

SOFTWARE ENGINEERING PROJECT

HawkEye - Visual impairment aid

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Inspiration/Idea

A photograph of a person's hands holding a glowing white lightbulb. The background is a soft-focus image of a human brain and a complex network of interconnected dots and lines, symbolizing ideas and connectivity.

With the world racing towards an era of complete digitalization, a technological advancement that heavily relies on screen based visual outputs, it is time we notice that a lot of people would not be able to reap the complete benefits of this societal change.

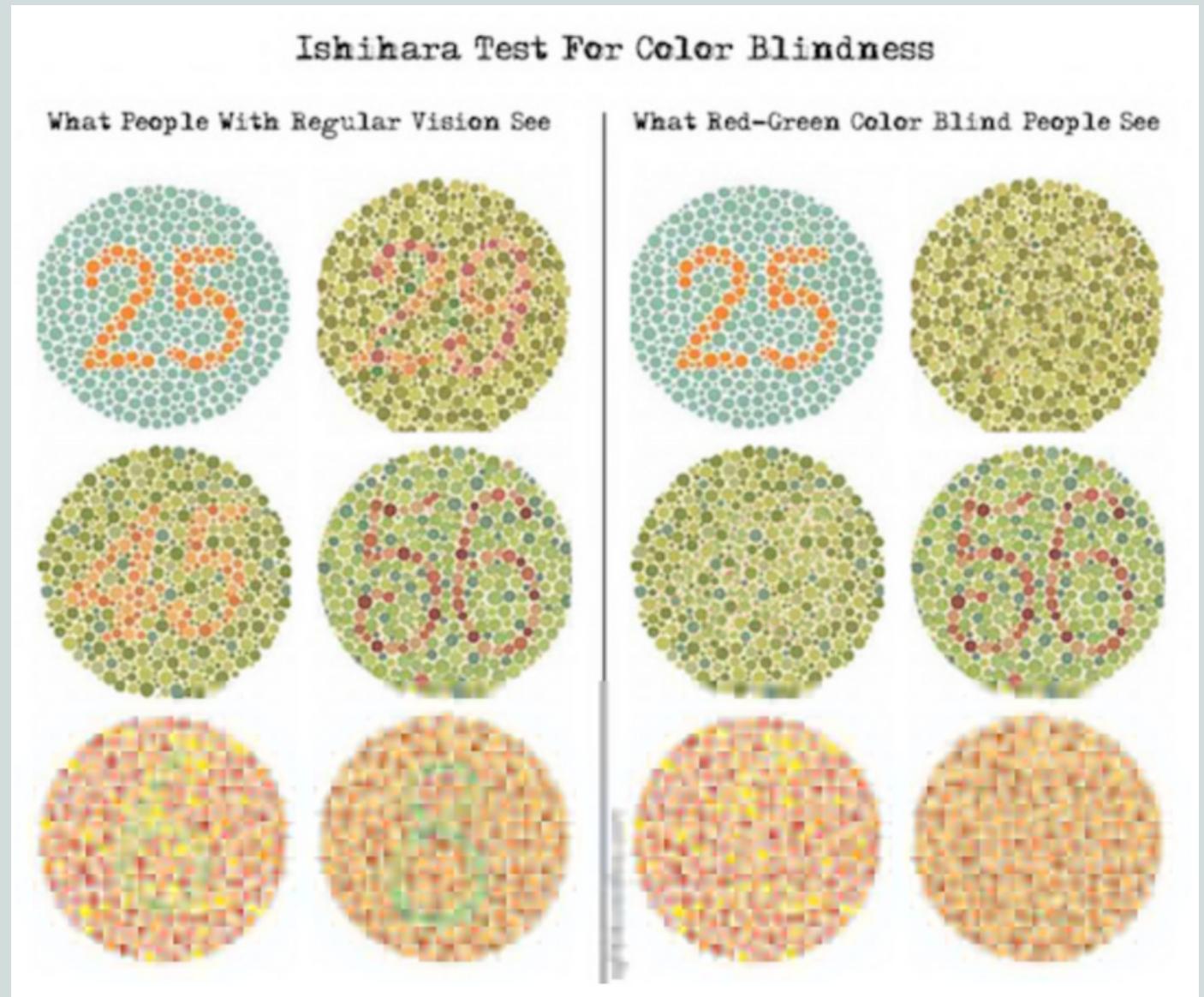
INTRODUCTION

- Web experiences are inherently visual
- fraught with sites, tools, and apps - practically unusable for people with visual impairments
- Common problems with the current accessibility tools :
 - Distortion of non-responsive websites when zoomed
 - Inaccurate picture descriptions and interpretation
 - Color contrasts generally not paid heed to

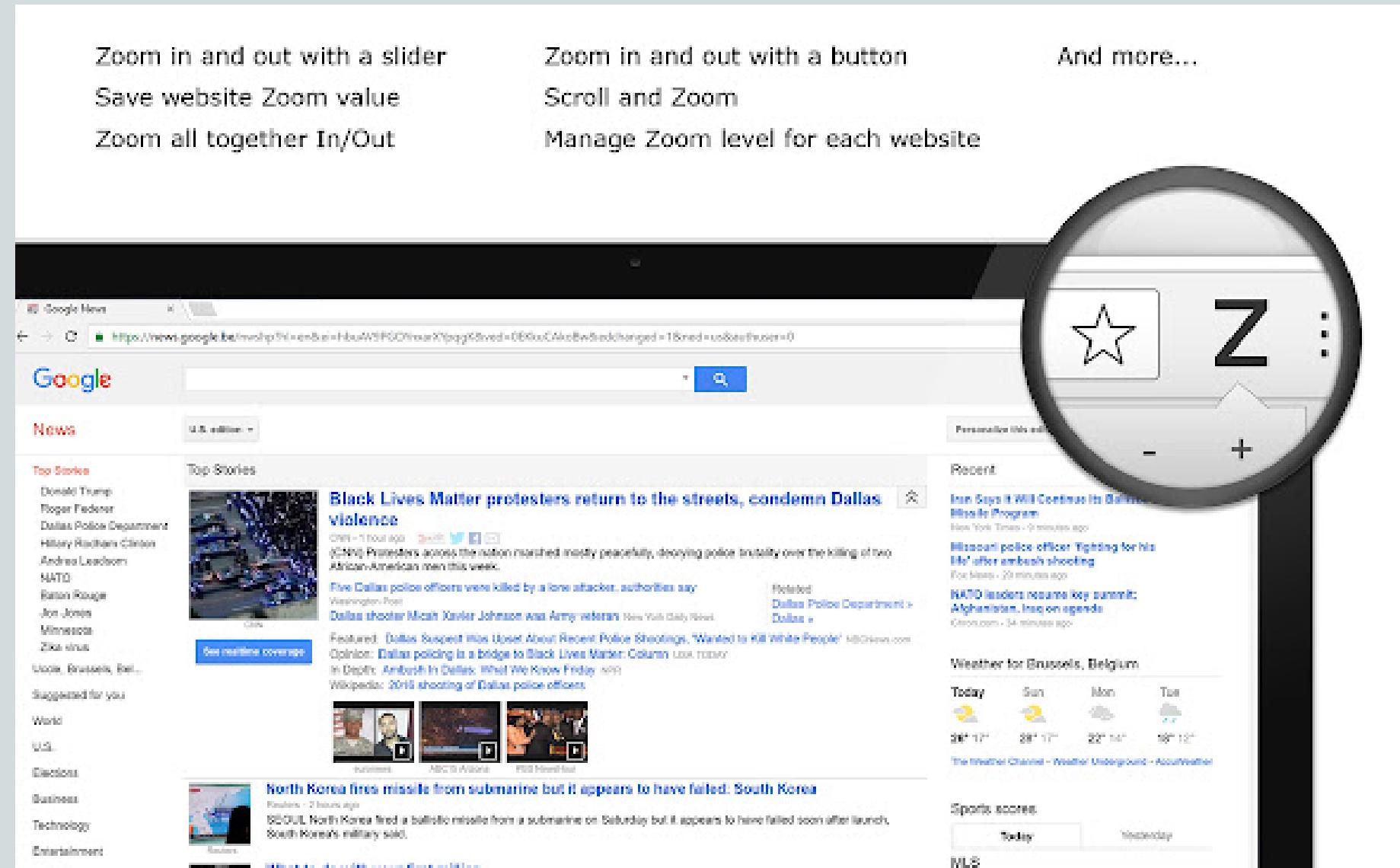
Benefits in Daily Life

I) COLOR BLINDNESS

- Allows users to choose their respective category of color blindness
- Instantly makes respective changes to the webpage in terms of color contrast and visibility to make it better accessible for the user.



Benefits in Daily Life



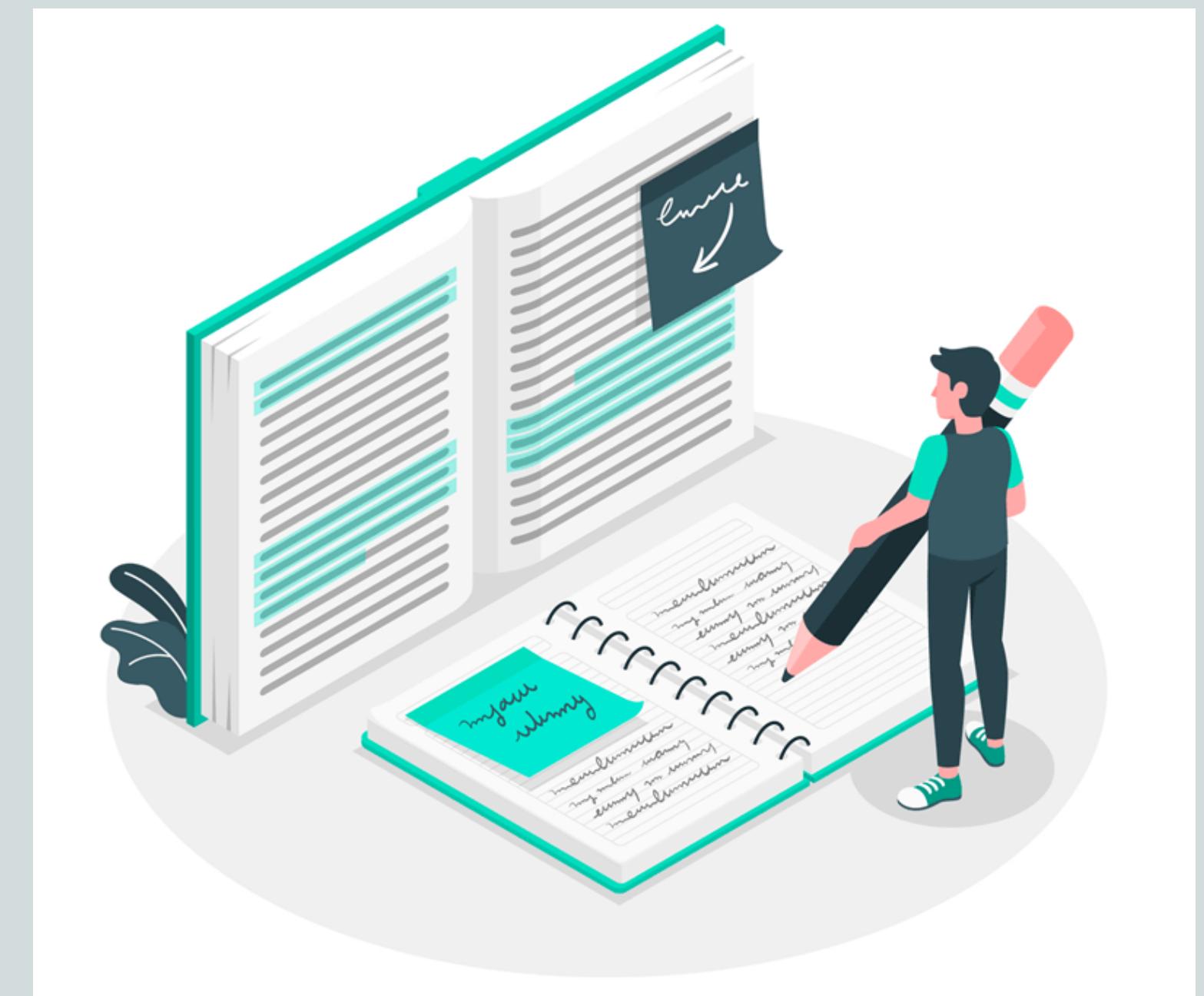
II) PROPER ZOOMING

A feature for users to be able to zoom into a particular part of the webpage without increasing the size of the entire webpage, allowing them to clearly read the part they may be hovering over without distorting their view of the entire page.

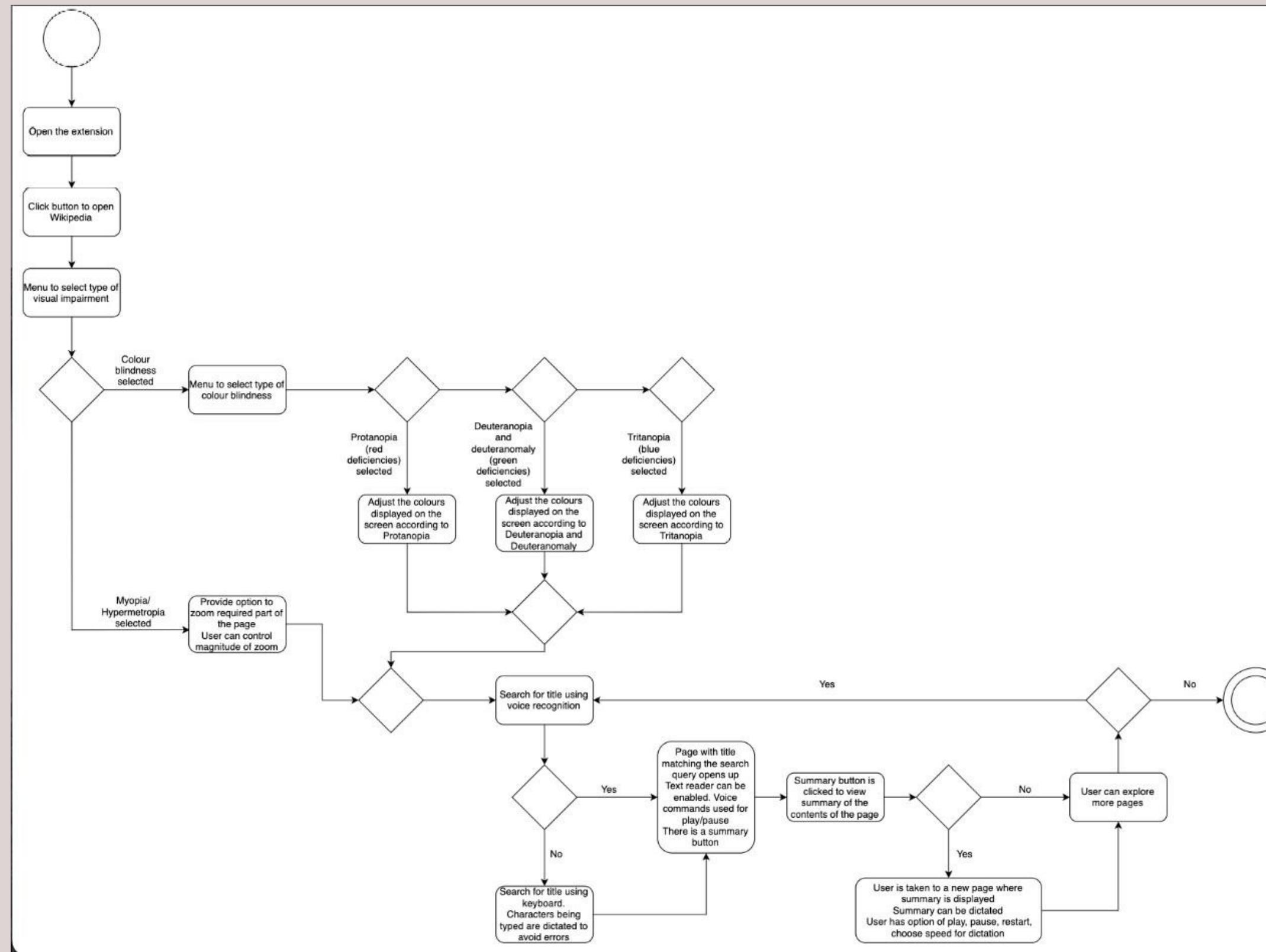
Benefits in Daily Life

III) SUMMARY CREATION

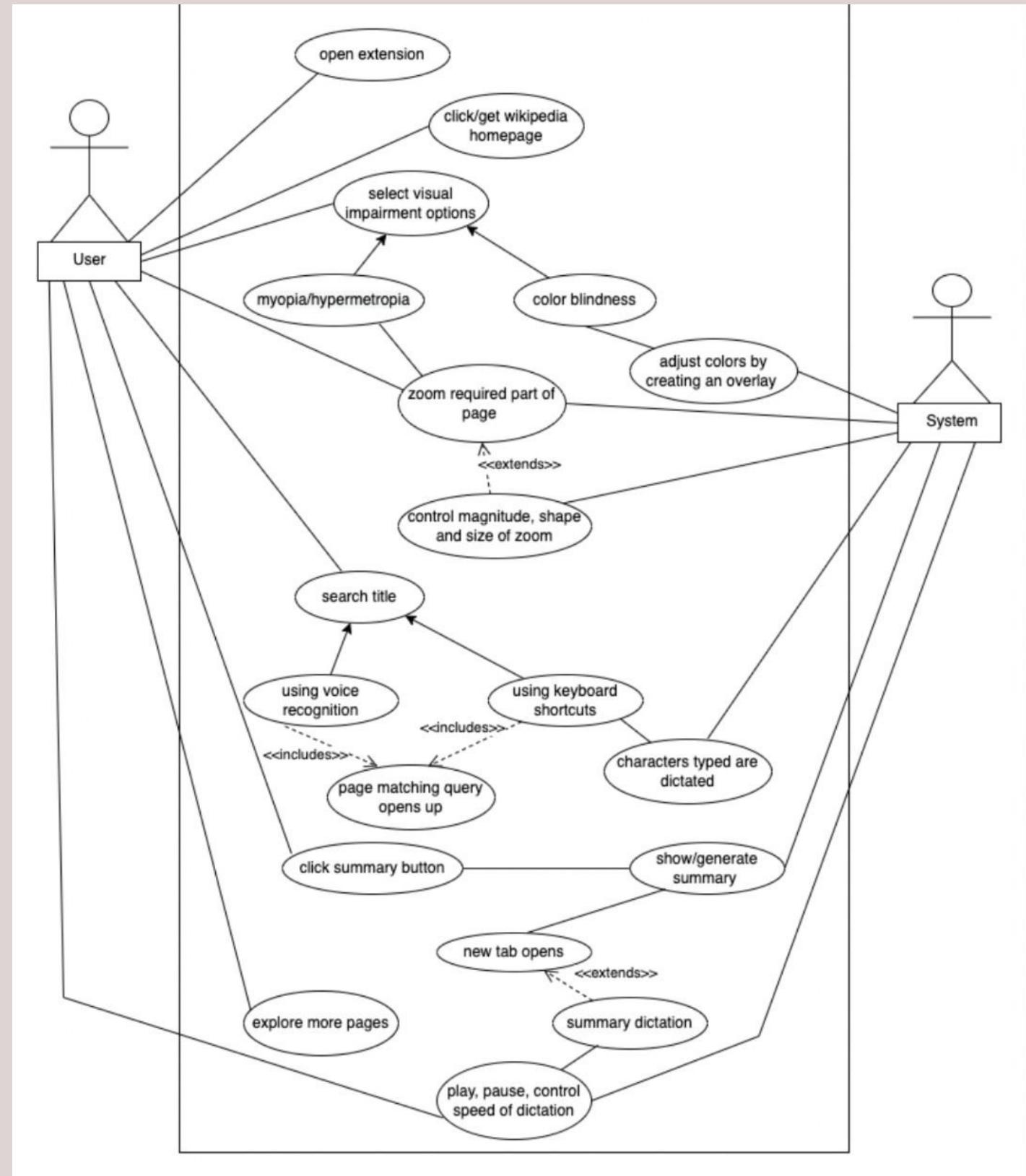
- Search title by dictation or typing
- Creating a summary of the entire web page and displaying it on a separate tab
- The summary is conveyed to the user through speech synthesis
- Can access this information in a compact manner without having the hassle of reading the entire text, by simply being able to hear it
- User can play, pause, restart and even change the dictation speed according to their convenience.



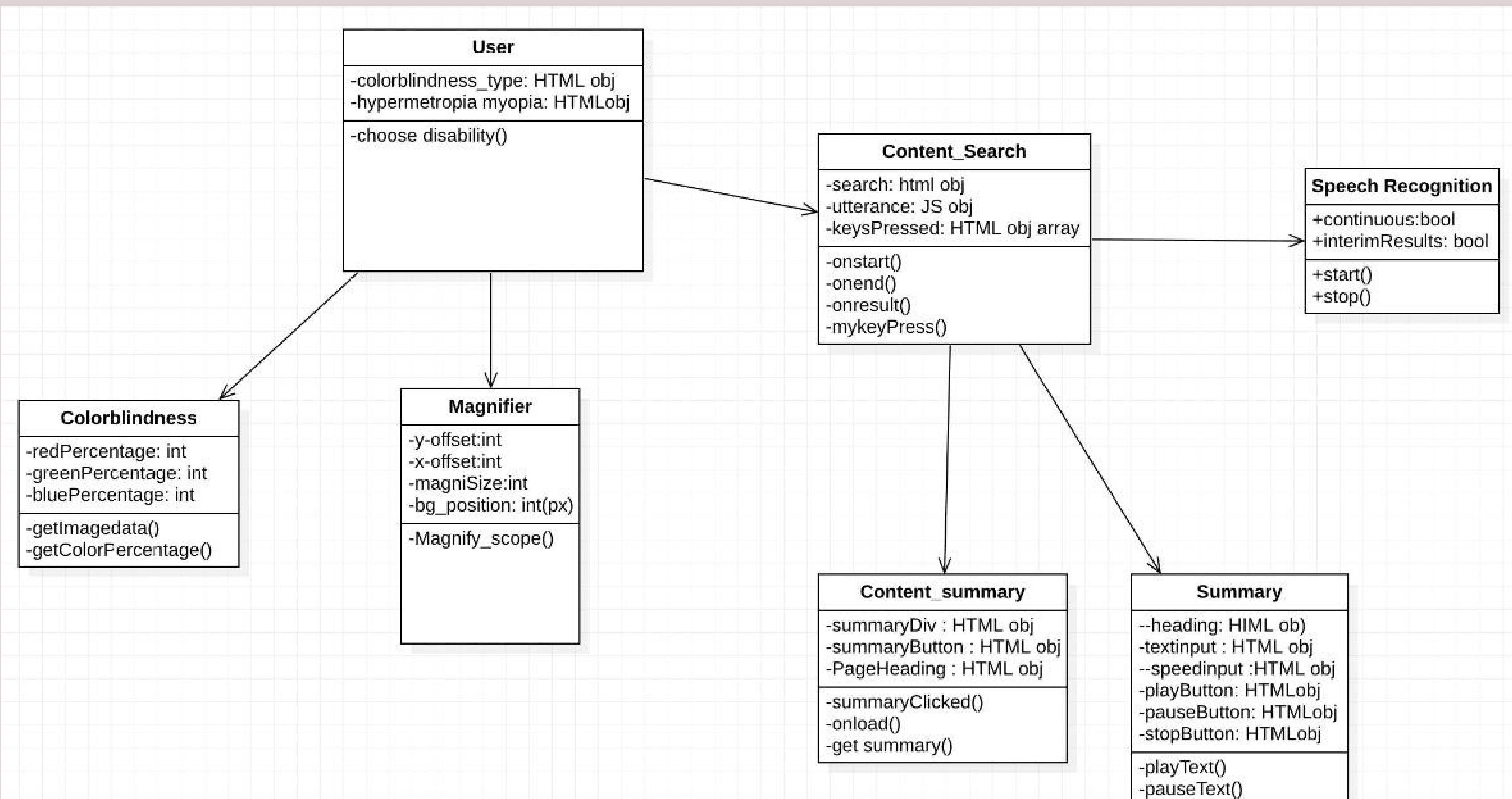
Activity Diagram



Use Case Diagram



Class Diagram



Workflow

- Idea discussion
- Topic finalisation
- Looking up chrome extention working
- Deciding on functional and non-functional requirements
- Preparing the SRS
- Making the Activity and Use case diagram
- Deciding the operations and attributes for each class
- Making the class diagram