Introduction

* JSON intro
  + What it is:

JSON is a widely used text-based data interchange format. JSON documents encode primitive data types (Boolean, String, number, null) and two complex data types (objects and arrays). Colons are used to separate key-value pairs, objects are surrounded with curly braces, ‘{}’, and arrays are surrounded with square brackets, ‘[]’.

* + Use cases:

JSON files are used in a variety of different areas of computer science. The main categories are as follows

1. Data exchange: JSON is commonly used to exchange data between web servers and clients
2. Configuration: JSON can be used to store configuration information for applications
3. Logging: JSON is a simple, structured solution to store data about ebents and transactions
4. APIs: JSON is the most common format for RESTful APIs.
5. NoSQL databases: MongoDB and CouchCB are two examples of NoSQL databases that store data in JSON format
6. Big Data: JSON is used in big data applications for storing and processing large volumes of data
   * Relating JSON to the problem we are solving:

JSON is widely used among the software industry. Most software developers and programmers will encounter JSON files during their work and have to work with them. This means that visually impaired programmers will inevitably have to write, read and use JSON files within their programming career. One of the main selling points of JSON is that it uses human-readable text to represent key-value pairs – however visual cues such as indentation and punctuation are used to make JSON files ‘human-readable’. This notion of readability is based on the assumption that JSON documents are consumed visually by users.

* Visually impaired programmers
  + Statistics of number of visually impaired programmers etc: Out of 77,375 developers surveyed in the Stack Overflow May 2021 developer survey, only 1.6% (1,238 respondents) reported being blind or visually impaired. This statistic can be interpreted in two ways: it highlights the significant accessibility barriers in the software industry, and it emphasizes the need to provide adequate tools and support to the 1.6% of visually impaired programmers.
  + Challenges faced:
  + Current workarounds
* The tool
  + What we have developed
  + How we developed it
* The evaluation
  + How we evaluated the tool
  + Results of the evaluation