1. **Requirements document** 
   1. **Purpose**

An application system can record all required information such as attendance, completed activities, achievement badges, student information and so on. Moreover, it needs to have the ability to update all records as required.

* 1. **Background**

Currently, a new cyber education star-up is using a notebook to record attendance each week, then mark down which activities completes by each student. After that, the achievements will be updated first, then the leader board from those students who have the highest number of credentials.

* 1. **Assumptions**
* The SQLite will be the main database platform to store and update all information
* The SQLite databases can retrieve with correct information from a each specific database
* Teachers can store and update details from the application which can provide the correct interface.
* The application can provide security to the database such as in the term of vulnerabilities against techniques (e.g. SQL injection).
  1. **Constraints (restriction problem about this project)**
* Staff requirement
  + There is no maintenance team to fix flaws and bugs from the application when they have been detected and reported.
  1. **Functional requirements**
* Teachers can see all information that is updated in real-time such as student information, course schedule, topics taken by students, attendance, and achievement details.
* Teachers can input and delete specific details as required from the database.
* Teachers can mark attendance categorized by weekly, weekend, their time attendance.
* The application will be updated on the leader board, and credentials based on students achieve their specific tests containing with vary topics with dates.
* The application can store and update with massive information.
* The application can provide accuracy when retrieving information from the database.
* The application can provide the interface (GUI) to teachers and transfer input information to the database with accuracy.
* The interface from this application needs to be easy to use and less complicated to navigate.
* The application should operate with an active and quick response when inputting and retrieving information from the database.
  1. **Non-functional requirements**
* **Access security** 
  + The users (teachers) might need to identify their authenticity to access the database such as usernames and passwords.
* **Accessibility** 
  + The application would be accessible by both teachers and students. However, only teachers can update details in the database. Students can have access to looking.
* **Availability** 
  + The application would be available online access 24/7 for updating (used by teachers) and looking (used by students).
* **Confidentiality** 
  + Only high privileges can have access to create and change the database (developers), and teacher privileges can have access to update the database such as input and delete specific information. And student privileges can have access only to look their information.
* **Maintainability** 
  + Regarding updating a new database for expanding larger storage, there would be an announcement from staff for application system updating and should not exceed more than 5 hours.