition, cost, ability to create shortcuts, ability to read non-selectable text and text off images can not be shown from our first prototype. However, the other target specifications can be shown to a certain extent and show that our prototype is fulfilling our target specifications set.

Table 2. Target Specifications

Needs	Weight	Unit	Marginal Value	Ideal Value
Works on all platforms (PC, Phone, etc)	5	Scale	>2	>2
Ability to create shortcuts	2	Y/N	N/A	Y
Simple to use	4	Rating	>2	5
Able to read non selectable text and text on images	5	Y/N	N/A	Y
Option for high contrast colours	3	CR	RGB/BW	RGB/BW
Works for all programs	5	Y/N	N/A	Y
Available Languages	3	Scale	>1	>2
Affordable	3	CAD\$	<150	<100
Voice recognition to interact with software	3	Y/N	N/A	Y
Easy to access anywhere	2	Y/N	N/A	Y

Comparing our prototype against our target specifications can be seen in the table below

Table 3. Target Specifications against prototype

Needs	Prototype
Works on all platforms (PC, Phone, etc)	N/A
Ability to create shortcuts	N/A
Simple to use	The interface is very simple to use, having a very basic layout, and having many large buttons. It also has a “Help” button to help with any problems you may have.
Able to read non selectable text and text on images	N/A
Option for high contrast colours	Shown by a simple “Contrast” button in the left sidebar, which gives you options for your preferred contrast settings.
Works for all programs	N/A
Available Languages	Shown by the “Voice” button in the left sidebar, which gives you the option to change the sound of the voice along with changing what language you wish to use.
Affordable	N/A
Voice recognition to interact with software	N/A
Easy to access anywhere	N/A

Future Client Meeting

In our next client meeting with Mr. Paris we would like to gather information about how he feels about our first prototype. We have taken his feedback from the previous meeting and used it to create our first prototype and with feedback from the first prototype we would like to know what we can improve/change about it so when we create our second prototype that is even more inline with what our client wants. We believe that we have all of the needs that Mr. Paris desires, we just want to further refine things, such as the layout.

4 Bill of Materials

Currently, our bill of materials is \$0. This is due to our product being completely software-based and relying on hardware that is already built into the device (camera, microphone, etc). We believe that the bill of materials will stay at \$0 as we see no further plans to incorporate anything that has monetary value.

5 Conclusions and Recommendations for Future Work

In conclusion, we have taken feedback from the previous client meeting and used to create our first prototype. The prototypes give a preview to what our final product is going to be. We used this prototype and compared it to our target specifications. With this prototype we wish our client will be pleased with it and give us some feedback for our second prototype and how to improve it.

Some life long learning that can be taken from this is that the client is the person you are making the product for and the client should come first when creating the prototype. This prototype was based mostly on feedback gathered from the last client meeting. We also learned how to create good prototypes that are based on the target specifications and not just creating something that you think is going to work. Another thing we learned that creating a prototype takes thought and time and cannot be rushed or you forget important aspects and won't meet your target specifications.

6 Bibliography

APPENDICES

APPENDIX I: