** MINISTRY OF EDUCATION AND TRAINING**

**FPT UNIVERSITY**

Capstone Project Document

Student Finance Management

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-Ho Chi Minh City, 09/2015-*This page is intentionally left blank*

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# Definitions, Acronyms, and Abbreviations

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# Software Requirement Specification

## User Requirement Specification

### Guest Requirement

Guest is a person who doesn’t have access to the system. To use all functions, guest must login. This is a function guest can use:

* Login

### Student Requirement

Students who use the services of the system. In the current system there are 3 types of students are:

• Student common

• Student credit loans

• Students in the form of "Together you invest"

All the students were able to use some of the functions below:

• Review the learning process

o View the semester learned

o See the list of unfinished subjects (including arts subjects are owed or not eligible to attend if any)

• Review financial condition

o View the page of the tuition payment period studied

o See characteristics of the subjects pay tuition debt (if any)

o View the total amount borrowed and the interest to the present time

• View and update personal information

### Staff Requirement

Employees who manage the information related to students, academic and financial. The system classifies employees into three categories as follows:

• Student affairs

* Manage the list of students

• Training Management

* Manage the learning outcomes of students

•Financial management

* Manage tuition rates
* Management Beginning proceeds

### Manager Requirement

Manager who controls financial information on the learning process of students, besides manager manages the exchange rate and the amount corresponding to the school credit courses. Manager can:

* View Finance Information
* Manage Academic Suspension
* Manage Exchange Rate

### Admin Requirement

Admin is the person who manages the system. Admin can use these functions:

* Configure system.
* Manage Course.
* Manage user.

# System Requirement Specification

### External Interface Requirement

#### User Interface

* General requirement for graphics user interface is the GUI should be simple, clear, intuitive, and reminiscent.
* The interface design is an iterate process includes: design, sketching, prototyping, user assessment.
* Some design principles will be taken into consideration:
  + UI for business web applications - Janko Jovanovic [Ref:http://www.smashingmagazine.com/2010/02/25/designing-user-interfaces-forbusiness-web-applications/]
  + Ten principles of effective web design – Vitaly Friedman [Ref:http://www.smashingmagazine.com/2008/01/31/10-principles-of-effective-webdesign/]

#### Hardware Interface

**N/A**

#### Software Interface

* Web application: works with Firefox (v30 or above), Chromes (v14 or above), Internet Explorer (v10 or above) browse.

#### Communication Protocol

* Use HTTP protocol 1.1 for communication between the web browser and the web server.

### System Overview Use Case

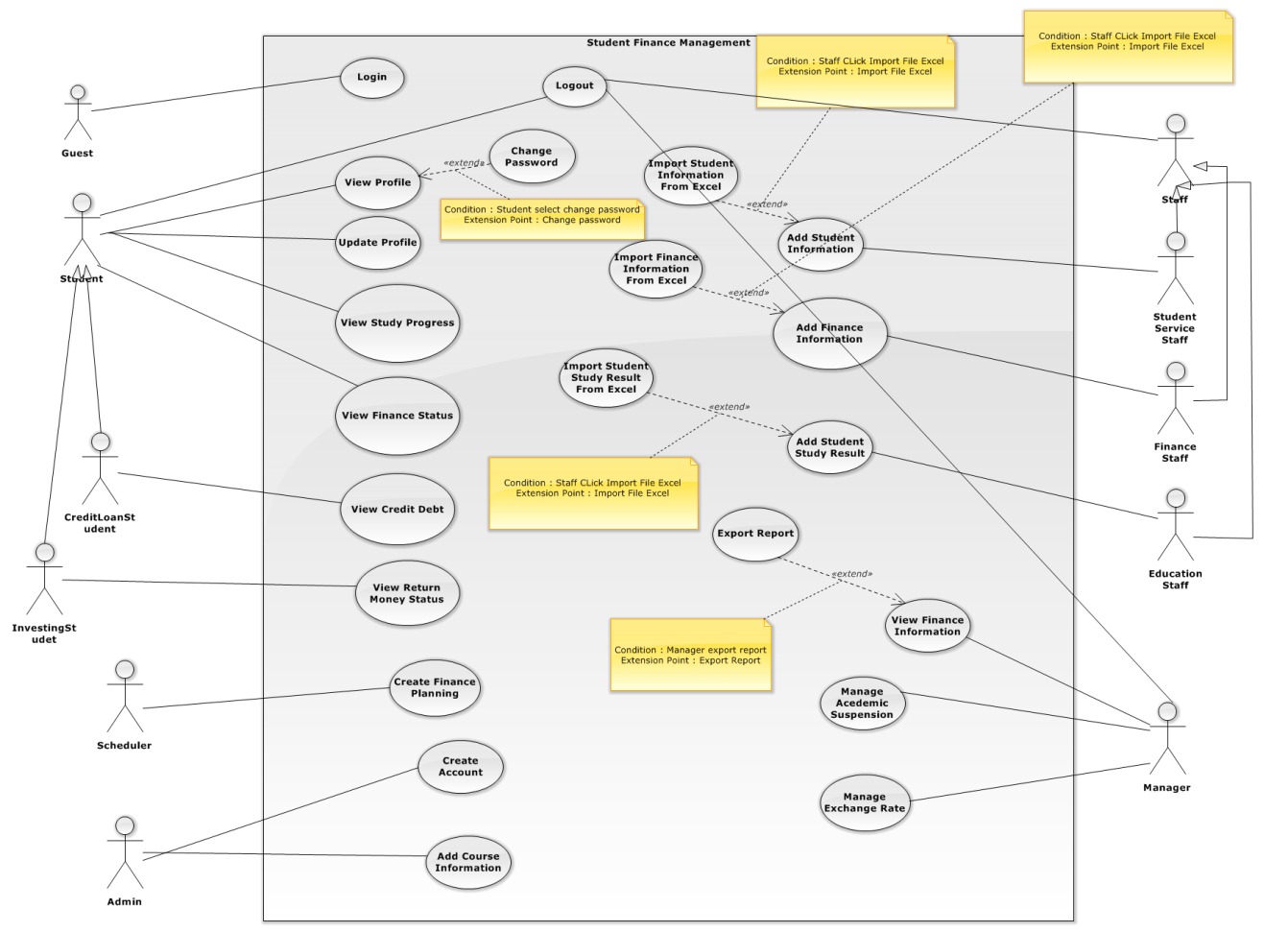


Figure 1: System Overview Use Case

### List of Use Case

## Software System Attribute

#### Usability

##### Graphic User Interface

* All the texts, labels and alerts will be written in Vietnamese, except some English terms that the school is using.

##### Usability

* The system is easy to use. The school’s staffs will need less than 3 days of training to use the system effectively.
* Students don’t need any training to use the system.

##### Installation

* User can follow installation and manual guide for installation. If there are any problems, users can contact developers for help.

#### Reliability

* System notification success rate is less than 2 failed notifications per 1000 sent.
* System email notification deliver success rate is less than 2 failed deliveries per 1000 sent.
* Scheduler task run at 00:00 every day with 100% execution rate.
* Web service API response success rate is less than 2 failed requests per 10,000 requests.

#### Availability

* **N/A**

#### Security

* All input data will be validated before saving into database.
* All privacy information such as password will be encrypted to ensure security.
* The system automatically authorizes all users when they login to the system.

#### Maintainability

* The system is separated into modules.

#### Portability

* All users can use application on every OS supported web browser.

#### Performance

* Requests from web application are responded in less than 10 seconds at 8 Mbps bandwidth speed.
* Mobile checker application should return card information in less than 1 minute at 8 Mbps bandwidth speed.
* Mobile printer application should write data to NFC card successfully in less than 1 minute at 8 Mbps bandwidth speed.

## Conceptual Diagram

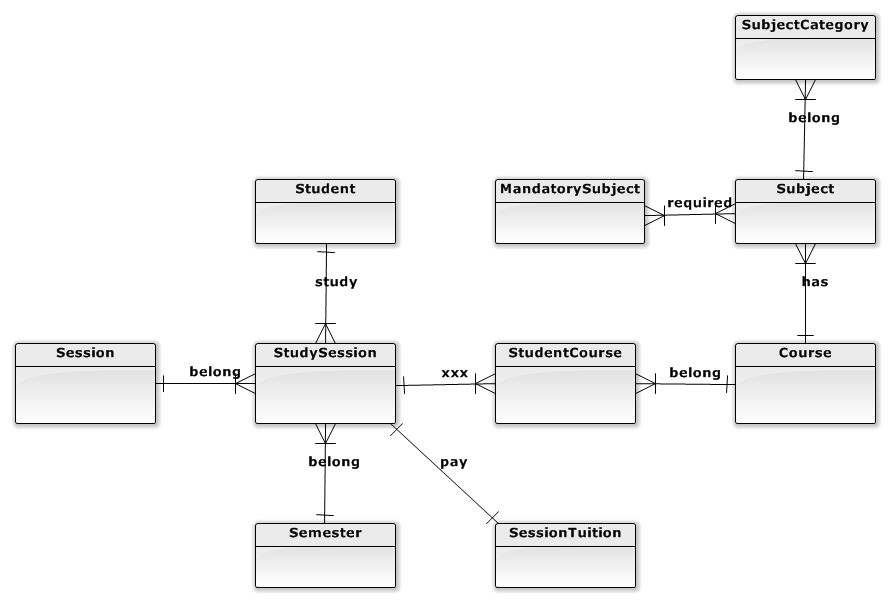


Figure 35: ERD - Conceptual Diagram