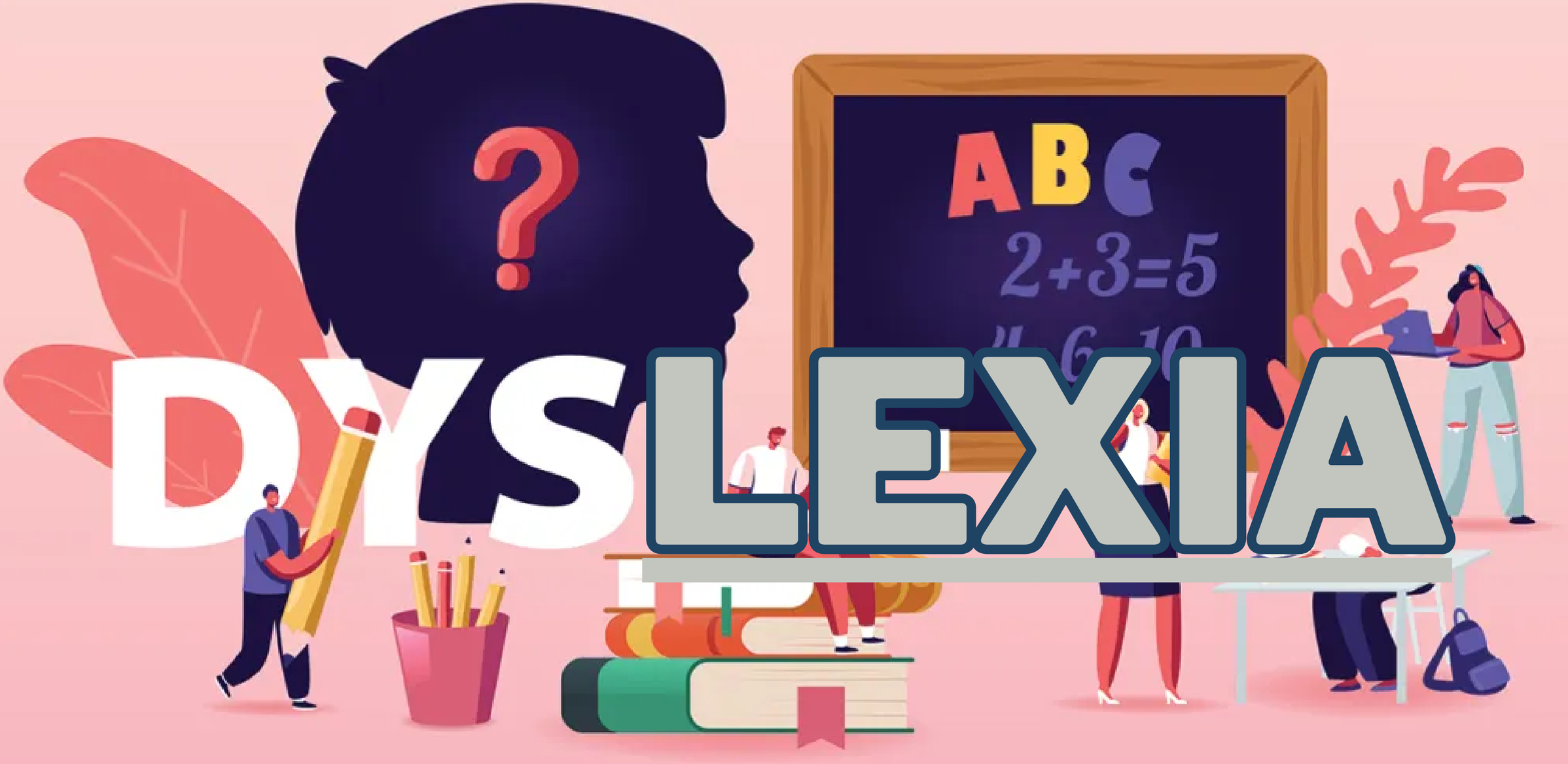

?
ABC
2+3=5
DYSLEXIA

PROBLEM STATEMENT

Lexia is a web application which presenting its dyslexia support features within an engaging gaming framework, aiming to make the learning experience more enjoyable. Lexia serves as a valuable tool to help individuals with dyslexia improve their reading and writing skills. It achieves this by combining essential support features with entertaining gameplay. Notably, the application offers features such as word segmentation and a talkback function, which are specifically designed to facilitate easier reading and writing for dyslexic users.

LITERATURE REVIEW

CLIENT-SERVER GAME ARCHITECTURE

Smooth Gameplay, Data Transfer

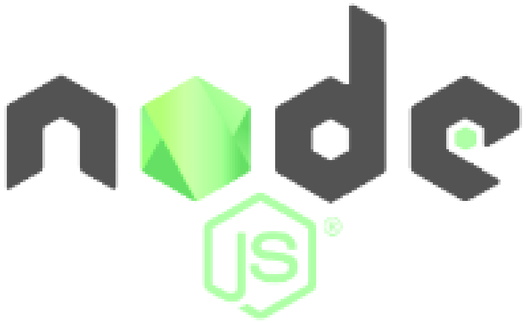
CLIENT-SIDE PREDICTION

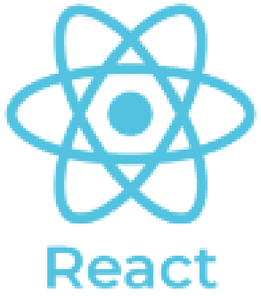
Input Processing, Synchronization

LANGUAGE FLOW

Natural Progression

TOOLS





GODOT
Game engine

Game UI
Database

docker

Visual Studio Code

OUR TEAM

Juan Jonathan

Project Coordinator
and Tester

Lauren Christy

UI/UX and Asset Designer and
Front-End Developer

Zaki Ananda

Back-End and
Game Script Developer

SCHEDULE DETAILS

PLANNING

All members brainstorm together to find a game concept

PRE-PRODUCTION

Finding tools to use and testing them, as well as scheduling

PRODUCTION

Start the game's production

TESTING

Testing the game's performance, finding any bugs, etc.

PRE-LAUNCH

Finishing touches, polishing the game's features, open beta, etc.

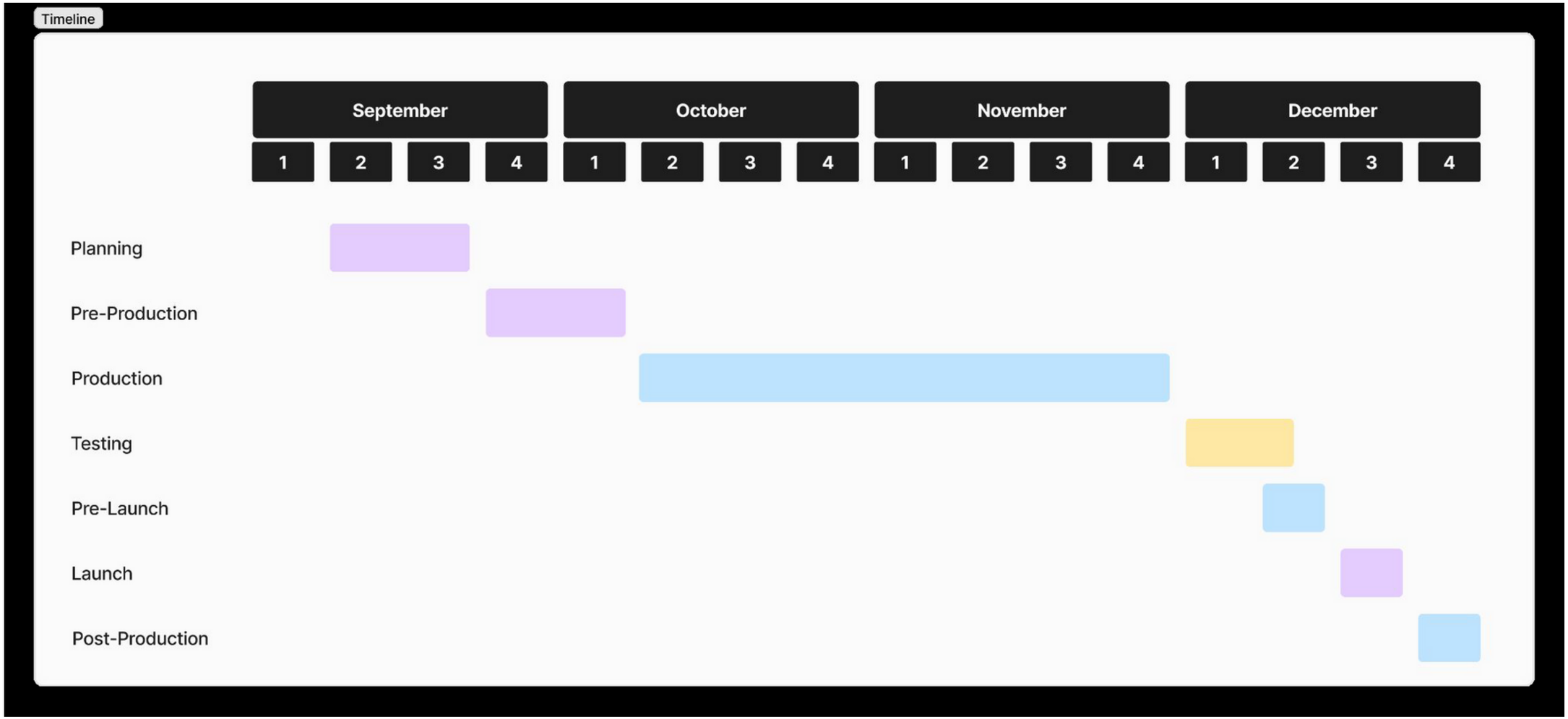
LAUNCH

Launches the game to the public

POST-PRODUCTION

Maintain the product and adjust the features according to feedback from the user

TIMELINE


Timeline
September
October
November
December
1
2
3
4
1
2
3
4
1
2
3
4
1
2
3
4
Planning
Pre-Production
Production
Testing
Pre-Launch
Launch
Post-Production

COMPETITORS

DYSLEXIA BACA

RISK MANAGEMENT

The risks that might raise some concern:

- **Gameplay-Affecting Bug**

As with any software project, there is a risk of encountering bugs or technical issues that could adversely affect the gameplay experience, potentially hindering the application's efficacy for users with dyslexia.

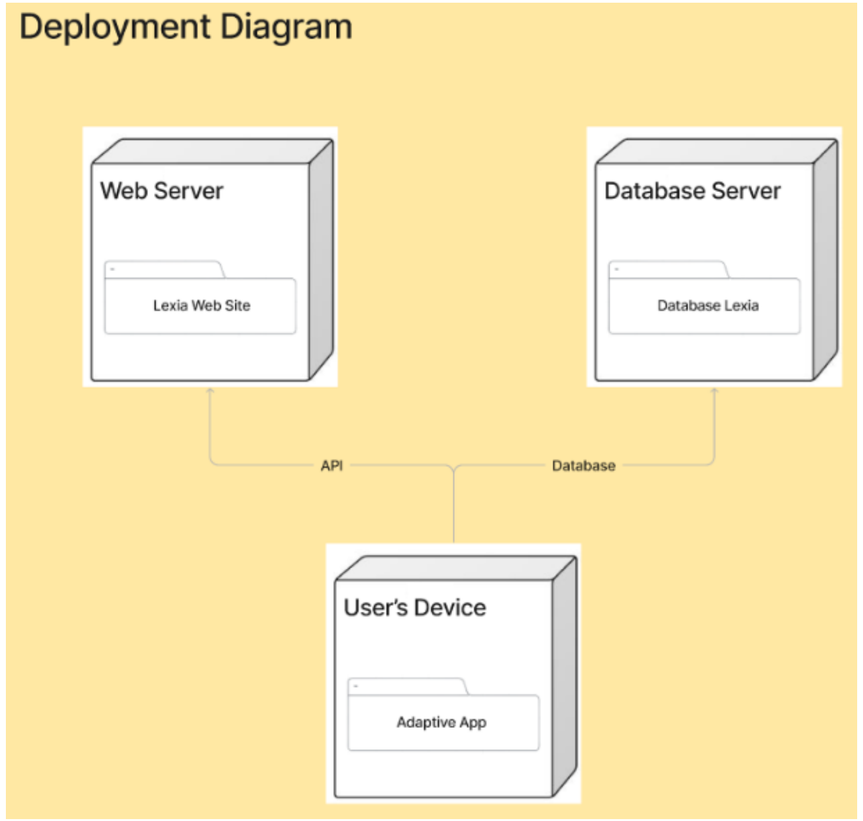
- **Lag and Latency**

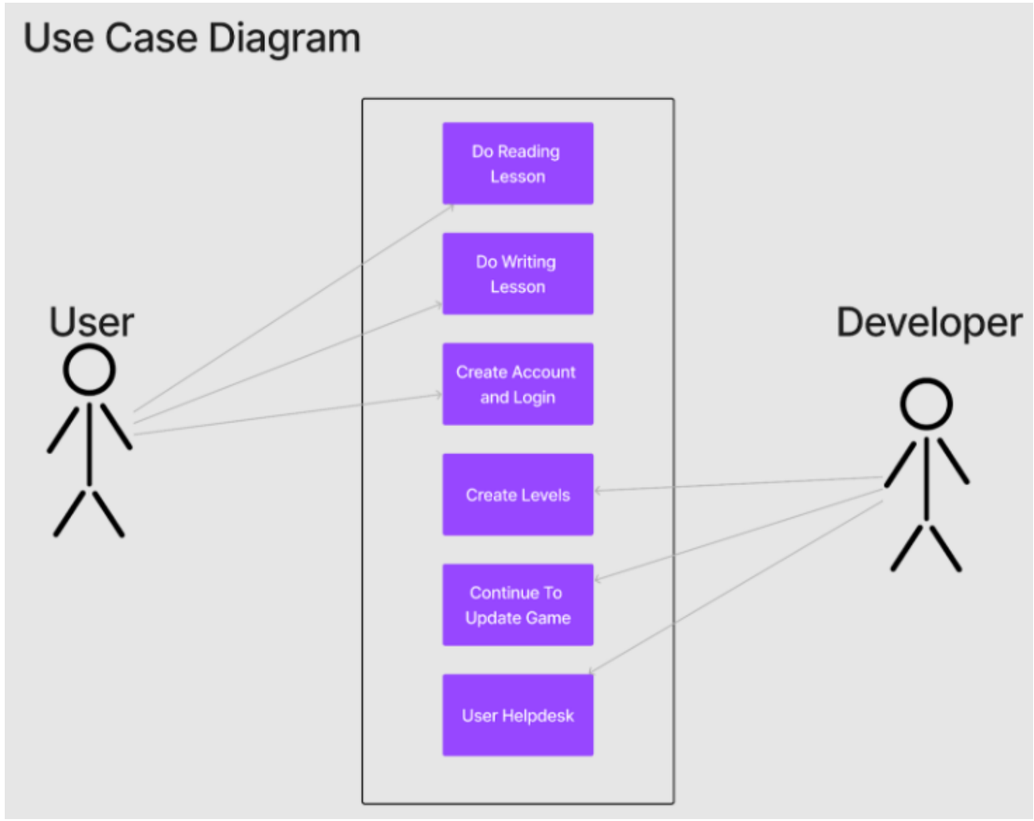
High latency or lag during gameplay could diminish the user experience, particularly for individuals with dyslexia who may require a seamless and enjoyable experience.

- S**erver Overload Risk**

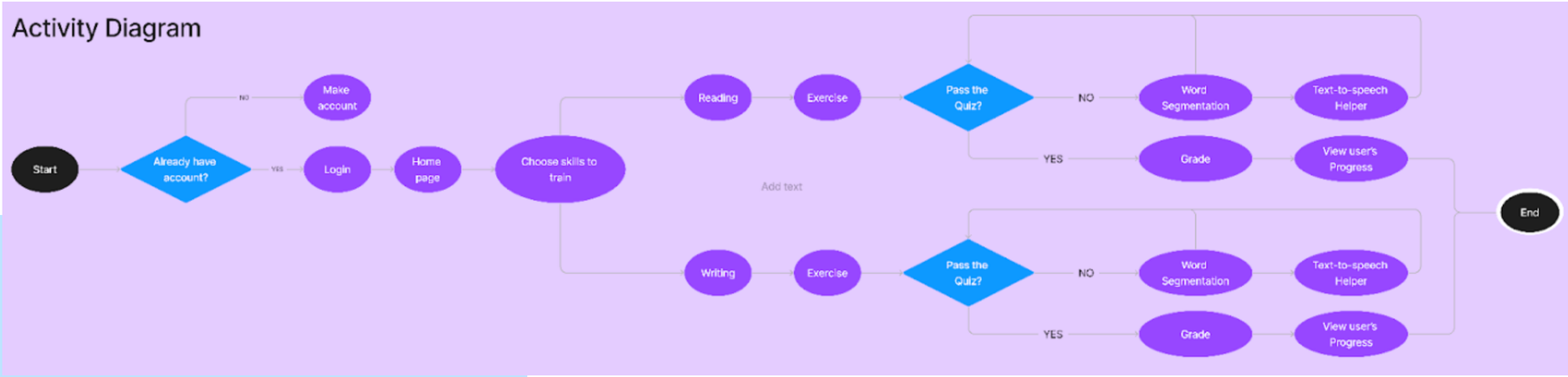
As the user base grows, there may be challenges related to server capacity and performance. These challenges could result in downtime or reduced service quality.

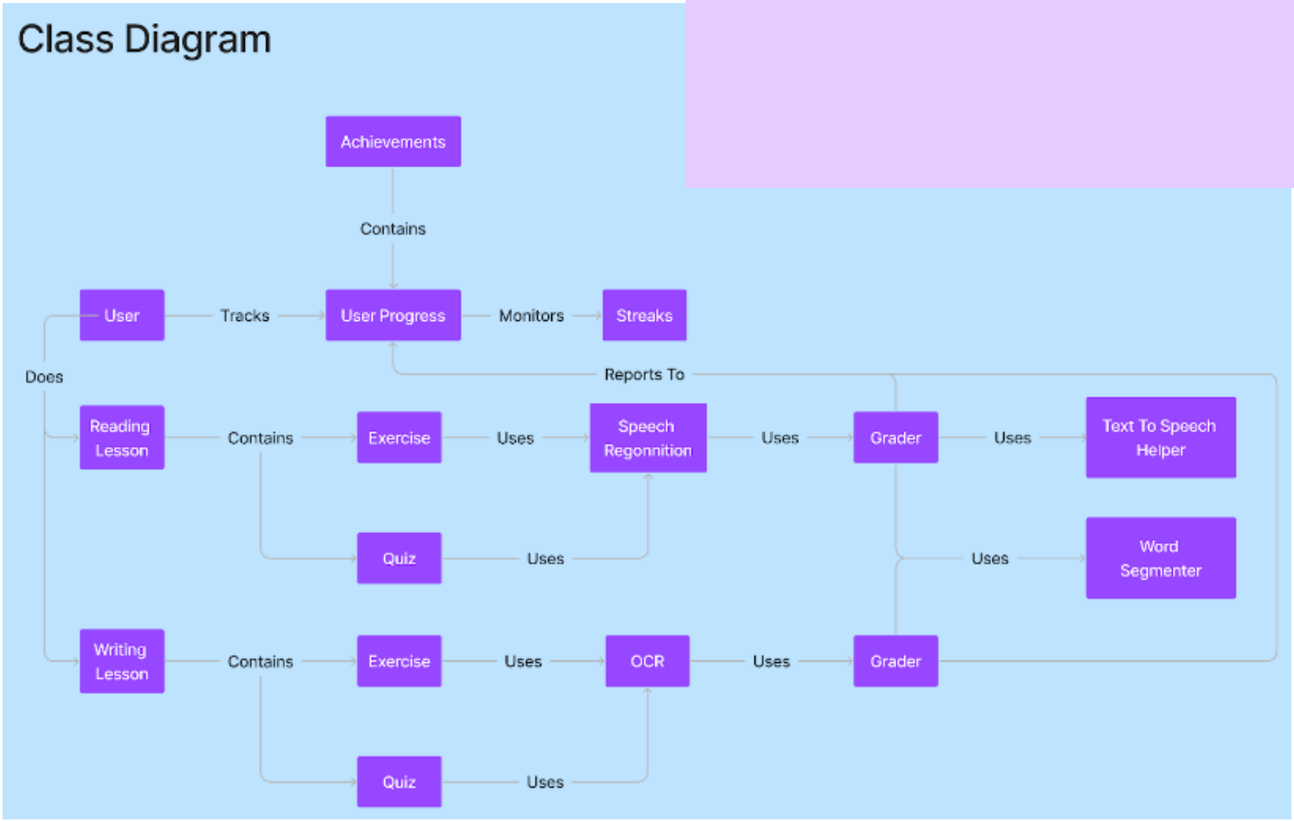
UML DIAGRAMS





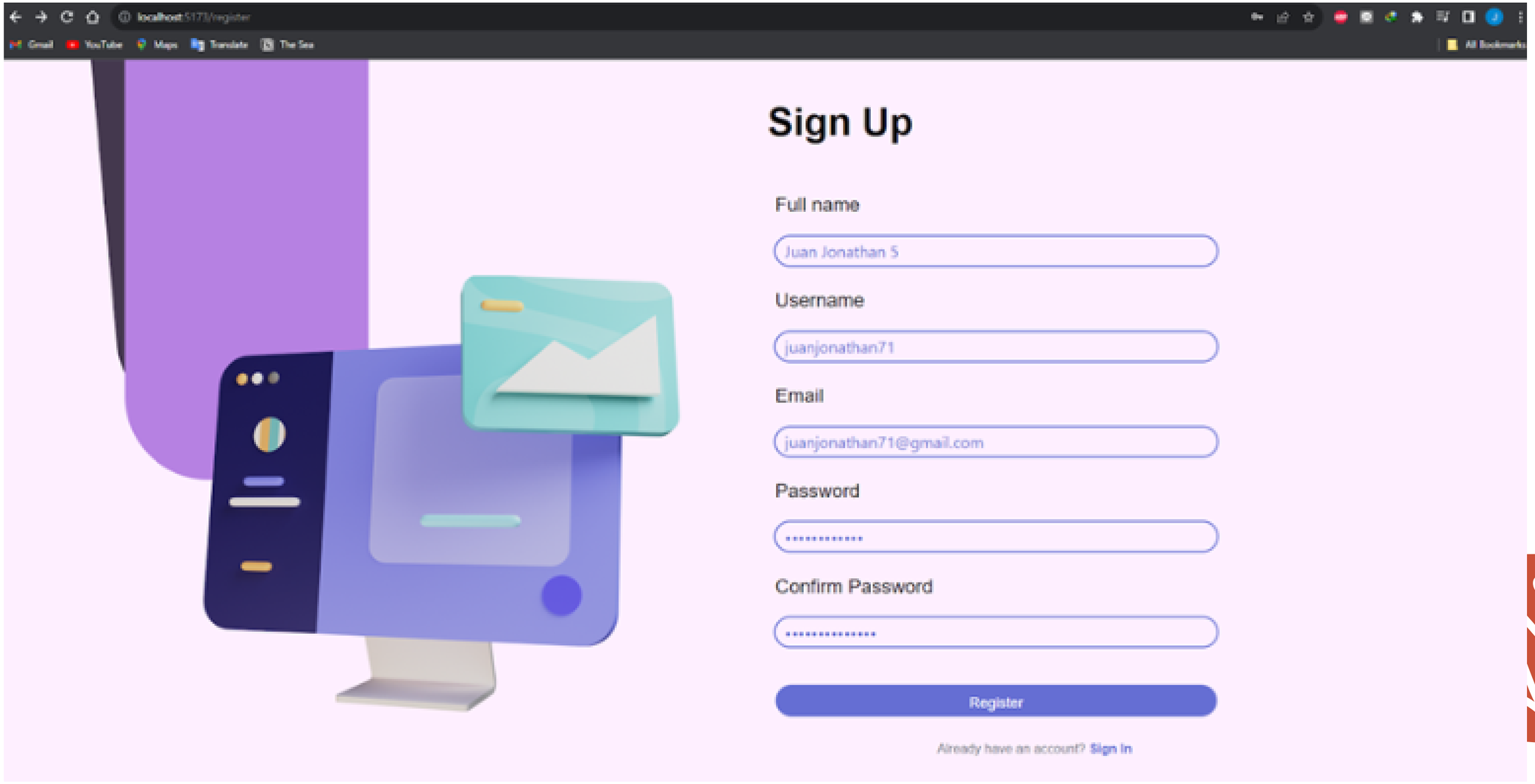
UML DIAGRAMS



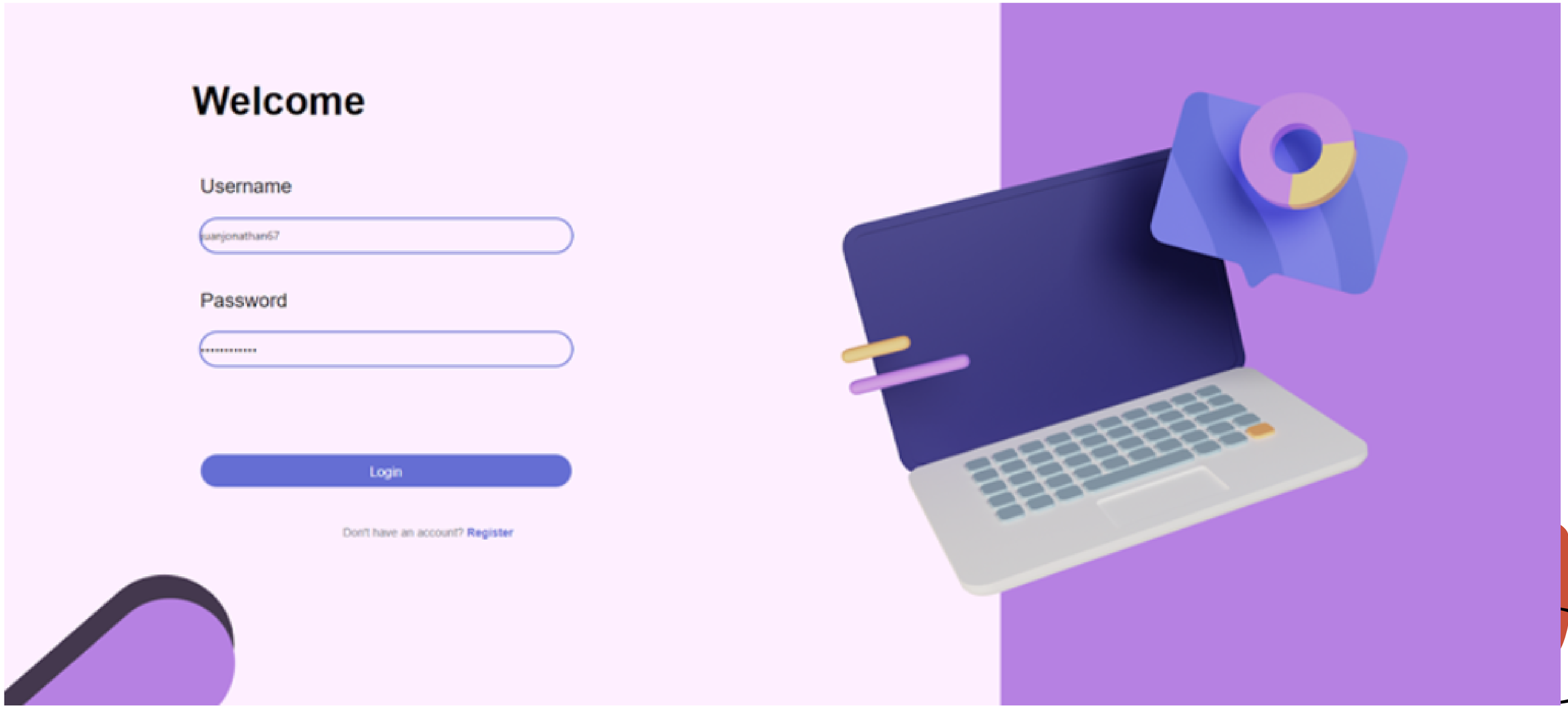


DESIGN

DESIGN


localhost:5173/register
Gmail
YouTube
Maps
Translate
The Sea
All Bookmarks
Sign Up
Full name
Juan Jonathan 5
Username
juanjonathan71
Email
juanjonathan71@gmail.com
Password
Confirm Password
Register
Already have an account? Sign In

DESIGN


Welcome
Username
juanjonathan67
Password
Login
Don't have an account? Register

DESIGN


Lexia
Search
Login
Profile
Levels
Settings
Get in Touch
with the Creators

DESIGN

Listening...

A

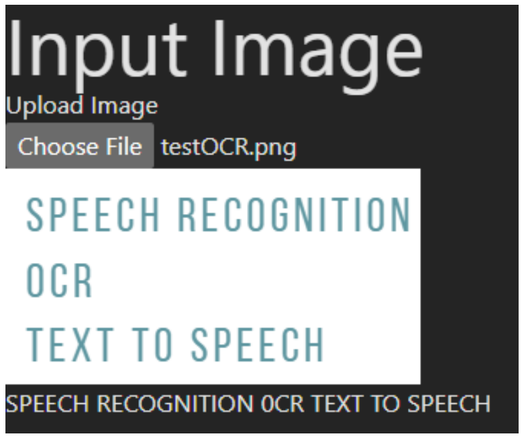

MAP DESIGN

FUNCTIONAL COMPONENTS

SPEECH RECOGNITION

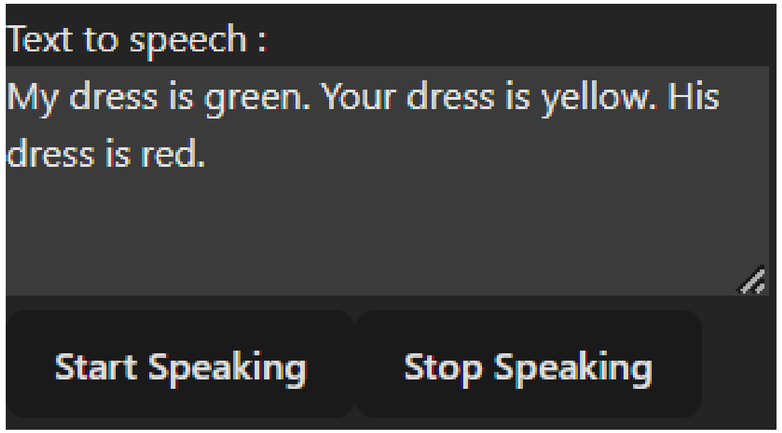
Speech recognition is a technology that enables computers to understand and interpret spoken language. It allows users to communicate with devices by speaking instead of typing.

OCR



OCR is a technology that converts printed or handwritten text into machine-readable data.

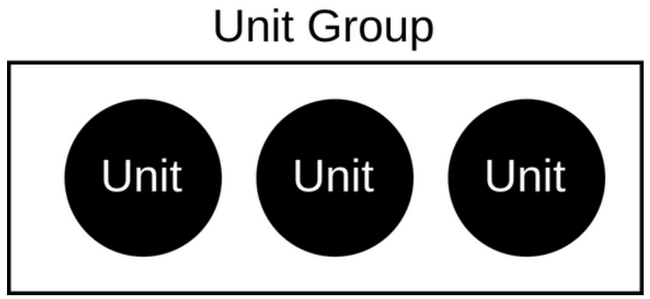
TEXT TO SPEECH



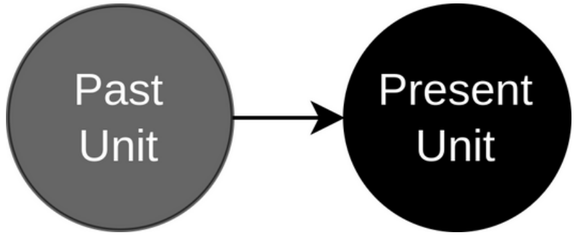
Text-to-Speech is a technology that transforms written text into spoken words. It allows computers, devices, or applications to read out loud the text you see on a screen.

SOFTWARE TESTING

UNIT TESTING



INTEGRATION TESTING



REGRESSION TESTING

UNIT TESTING

```
PS C:\Users\juanj\OneDrive\Documents\Kuliah\Semester 5\RPL\Lexia\tests> python .\RegisterTest.py

DevTools listening on ws://127.0.0.1:63010/devtools/browser/a990f232-187f-4751-b223-93203c794013
.
----------------------------------------------------------------------
Ran 1 test in 12.738s

OK
```

```
PS C:\Users\juanj\OneDrive\Documents\Kuliah\Semester 5\RPL\Lexia\tests> python .\LoginTest.py

DevTools listening on ws://127.0.0.1:63176/devtools/browser/9cd81198-3d0d-42de-9905-6d894975c40f
.
----------------------------------------------------------------------
Ran 1 test in 12.753s

OK
```

INTEGRATION TESTING

ID	Test Case Objective	Test Case Description	Expected Result	Received Result
1	Check the linking of Register and Login components	Insert unique credentials for a new account and click the register button	Redirect to Login component	Successful
2	Check the linking of Login dan Level component	Insert correct credentials of a valid account and	Redirect to Level component	Successful
3	Check if React iframe element can sandbox the HTML5 exported Godot game	Render the Level component	Level component renders properly and the game is playable	Successful
4	Check if Godot JavaScriptBridge is handling the page redirection on tilemap trigger properly	Walk to the door on some houses in the Godot game	Redirect to minigame levels (Level1, Level2, etc) components	Successful
5	Check speech recognition feature of levels minigame	Click on the microphone button and say the letters presented twice per letter	Each successful recognition moves to the next letter in the spelling	Successful

REGRESSION TESTING

```
PS C:\Users\juanj\OneDrive\Documents\Kuliah\Semester 5\RPL\Lexia\tests> python .\RegisterTest.py

DevTools listening on ws://127.0.0.1:63842/devtools/browser/cc91487b-0a52-4114-86c8-987e289ed311
.
----------------------------------------------------------------------
Ran 1 test in 12.784s

OK
```

ASSETS USED

Tiny Battle

2D • Tiny

Tiny Ski

2D • Tiny

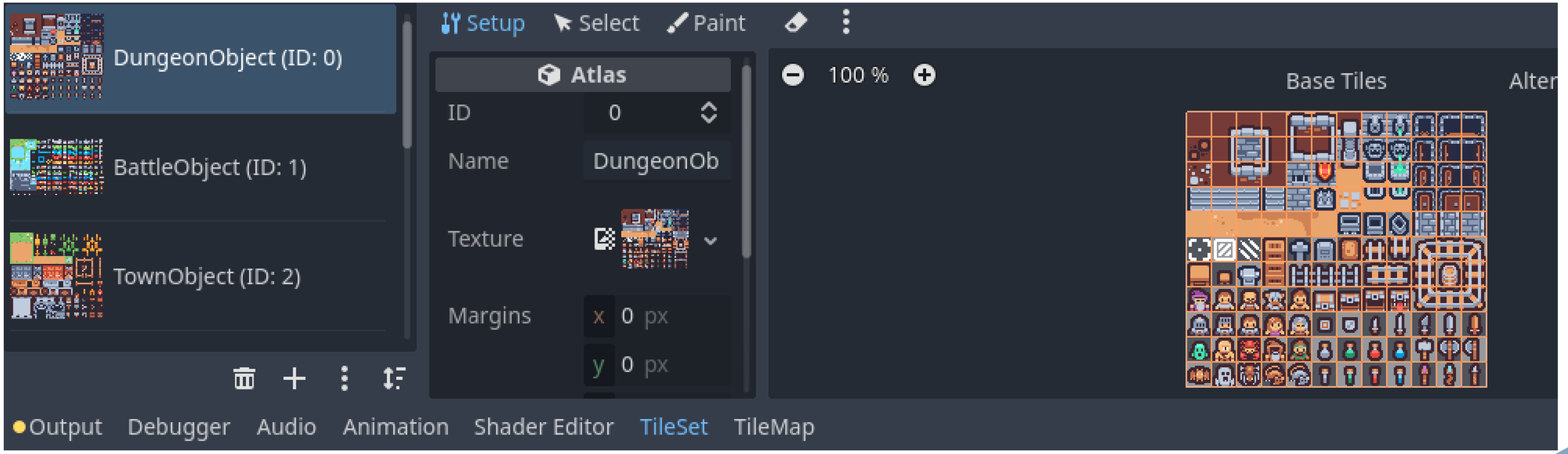
Tiny Town

2D • Tiny

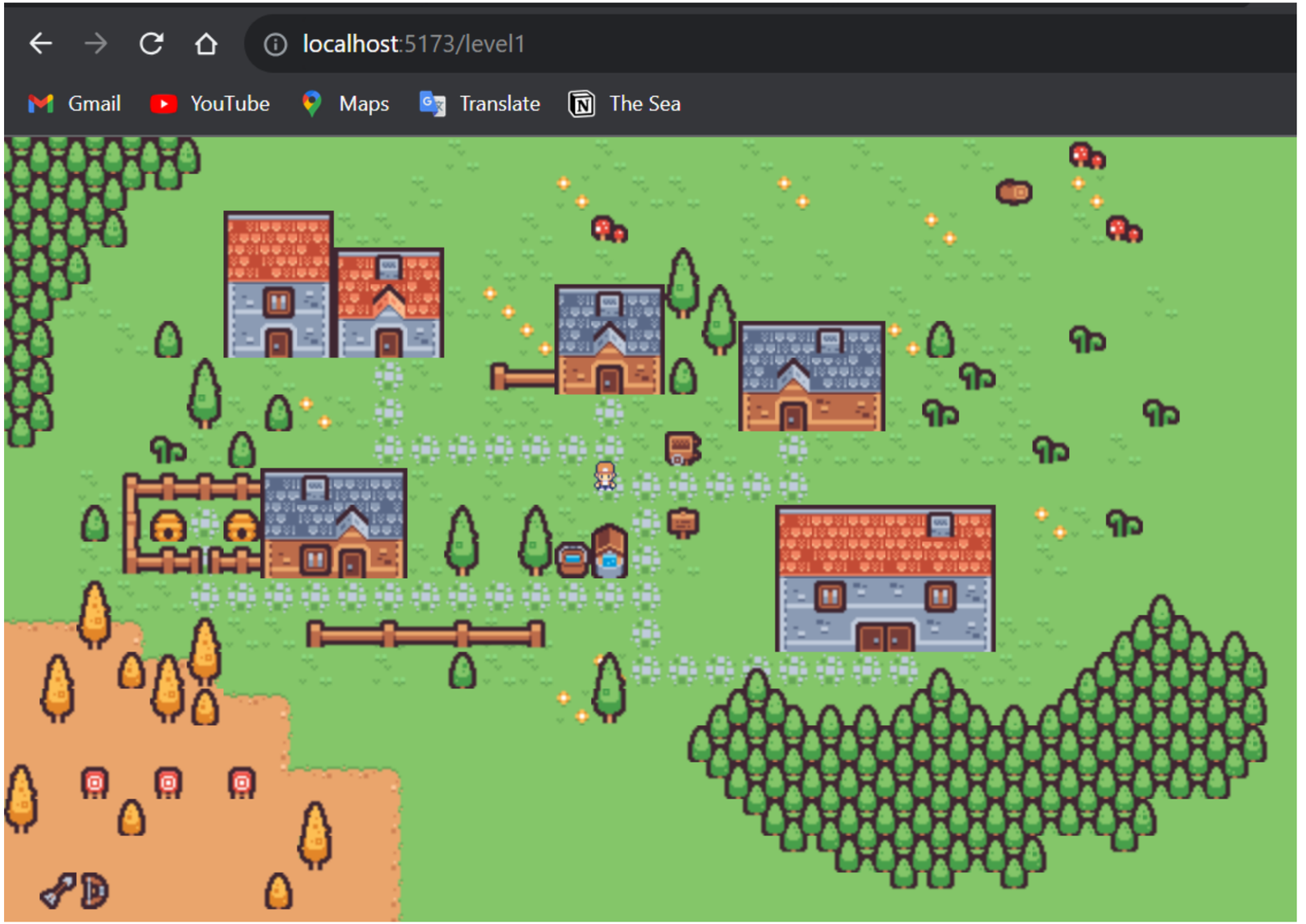
Tiny Dungeon

2D • Tiny

KENNEY



CROSS PLATFORM VIA THE BROWSER



SYMBOL-BASED COMMUNICATION

- Universal
- Ease of understanding
- Clarity
- Dyslexic-friendly
- Attention retention

LETTER-BASED SYMBOL VOCALIZATION

- Improve the feedback
- Letter-pronounciation feedback
- Give different feedback for different symbol


THANK YOU