**Feasibility report**

**Background**

With the maturity of search technology and the rapid development of artificial intelligence nowadays, biometric technology is gradually showing its great commercial value and market prospect. The perfection and popularization of hardware equipment paved the way for the development of intelligent software, and the superiority of AI technology gradually emerged in various fields.

**Project Description**

This project focus on the use of software engineering methods since the project is the software coursework of MAC. After several team meeting, the project is defined as a student selection system with authentication login through face recognition using the webcam.

**Requirement Analysis**

A training institution requires developing a student selection system which helps students select courses and manage files. Meanwhile, face recognition as biometric authentication should be used when students and teachers log in the system. This system is back-end manageable; system administrators can configure several key settings; teachers can use the system to query class, and students access classes through facial recognition; students can log in through face authentication to manage personal information and query test result. The project lasts two months and is accessible on both mobile and web pages.

**Business Analysis**

Face recognition can be applied in various fields, and AI is not limited to face recognition. At the same time, artificial intelligence holds potential business value in biometric authentication fields, and it will be applied in the business field to implement complex computer operation.

**Analysis of Technology Feasibility**

1. For the project ductility, the project is base on JSP and using Java language.
2. For the project stability and integrity, the function construct is base on strtus2 architecture to finish BS server construct, which includes Servlet, AJAX etc.
3. The project uses the technology is base on HTML5 and AJAX to gain the data stream of web camera from website application.
4. The server needs to identify biological data, which can be implemented by calling OpenCV3.2 for the face recognition and image matching.
5. For the programming environment consistency and compatibility, all developers use IntelliJ-IDEA.
6. Hibernate is the tool which stores objects / relational persistence and query, with AJAX to complete front-end and back-end data fast interaction.
7. This project is software coursework, adapting MySQL database which can improve the project portability while reducing the complication of configuration database environment.

**Software Engineering Analysis**

1. This is an academic project, so the final goal may be changed. The reason is although the requirement is clear, the requirement detail may have changed.
2. The project period is short: it should finish whole planning, implement and testing within two months.
3. Functions are independence, so it requires high level of module function realization.
4. The priority of each module is clear in architecture.
5. There are five programmers in the team

Due to the reason, it should be implemented by the development of fast and flexible way, so the Extreme Programming will be adopted for completing each implement and mutual.