

GNG2101 Report Template

Deliverable B Needs, Problem Statement, Metrics, Benchmarking and Target Specifications

Submitted by

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24/09/2020

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Abstract

Following our meeting with our client Mr. Paris, we have been able to gather a good amount of information by emphasising and asking him various questions concerning his needs. We will now be preceding by clearly and accurately defining the problem with the use of the problem definition process for one cannot come up with the perfect solution without knowing what the problem is exactly.

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List of Acronyms

Table 1. List of acronyms

Acronym	Definition
PC	Personal Computer
CAD	Canadian Dollar
CR	Colour Range
RGB	Red Green Blue
BW	Black and White
Y/N	Yes/No
N/A	Not applicable

1 Introduction

People with impaired sight or just, unable to read text on a computer usually need assistance and the most convenient assistance they can use is a screen reader. However, most screen readers have their limitations. The ones our client uses need to be more selective; able to read text from images, and many other things. In the following lines, we will make our problem clear and define it more precisely.

2 Need Identification and Product Specification Process

Problem Statement

Our client, Mr. Paris, requires a screen reader that can select any text and read that text out loud. Currently, Mr. Paris has some issues with his current products; these include: the inability to read text off of images, requires a subscription after an update, does not work on his phone very well, unable to read messages from third party apps and pop ups cause the client to get lost. The product should also be simple to use and be a reasonable price.

Statements and Observations from Client Meeting

- Mr. Paris is an artist that often communicates with his coworkers and clients on an international level.
- Mr. Paris is very keen on using different types of shortcuts.
- Mr. Paris was able to create his own shortcuts thanks to the softwares he's currently using.
- Video editing is part of the client's main activities.
- Mr. Paris has indicated that his screen reader is unable to read messages coming from a third-party application, he gave Messenger and Whatsapp as an example.
- Not being able to read "non selectable" text is yet another problem Mr. Paris's softwares has (for example text on a picture).
- Mr. Paris stated that he uses the following applications/tools:
 - ❑ Dragon NaturallySpeaking:
A voice recognition software.
The client said that the version 10 is the only version capable of running on any windows update, he also stated that he has been using it for over 20 years.
 - ❑ Gaming pad:
Uses it mainly for shortcuts.
 - ❑ G keys:
Uses them for shortcuts.
 - ❑ Text Aloud:
A speech synthesizing software.
The client has been using it for 13 years.
 - ❑ Electronic magnifier.
 - ❑ Screen reader:

Unable to read “non selectable” text.

- Mr. Paris uses both English and Spanish to do his work related business.
- Mr. Paris is looking for a software that is compatible with every platform.
- It appears that the client is not familiar with braille language.
- Due to his condition, the customer can only see high contrast colours, especially black and white.
- Mr. Paris was complaining about how expensive his screen reader was.

Needs Identification

Table 2. Clients Needs

Needs	Weight (Out of 5)
Works on all platforms (PC, Phone, etc)	5
Ability to create shortcuts	2
Simple to use	4
Able to read non selectable text and text on images	5
Option for high contrast colours	3
Works for all programs	5
Ability to change languages	3
Affordable	3
Voice recognition to interact with software	3
Easy to access anywhere	2

Metrics

Tabel 3. Metrics

Needs	Weight	Unit
Works on all platforms (PC, Phone, etc)	5	Scale

Ability to create shortcuts	2	Y/N
Simple to use	4	Rating (1-5)
Able to read non selectable text and text on images	5	Y/N
Option for high contrast colours	3	CR
Works for all programs	5	Y/N
Available Languages	3	Scale
Affordable	3	CAD\$
Voice recognition to interact with software	3	Y/N
Easy to access anywhere	2	Y/N

Target Specifications

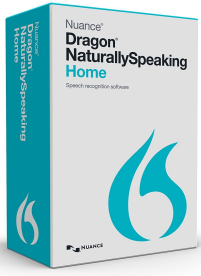

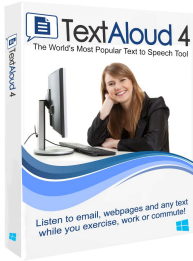
Table 4. Target Specifications

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

Benchmarking

For benchmarking we have chosen three softwares that Mr. Paris uses or has used. These products include: Dragon NaturallySpeaking, Tap Strap 2 and Text Aloud.

Table 5. Benchmarking

Requirements	Dragon	Tap Strap 2	Text Aloud
			
Cost (\$CAD)	129.95	330.64	89.00
Simple to use (1-5)	1	5	1
Works on all platforms	2	2	1
Ability to create shortcuts	No	Yes	No
Option for high contrast colours	N/A	N/A	N/A
Works with all programs	No	No	No
Able to read non selectable text and text on images	No	No	No
Available Languages	12	1	14
Voice recognition to interact with software	Yes	No	Yes

3 Conclusions and Recommendations for Future Work

After defining our problem clearly and understanding the requirements and limitations of our solution, we can now start thinking about a prototype or a conceptual design of our solution. We hope in the future to be able to use our client's softwares in order to have a better understanding of his experience

4 Bibliography

Discover The Tap Strap 2. (2020, September 11). Retrieved September 25, 2020, from <https://www.tapwithus.com/>

Dragon Speech Recognition - Get More Done by Voice. (n.d.). Retrieved September 25, 2020, from <https://www.nuance.com/dragon.html>

TextAloud 4 screen reading software (Mike/Crystal Bundle). (2020, May 01). Retrieved September 25, 2020, from <https://www.secrest.ca/product/textaloud-4-screen-reading-software-mike-crystal-bundle/>

APPENDICES

APPENDIX I:

Use this section to include your work that is not part of the central subject of the report.