



UNIVERSITY OF
LEICESTER

School of Computing and Mathematical Sciences

CO7201 Individual Project

Interim Report

Actor's Line Learning tool

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DECLARATION

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Contents

1. Overview	3
2. Task Progress Status	3
3. Challenges	4
4. Updated Timeline	4

1. Overview

The project is approximately 50% complete and has been divided into four main phases: research & design, frontend development, backend development, and Testing phase.

The research & design phase is fully completed, including background research, learning, and gathering reading resources. The initial plan was to implement offline script management in the frontend, but due to React Native Expo's limitations and library compatibility issues, the project has shifted towards a fully online backend using FastAPI.

Currently, **backend development and Script Management is in progress**, and the frontend screens, Routing and navigation is completed and it is been updated to integrate API-based script management. Below is the breakdown of completed tasks, in-progress tasks, challenges and the revised timeline.

2. Task Progress Status

SNo.	Task	Status	Description
1	Background research & learning	Completed	Literature Survey is completed
2	Reading resources & technology selection	Completed	Gathering Documents related to react native, expo etc., finding libraries and learning them is completed
3	Wireframe development	Completed	User interface design in figma is completed
4	Frontend UI setup (React Native Expo)	Completed	Frontend screens and modals are developed in React native expo
5	Frontend Navigation	Completed	Navigation between screens is completed
6	PDF text extraction (Offline)	In Progress	PDF text extraction from script document need to be extracted and stored in database.
7	Database Setup	Completed	Local database setup in SQLite to store PDF file as Blob file is completed after few setbacks.
8	Backend setup (FastAPI)	In Progress	Understanding Fast API and integrating with frontend through API calls

9	Speech to text Processing	Not Started	A simple speech to text conversion has to be implemented
10	Text-to-Speech Processing	Not Started	A text to speech processing using Google API and add voice customization
11	API Development	Not Started	API endpoints for script management and AI tasks
12	Performance testing & debugging	Not Started	Testing the accuracy and performance of the AI model
13	Final testing & refinements	Not Started	Final end to end testing and refinement in UI, Backend and AI model if needed.

3. Challenges

- **Expo's Lack of Support for PDF Parsing**
 - react-native-pdf is not supported in Expo, making it impossible to extract text from PDFs offline.
- **SQLite CRUD Operations in Expo**
 - Due to the recent React Native Expo update, existing learning resources for SQLite were outdated, causing difficulties in implementation.
- **Delayed Progress Due to Unexpected Issues**
 - The initial plan was **heavily focused on offline capabilities**, which had to be **revised**, causing a delay of a few days.
 - The **fast-changing Expo ecosystem** made it difficult to find compatible libraries for essential features.

4. Updated Timeline

Despite initial setbacks due to React Native Expo version updates and lack of offline support for PDF text extraction, the project has successfully adapted to a cloud-based approach. The shift to an online backend with FastAPI ensures smoother functionality and eliminates offline limitations. With a clear roadmap ahead, the project remains on track for completion. This revised plan ensures seamless AI functionality via a cloud-based backend, overcoming the React Native Expo limitations. The next milestone is backend completion and frontend integration to get the app fully functional.

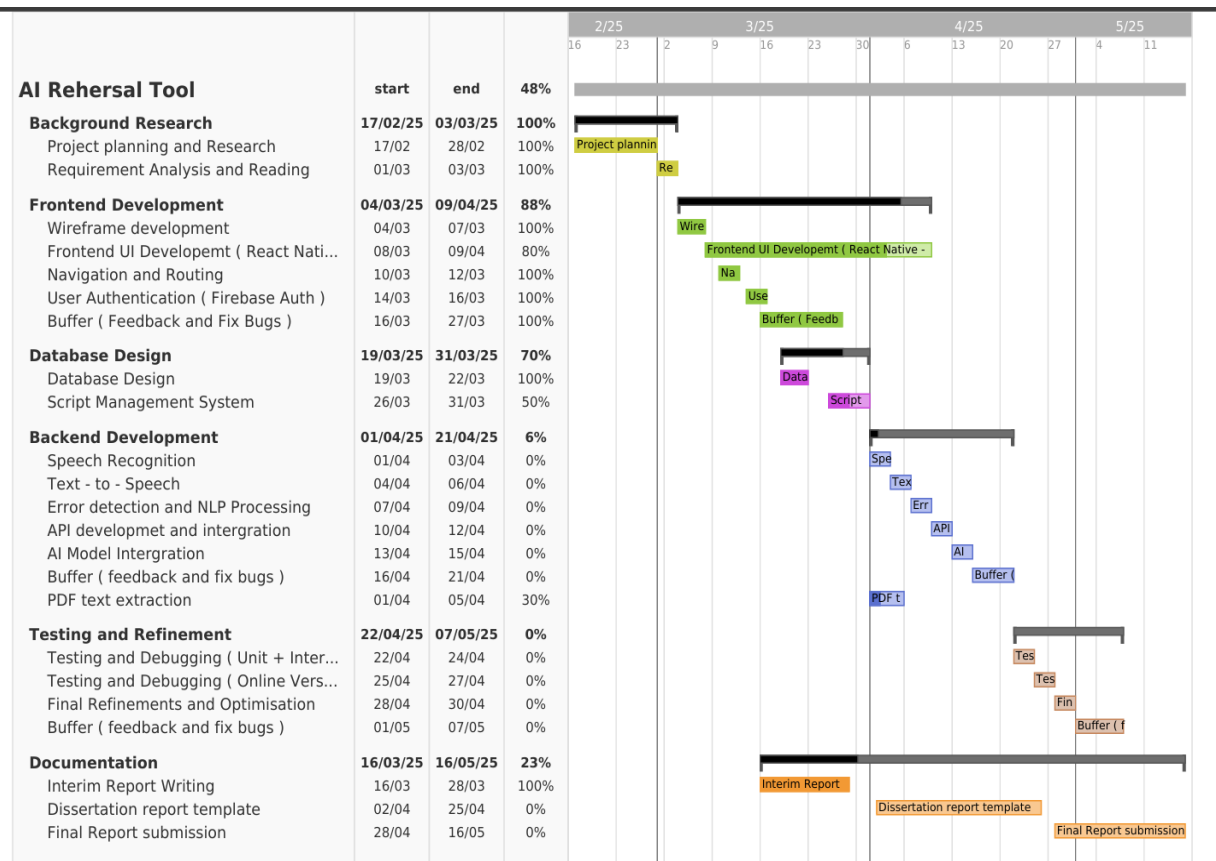


Figure 1: Revised timeline Gantt chart