Test Plan and Report

1. As a user, I want to be able to upload a file of music in order to eventually get sheet music back
2. As a user, I want to have accurate sheet music so that I can play my music correctly
3. As a user, I want to be able to save my generated sheet music so that I can revisit the sheets
4. As a user, I expect a well-thought-out UI design using a designing tool such as Figma for the web application so that it is intuitive
5. As a user, I want the web application to be visually appealing so that I have a good experience
6. As a user, I expect the web application to have a functioning front-end so that I can have a good experience
7. As a user, I expect the web application to be able to segment the audio file precisely so that it can identify notes
8. As a user, I want the web application to be able to segment the audio files with other techniques so that it can classify more precise notes
9. As a user, I expect the web application to be able to classify notes by giving it an audio file so that it can find the notes
10. As a user, I want to be able to receive a pdf of generated sheet music so that I can reference it
11. As a user, I want to be able to log into the web application
12. As a user, I want to be able to save my sheet music on the web application so that I can reference the sheet music in the future
13. As a user, I want the web application to have advanced technology such as ML technologies so that I can have the most precise sheet music
14. As a user, I want the web application to be well-tested, so that I get the most precise sheet music
15. As a user, I want the web application to well connected so that it is functioning
16. As a user, I expect the web application to the well documented so that in the future if the application needs support their is documentation

Scenario 1: Upload .wav file (Pass)

1. Start web application with npm start
    a. file=d2.wav
2. User can click on upload button
3. File directory for their computer should pop up
4. They are able to select file
5. They are able to see successful upload pop up

Scenario 2: Get accurate sheet music (Pass)

1. User can click on upload button
2. File directory for their computer should pop up
3. They are able to select file
    a. file=d2.wav
4. They are able to see successful upload pop up
5. Wav file gets sent to backend, and gets converted into sheet music
6. User can click on the download button once converted and in the sheet music they can see if it's a d4

Scenario 3: Save generated sheet music (Pass)

1. User can sign up or login into their account from clicking on the button with the pop-up
2. Once logged into the account, user can click on upload button
3. File directory for their computer should pop up
4. They are able to select file
5. They are able to see successful upload pop up
6. Wav file gets sent to backend, and gets converted into sheet music
7. User can click on the download button once converted
8. There will be an option to save it for the account
9. On the webpage a button to see saved audio files which could be convert into sheet music again ….

Scenario 4-6: Well Designed *Subjective* (Pass)

1. Start frontend
2. Icons for each of the features are displayed and are are visually appealing, intuitive and functional

Scenario 7: (Fail)

1. User can upload a file with complex rhythm
2. After the backend has finished processing the audio file the users should be able to click download pdf
3. The file downloaded would be sheet music with complex rhythm

Scenario 8: Complex Rhythm (Fail)

1. User uploads wav file of song with complex rhythm
2. User downloads pdf
3. Sheet music displays complex rhythm (different lengths of notes)

Scenario 9: (Pass)

1. User can click on upload button
2. They are able to select file
3. They are able to see successful upload
4. Wav file gets sent to backend, and gets converted into sheet music
5. User can click on the download button once converted and in the sheet music they can see if it's a d4

Scenario 10: Download .pdf file (Pass)

1. User can upload file
2. The frontend should display a processing audio icon
3. After the backend has finished processing the audio file the users should be able to click download pdf
4. The file should then appear in the user's download folder

Scenario 11: Login (Pass)

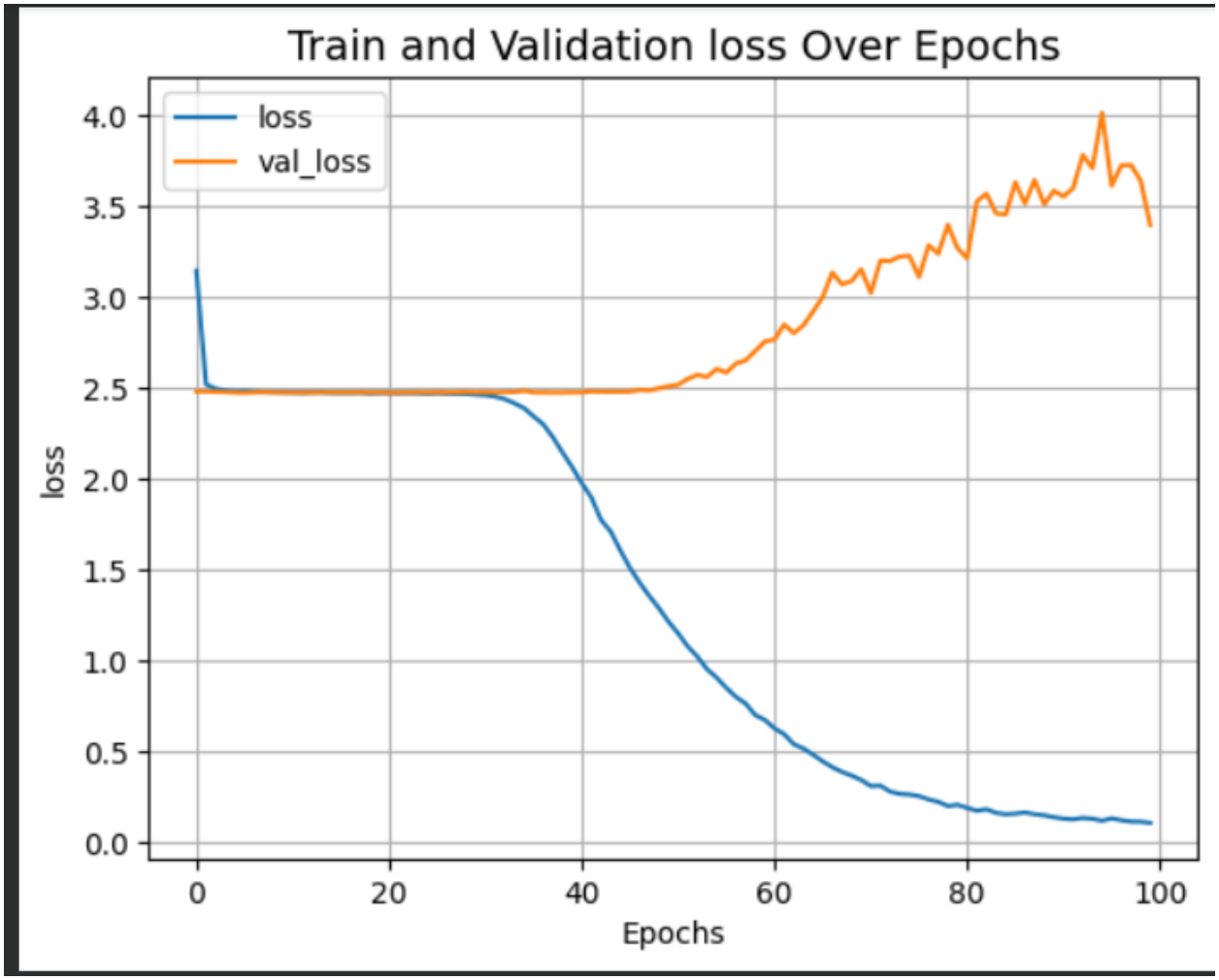
1. Select Login
   username="molly@example.com"
   password="molly"
   Press Enter key
2. User should be directed back to home page and now be logged in

Scenario 12: Save sheet music (Fail)

1. User logs in
2. User uploads sheet music
3. Sheet music is saved to users account in database

Scenario 13-14: Machine learning accuracy (Fail)

1. Load trained ml model
    a. file = model.keras
2. Call model.predict on x_test
    a. These are spectrograms that the model did not train on
3. Compare predictions with y_test to compute accuracy



x_train size: 12,678
x_test size: 4096
Train accuracy: 90%
Test accuracy: 4%

Scenario 15: Fully Connected Speed (Pass)

1. User uploads wav file
2. User downloads wav file
3. Frontend talking to backend does not take super long

Scenario 16: Documentation (Pass)

1. PDF files exist on the repository