組別 **Team ID**：202402
專題屬性 **Category**：：手機 **APP**（**AIoT Applications**）
專題名稱 **Project**：FUN 學中（**Chinese Learning FUN**）

專題影片在
YouTube 連結

一、指導老師 **Advisor**：李麗華老師（Prof. Li-Hua LI）

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三、 系統環境 **System environment**：

1. 軟體 **Software**：作業系統(OS)：Windows 10；語言(Language)：Python、Java；
開發工具(Toolkits)：Android Studio、Google ML Kit、Firebase、Visual Studio Code

2. 硬體 **Hardware**：CPU:Intel(R) Core(TM)i5-10210U CPU @ 1.6GHz；
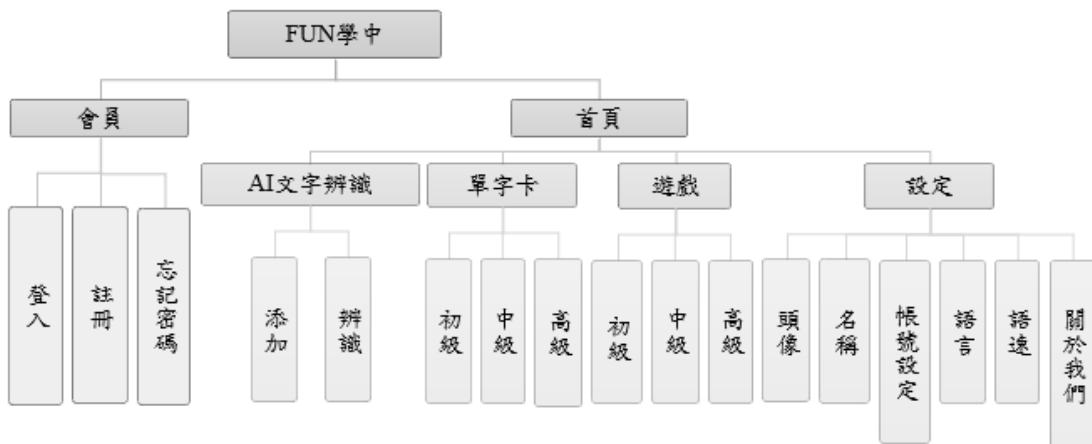硬碟(HardDrive):475G；記憶體(Memory):8G RAM。

四、 簡介：

1. 系統簡述

「FUN 學中」APP 系統，讓外籍人士輕鬆、有趣地學習中文，以「放」、「學」、
「中」為理念，提供行動學習和遊戲化學習方式，運用日常生活中的實用場景用戶
可以隨時隨地**學習中文**；應用程式整合了人工智慧技術，提供掃描文字功能，方便
查詢和理解詞語，打破語言隔閡，促進文化交流。

2. 特色（系統的亮點）

● 遊戲化學習：利用遊戲設計，讓中文學習增添樂趣。

● 行動式學習：手機 APP 方便使用者走到哪裡學到哪裡。

● 單字卡輔助：提供中文書寫體字卡，加深學習者認讀中文字。

● 中英文對照：每張單字卡均提供中英文對照及翻牌造句學習。

● 立即拍學習：提供即時拍照辨認中文字，供使用者於所在場域即時學習。

3. 功能及架構圖：本 APP 共提供五大功能，會員、AI 文字辨識、單字卡、遊戲、設
定，其中單字卡和遊戲分別依三個不同等級設計，詳細系統架構圖如下。

5. **Introduction**：

The "**Chinese Learning FUN**" APP system allows foreigners to learn Chinese easily and enjoyably. Based on the principles of "Relaxation," "Learning," and "Engagement," it offers mobile learning and gamified learning methods. Using practical scenarios from everyday life, users can learn Chinese anytime and anywhere. The application integrates artificial intelligence technology, providing a text scanning function for convenient word lookup and comprehension, breaking down language barriers and promoting cultural exchange.

6. **Highlights**

- **Gamified Learning**: This is to enhance the enjoyment of learning Chinese through various gamification design.
- **Mobile Learning**: It is convenient to use mobile app to learn Chinese, because you can learn in anywhere and anytime.
- **Flashcard Assistance**: The App provides flashcard to deepen learners' recognition of Chinese characters.
- **Chinese-English Comparison**: Each flashcard offers Chinese-English comparison and sentence-making practice.
- **Instant Photo Learning**: The App provides real-time recognition of Chinese characters so that the user can learn immediately when taking the picture of Chinese characters.

7. **Features**：

The "**Chinese Learning FUN**" APP system contains five major functions: (1) Membership, (2) AI Text Recognition, (3) Flashcards, (4) Game, and (5) Settings. Both flashcards and the games are designed according to three different language levels. The architecture of the Chinese Learning Fun is shown as follow.