# LinguaEase - AI-Powered Language Learning App

## Program Listing - Sub Topics

### 1. User Interface (UI) & Navigation

• Main Menu (Home, Courses, Progress, Settings)

• Language Selection

• Course Modules UI (Lessons, Quizzes, Crosswords)

• Interactive Elements (Drag & Drop, Speech Input, Picture Identification)

### 2. AI-Powered Language Learning Features

• Offline AI Chatbot for Language Practice

• AI-based Adaptive Quiz System

• Speech Recognition & Pronunciation Correction

• Levenshtein Distance Algorithm for Spelling and Sentence Correction

### 3. Content Management System (CMS)

• Lesson Creation & Management

• Dynamic Quiz & Crossword Generation using AI

• Flashcards & Vocabulary Builder

### 4. Machine Learning Integration (TensorFlow Lite - TFLite)

• Model Training for Language Processing

• AI-Based Quiz Difficulty Adaptation

• AI-Powered Word Suggestions & Sentence Formation

### 5. Database & Storage

• Local Database (Room/SQLite) for Offline Data

• Cloud Storage for User Progress Sync (Optional)

• JSON Data Handling for Lesson Content

### 6. Gamification & User Engagement

• XP & Level System

• Badges & Achievements

• Daily Streak Tracking

### 7. Security & User Authentication

• Login & Registration (Google Sign-In, Email Authentication)

• Data Encryption for User Progress & Preferences

## 5.1 Cost Estimation

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| --- | --- |
| Category | Estimated Cost (₹) |
| Development Tools & Software |  |
| Android Studio (Free) | 0 |
| TensorFlow Lite (Open Source) | 0 |
| Firebase (Optional – Free Tier) | 0 |
| GitHub/GitLab (Version Control - Free) | 0 |
| Development & AI Model Training |  |
| AI Model Training (Cloud GPU Usage) | 5,000 |
| Data Collection & Preprocessing | 3,000 |
| Design & UI/UX |  |
| UI/UX Design (Freelancer or Figma Pro) | 5,000 |
| Icons & Graphics | 2,000 |
| App Development |  |
| Android Developer (Freelancer – Partial Assistance) | 15,000 |
| Backend Setup & Integration | 5,000 |
| Testing & Debugging |  |
| Device Testing (Purchase/Rent Extra Devices) | 5,000 |
| Beta Testing & User Feedback | 2,000 |
| Marketing & Deployment |  |
| Google Play Store Listing Fee (One-time) | 2,500 |
| App Promotion & Initial Marketing | 5,000 |
| Total Estimated Cost | ₹49,500 |