

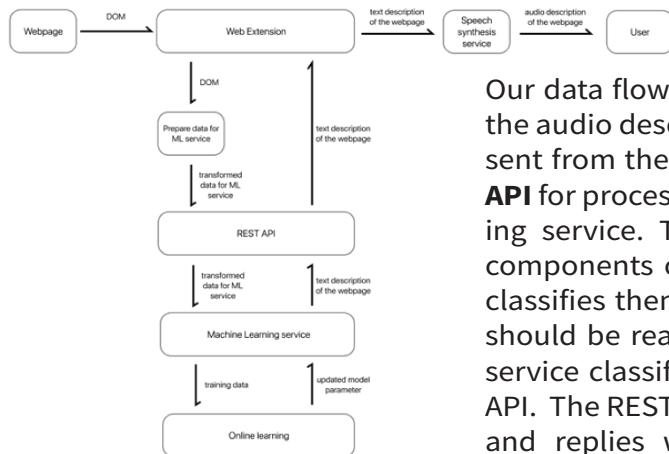
BetterRead, better heard

BetterRead

BetterRead is an accessibility tool meant to make browsing the web quicker and easier for those with visual impairments. It uses artificial intelligence and machine learning to pick out the important parts of web pages rather than superfluous information that someone with visual impairments shouldn't worry about. The main goal of BetterRead is to promote diverse internet usage by allowing vision-impaired users to navigate the internet and give them experiences similar to able-bodied users.

Through BetterRead we want to promote diverse internet usage by allowing vision-impaired users to navigate the internet and give them experiences similar to able-bodied users. This screen reader directly impacts vision-impaired users and we hope to improve their experience and relationship with the internet. BetterRead strives to bring more awareness to the vision-impaired community and the technologies available to them.

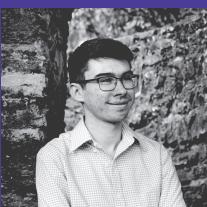
Design and Data Flow



Our data flow inputs the webpage's DOM and outputs the audio description of the webpage. First, the DOM is sent from the BetterRead **web extension** to the **REST API** for processing before it reaches the machine learning service. The **machine learning** service receives components of the web page from the REST API and classifies them. If a component is non-accessible but should be read out to the user, the machine learning service classifies it as such and responds to the REST API. The REST API prepares that component to be read and replies with that data to the web extension.



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Accomplishments

- Created a frontend for our system that users can interact with
- Developed the backend API that connects the user to our machine learning service
- Trained the machine learning service to provide useful results
- Connected each sub component to create a single cohesive system

Challenges

- Designing an interface for a web extension that is accessible to people with vision impairments
- Development of a machine learning model that can give useful results to the user.
- Obtaining good data to train the model. We have raw data, but we need to devise a method to transform our data in such a way that it will be useful and conducive to training.

Technologies



Compatible With

