SE PROJECT CERTIFICATE OF APPROVAL

This is to certify that all modifications and recommendations have been carried out within the prescribed constraints by: **Bien Vince Angelo B. Golfo, John Angelo D.C. Parayno** and **Fredel F. Refuerzo.** The system entitled: **Attendance Monitoring System for the Faculty of Information and Computer Studies of the University of Santo Tomas** is now ready for installation.

Technical Adviser:

Name and Signature: WILLIAM A. CORTEZ

Date: 10/10/2014

Internal Panel Members:

Name and Signature: MIA ELEAZAR

Date: 10/16/14

Name and Signature: JC

Date: 10/20/14

Name and Signature: _____

Date: _____

External Panel Member:

Name and Signature: _____

Date: _____

Software Engineering Adviser:

Name and Signature: JAYSON E. SUSBO

Date: 10/20/14 passed -KB

October 27, 2014

Engr. Mia V. Eleazar
Chair Department of Information Technology
Institute of Information and Computing Sciences
Roque Ruaño Building, University of Santo Tomas
España, Manila 1008

Dear Engr. Mia V. Eleazar

We are fourth year Information Technology students from the University of Santo Tomas currently enrolled in the course IT109, Software Engineering. One of our requirements is the deployment of an approved system entitled:" Attendance Monitoring System for the Faculty of the Institute of Information and Computing Sciences of the University of Santo Tomas."

We are requesting for the authorization intended on the installation and testing of our approved system to be deployed in the faculty of Information Technology department.

Thank you and God bless.

Sincerely yours,

Bien Vince Angelo B. Golfo,

John Angelo D.C. Parayno,

Fredel F. Refuerzo

Noted by:

Ms. Janette Sideño
Adviser – IT109

UNIVERSITY OF SANTO TOMAS
INSTITUTE OF INFORMATION AND COMPUTING SCIENCES
RECEIVED
OCT 27 2014
SIGNED BY _____ TIME 4pm
DEPARTMENT OF INFORMATION TECHNOLOGY

Approved for installation.

ENGR. MIA V. ELEAZAR
CHAIR, DEPARTMENT OF INFORMATION TECHNOLOGY
INSTITUTE OF INFORMATION AND COMPUTING SCIENCES

User Acceptance Sign-Off

For Project: ***Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas***

Project Team: ***Grupo ni Angel***

Members:
Golfo, Bien Vince Angelo B.
Parayno, John Angelo D.C.
Refuerzo, Fredel F.

Submitted for testing on: 11/15/14

Tested by: ***on: 11/14/14***

- Prof. Mike Victorio
- Prof .Eugenia P. Ramirez
- Prof. Dexter Tan

Tested by: ***on: 11/15/14***

- Engr. Mia V. Eleazar

Proof of Compliance:

- [x] User Acceptance Checklist completed
- [x] Test Results attached
- [ ] Outstanding issues with resolution plans attached

Sign-Off Section:

This system conforms to agreed specifications.

Signature of Executive Sponsor **Engr. Mia V. Eleazar** Name/Position	11/15/14 Date
Signature of Sponsor Name/Position	Date
Signature of Test Team Leader **Fredel F. Refuerzo** Name/Position	11/15/14 Date

ENGR. MIA V. ELEAZAR
CHAIR, DEPARTMENT OF INFORMATION TECHNOLOGY
INSTITUE OF INFORMATION AND COMPUTING SCIENCES

Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas

Institute of Information and Computing Sciences
Faculty of Engineering
University of Santo Tomas

11/15/2014

Software Project Management Plan (SPMP)
Version 4.2

In Partial Fulfillment
of the Requirements for the Subject
in IT109 (Software Engineering)

by

Golfo, Bien Vince Angelo B.
Parayno, John Angelo D.C.
Refuerzo, Fredel F.

BS Information Technology

Presented to

Ms. Janette Sideño

Revisions Page

Overview

This document should provide the developers define the software approach and associated milestones. The system requirement analysis and software requirement analysis should be documented in this document. The purpose of this document is to document the agreed deliverables and dates.

Target Audience

Chair Department of Information Technology

Chair Department of Computer Science

Chair Department of Information Systems

Project Team Members

Golfo, Bien Vince Angelo B.

Parayno, John Angelo D.C.

Refuerzo, Fredel F.

Version Control History:

Version	Primary Author(s)	Description of Version	Date Completed
1.0	Parayno, John Angelo,	*first draft*	01/31/14
1.1	Parayno, John Angelo	*second draft*	02/14/14
1.2	Parayno, John Angelo	*completed for submission*	03/06/14
2.0	Parayno, John Angelo	*edited format for oral-defense*	03/10/14
4.0	Parayno, John Angelo	*edited for SE presentation*	08/10/14
4.1	Parayno, John Angelo	*SE minor revisions*	09/25/14
4.2	Parayno, John Angelo	*Updated for final submission*	11/09/14

Table of Contents

Revisions Page ii

Overview ii

Target Audience ii

Project Team Members ii

Version Control History: ii

Table of Contents iii

1 INTRODUCTION 1

1.1 Project Overview 1

1.2 Project Deliverables 2

2 PROJECT ORGANIZATION 3

2.1 Software Process Model 3

2.2 Roles and Responsibilities 5

2.3Tools and Techniques 6

3 PROJECT MANAGEMENT PLAN 7

3.1 Tasks 7

3.1.1 Data Gathering – T01 7

3.1.2Planning – T02 8

3.1.3 Analysis – T03 8

3.1.4 Requirements Gathering – T04 9

3.1.5 Feasibility Study – T05 11

3.1.6 Designing – T06 11

3.1.7 Initial Prototyping – T07 13

3.1.8 Aesthetic Prototyping – T08 14

3.1.9 Database Prototyping – T09 15

3.1.10 Implementation – T10 16

3.1.11 Testing – T11 16

3.1.12 Maintenance – T12 17

3.1 Assignments 18

3.2 Timetable 19

4 ADDITIONAL MATERIAL 20

- DEFINITIONS, ACRONYMS, AND ABBREVIATIONS 20

o REFERENCES 23

1 INTRODUCTION

1.1 Project Overview

The Attendance Monitoring System for the Faculty of Information and Computer Studies of the University of Santo Tomas is a system that would help monitor and keep track of the daily and weekly attendance of the faculty members.

The reason for the study is to automate the current attendance system being implemented in the UST-ICS Faculty Department. Since the faculty currently uses a logbook which is checked on a weekly basis by the Department Head Chair Persons, it is susceptible to physical damage, record loss, inaccurate timestamp and record mismatch. This study will help the department to systematize and manage records of the faculty members with efficiency and brevity. Through this, attendance will be easily monitored, reports will be simply be generated and will give a lesser workload for the professors and staffs, thus giving more time to other important matters in the university.

The scope focuses on the professor's daily attendance and without the basis of his or her class schedule. The process excludes the time when the faculty member checked in/out since it is the culture of faculty, as well a requirement of the client. Another is on how the weekly reports are processed and stored to ensure availability and confidentiality. Lastly, is to make the whole process fast and orderly.

The target beneficiary of the system would be the UST Information and Computer Studies Department; mainly the chair persons of each department which of the Computer Science Department Head Chair Person, Information Technology Department Head Chair Person and Information Systems Department Head Chair. Other indirect beneficiaries would be the UST Accounting department which handles the payroll system and partly the UST administration which handles the University professors.

1.2 Project Deliverables

- Project Documentation
  - *Software Project Management Plan* (SPMP) by the month March
  - *Software Requirements Specification* (SRS) by the month March
  - *Software Design Description* (SDD) by the next semester in IT109 (*Software Engineering*)
  - *Software Test Documentation* (STD) by the next semester in IT109 *(Software Engineering*)
- Project Revisions (major/minor)
  - Anytime and anywhere needed within the duration and scope of the project
- Project Initial Prototype
  - By the month March
  - Complete User Interface w/ at least one working function
- Project Working Prototype
  - By the next semester in IT109 (*Software Engineering*)
  - Complete Interface, Database tables

2 PROJECT ORGANIZATION

2.1 Software Process Model

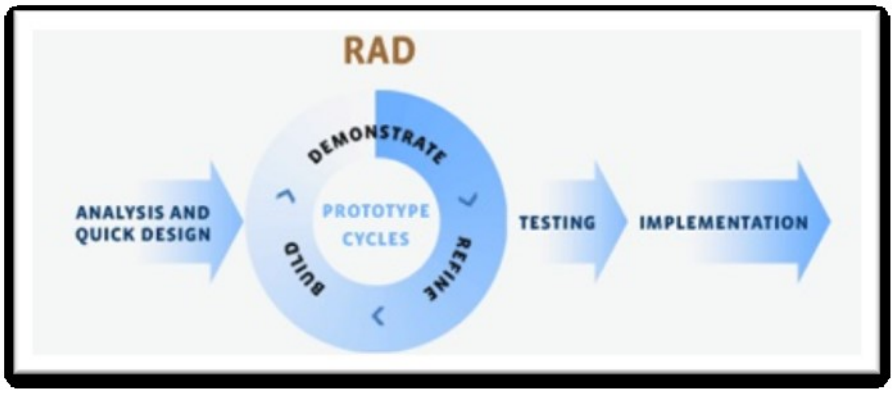

Figure 2.1 Rapid Application Development Model

In this project we are to follow the Rapid Application Development model in which after the analysis and design phase, there will be prototype cycles where developers can build, demonstrate, and refine if ever the application does not meet the requirements of goals. After the prototype cycles, there will be a testing phase then the implementation. On this project it the Rapid Application Development Model includes the following:

- **Analysis and Quick Design**

  The phase of the project in which the team will gather required information through interviews, research and observation; and analyze the data for feasibility and preparation. Here is also where the quick designing will take place based on the analysis and information they gathered.

- **Build**

  On this phase, the developer starts to build the program or application based on the design they produced on the Analysis and Quick design phase.

- **Demonstrate**

  On this phase, the developer will demonstrate the program that they built.

- **Refine**

The phase in which the developer will refine the design to meet missed requirements or make it better. After this phase, the developer will go back to the Build phase to implement the new design that was produced on the program itself.

- **Testing**

  The phase in which the system is being tested as a whole.

- **Implementation**

  The phase in which the application will be implemented or deployed.

2.2 Roles and Responsibilities

Table 2.2.1 Roles and Responsibilities

Team Members	Roles and Responsibilities	Description
Parayno, John Angelo D.C.	Project Manager	The person responsible for overseeing the accomplishment of the stated project objectives.
Timbang, Cassandra Beatriz F.	Systems Analyst	Responsible for researching for the plans and problems of implementing the project. He should be able to research also about software and hardware to be used for the system.
Golfo, Bien Vince Angelo B. Poyaoan, Ally R.	Systems Developer	Work on the internal operations of computers, using existing systems or incorporating new technologies to meet particular needs, often as advised by a systems analyst. They test both hard and software systems, and diagnose and resolve system faults.
Refuerzo, Fredel F.	Systems Designer	Responsible for creating detailed design documentation and the interface of the system.

Line of Communication of Each Role

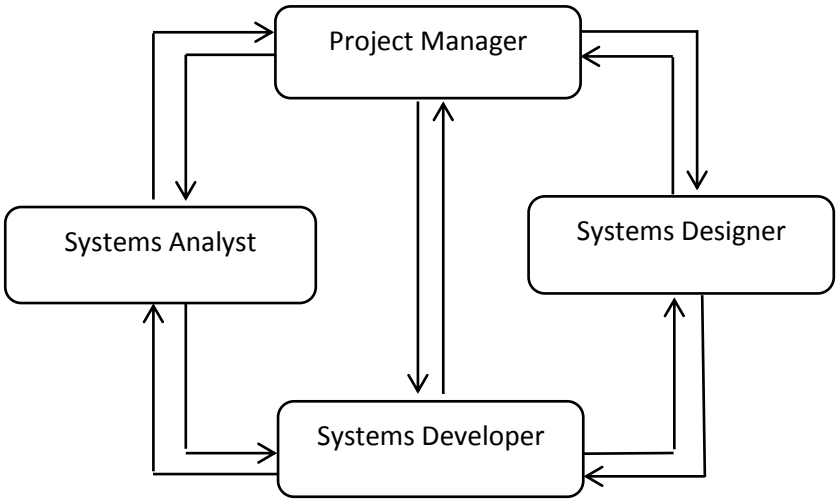

Figure 2.2.1 Communication Line

2.3 Tools and Techniques

The Attendance Monitoring System for ICS will be implemented and executed using Waterfall Model and Prototyping. The team will mainly use Interviewing as main tool for gathering necessary information for the system. The team will maximize the means of communications to each member through the use of online collaboration tools and instant messaging. They will also apply JAD meetings to polish and efficiently produce designs

This project adapts the system for use on a personal computer using a visual Interface through a Java GUI using the package javax.swing which includes necessary components for user interface; and MySQL as its database management system. Apache will be used to establish a local host to establish connection between the database and the application from the browser and XAMPP for developing. The input requires a biometric scanner and the database information will be outputted into a Microsoft Excel file.

3 PROJECT MANAGEMENT PLAN

3.1 Tasks

3.1.1 Data Gathering – T01

3.1.1.1 Description

- Data Gathering is the initial task of the project. It's the first step in knowing the problems, objectives and scope of the project.
- Initial interview to the client is done to know about what he or she wants to be done on the system through concepts in an overview look.

3.1.1.2 Deliverables and Milestones

- Area of investigation, objectives, importance study and target beneficiaries and related studies must be already been defined in a week span.

3.1.1.3 Resources Needed

- A questionnaire, which aims to gather information about the client and their organization, are made upon interview.
- After the interview, a documented project proposal must be made summarizing the deliverables.

3.1.1.4 Dependencies and Constraints

- The project proposal's information is constrained to deliver the required deliverables only.

3.1.1.5 Risks and Contingencies

- The members must be readily to take notes of the client's answers and should be understandably written the information on a paper.
- The project manager must immediately provide a copy through saving it on a secondary memory device to prevent any loss necessary information.

3.1.2 Planning – T02

3.1.2.1 Description

- Planning is the initial process in organizing tasks. This is when project organization is defined through the use of software process models, and tools and techniques to be used. R
- Roles are defined and distributed among the team members
- Deliverables of documents and each task are set through a timeline and assigned to each member.

3.1.2.2 Deliverables and Milestones

- Accomplishment of Software Project Management Plan (SPMP).

3.1.2.3 Resources Needed

- To accomplish this task, documentation should be made through the use of MS Word for word processing, MS Excel for Tables and charts and DIA for the construction of diagrams.
- Online Collaboration Tools

3.1.2.4 Dependencies and Constraints

- Data Gathering (T01) must be started already first before going to this task which includes necessary information about the organization and the client.

3.1.2.5 Risks and Contingencies

- Must provide back-up or copy on the document to prevent data loss.

3.1.3 Analysis – T03

3.1.3.1 Description

- Analysis is the task to measure the things needed to acquire a list of requirements to be asked on the client.
- The project member is tasked to list the strengths, weaknesses, opportunities and threats for each member as well for the entire project.

- Through this, possible solutions are opened to each problem and capabilities, in terms of technical and programming skills of each member, are maximized for the efficiency of the project.
- The questions, “what are things we are good at and not” and “what are things we go for and not”, should answered.

3.1.3.2 Deliverables and Milestones

- Delivery of Software Project Management Plan (SPMP) document

3.1.3.3 Resources Needed

- To accomplish this task, summary should be made through the use of MS Word for word processing, MS Excel for Tables.

3.1.3.4 Dependencies and Constraints

- Data Gathering (T01) must be half way done before going to this task which includes necessary information about the organization and the client.

3.1.3.5 Risks and Contingencies

- Must provide back-up or copy on the document to prevent data loss.

3.1.4 Requirements Gathering – T04

3.1.4.1 Description

- Requirements Gathering is the task to get information about the client’s requirements to be implemented on the system which includes:
  - ✓ Functionalities
  - ✓ Features and Attributes
  - ✓ Input and Output
  - ✓ Hardware and Software
  - ✓ Types of users and their Interaction on the System
  - ✓ Mechanism how the entire System is deployed and connected to each of its vital parts.

- This is done through rounds of interviews to meet client's requirements.

3.1.4.2 Deliverables and Milestones

- Software Requirements Specifications (SRS) documentation must be accomplished.

3.1.4.3 Resources Needed

- A questionnaire, which aims to gather information about the specific requirement on each component of the system.
- After the interview, a documented project proposal must be made summarizing the deliverables.
- To accomplish this task, documentation should be made through the use of MS Word for word processing, MS Excel for Tables and charts and DIA for the construction of diagrams

3.1.4.4 Dependencies and Constraints

- Software Project Management Plan (SPMP) documentation must be accomplished.
- Feasibility Study (T05) must be already finished.

3.1.4.5 Risks and Contingencies

- The members must be readily to take notes of the client's answers and should be understandably written the information on a paper.
- The project manager must immediately provide a copy through saving it on a secondary memory device to prevent any loss necessary information.
- Must provide back-up or copy on the document to prevent data loss.

3.1.5 Feasibility Study – T05

3.1.5.1 Description

- Feasibility study is the task to gather information about the organizational culture, daily practice and processes in their current system to align with the impending changes of the proposed project.
- The study will be compared to project team's technical and economic capabilities to address the feasibility of the project.
- Through this the project manager would be able to cope with the organizational needs while retaining the concepts working for them.

3.1.5.2 Deliverables and Milestones

- Delivery of Software Project Management Plan (SPMP) document.

3.1.5.3 Resources Needed

- To accomplish this task, summary should be made through the use of MS Word for word processing.

3.1.5.4 Dependencies and Constraints

- Data Gathering (T01) must be half way done before going to this task which includes necessary information about the organization and the client.

3.1.5.5 Risks and Contingencies

- Must provide back-up or copy on the document to prevent data loss.

3.1.6 Designing – T06

3.1.6.1 Description

- Designing is the task in which the System Designer must be able to conceptualize the design of the user interface prioritizing the clients requirements.
- This also details in the design on how the user and the hardware interacts with its users.

- He must meet the system developer's requests and must be able to utilize the required tools the system developer is using, making it compatible to other components of the system like the database and the hardware to be used.
- The design must eliminate incompatibilities, redundancies, unnecessary objects.
- The UI must provide a good Human-Computer Interaction (HCI) for the Users.

3.1.6.2 Deliverables and Milestones

- The User-Interface design draft
- Delivery of Software Design Description (SDD).

3.1.6.3 Resources Needed

- Print/Drawing materials for initial design drafting
- A computer with Java 1.7 SDK
- A computer with Java Runtime Environment
- NetBeans IDE
- XAMPP for project development testing

3.1.6.4 Dependencies and Constraints

- Requirements Gathering (T04) must be already finished.

3.1.6.5 Risks and Contingencies

- The design might not qualify the client's requirements; to avoid this; requirements must be gathered efficiently through rounds of interview.

3.1.7 Initial Prototyping – T07

3.1.7.1 Description

- Initial Prototyping is the task in which the design and some functionality are been tested and initially deployed on an actual computer system.
- This is used as base form of the impending actual design.
- This will serve as a sample for the client for him/her to know what the system is going through, thus they would be able know if the initial requirements on the system are not met or if there are non-working functionalities that are missing.
- This will serve as a great help for the developers to gain feedback in developing the system further and fix what they are lacking.

3.1.7.2 Deliverables and Milestones

- 50% Working Prototype
- Delivery of Software Design Description (SDD) document.

3.1.7.3 Resources Needed

- Print/Drawing materials for initial database testing
- A computer with Java 1.7 SDK
- A computer with Java Runtime Environment
- NetBeans IDE
- XAMPP for project development testing
- Database MySQL

3.1.7.4 Dependencies and Constraints

- Designing (T06) must be half way done.

3.1.7.5 Risks and Contingencies

- None

3.1.8 Aesthetic Prototyping – T08

3.1.8.1 Description

- This is the actual implementation of the design of the system before the testing phase.
- This prototype must meet the standards of the client and all of the functionalities must be all ready and done.
- The codes must be organized well with the proper indention and comments for easy debugging and analyzing.
- The GUI components must be well placed, and parallel aligned to each other.
- Error handling must be efficient for inputs.
- Good coloring scheme must establish to each component and dwell with the layout.

3.1.8.2 Deliverables and Milestones

- Accomplishment of Software Design Description (SDD).
- Delivery of the working system.

3.1.8.3 Resources Needed

- Print/Drawing materials for final design implementation
- A computer with Java 1.7 SDK
- A computer with Java Runtime Environment
- NetBeans IDE
- XAMPP for project development testing
- Database MySQL
- Biometric Scanner

3.1.8.4 Dependencies and Constraints

- Designing (T06) must be already finished.
- Initial Prototyping (T07) must be already finished

3.1.8.5 Risks and Contingencies

- None

3.1.9 Database Prototyping – T09

3.1.9.1 Description

- This is the task where actual design of the database is implemented. Database Relations must be fixed with the right Entity as well with their corresponding attributes with the correct data type.
- The relations must be free from redundancies; transaction such as add, delete and change must be free from error and problems such as deadlocks must be avoided.
- The other software and hardware must be checked if it‘s working with the database.
- More importantly database security must be maintained well from data manipulation.

3.1.9.2 Deliverables and Milestones

- Delivery of the working system

3.1.9.3 Resources Needed

- Print/Drawing materials for final database design implementation
- A computer with Java 1.7 SDK
- A computer with Java Runtime Environment
- NetBeans IDE
- XAMPP for project development testing
- Database MySQL
- Biometric Scanner

3.1.9.4 Dependencies and Constraints

- Aesthetic Prototyping (T08) must be already finished.

3.1.9.5 Risks and Contingencies

- None

3.1.10 Implementation – T10

3.1.10.1 Description

- Implementation is the deployment of each individual component into one system.
- This is when the programming language or the front-end of the system, the database or back-end of the system and the required hardware be connected with proper communication interface.
- Each functions and requirements must be finished at the end of this task. This must met the project's goal.

3.1.10.2 Deliverables and Milestones

- The working system must be accomplished.
- Delivery of System Test Document (STD).

3.1.10.3 Resources Needed

- A computer with Java 1.7 SDK
- A computer with Java Runtime Environment
- NetBeans IDE
- XAMPP for project development testing
- Database MySQL
- Biometric Scanner

3.1.10.4 Dependencies and Constraints

- Aesthetic Prototyping (T08) must be already finished.

3.1.10.5 Risks and Contingencies

- None

3.1.11 Testing – T11

3.1.11.1 Description

- Testing is the task in which the system is examined if all the functions, the user-interface components and the database transactions are working properly.

- Inputs and outputs are tested if it corresponds correctly to each other.
- Initial errors and bugs should be fixed to prevent system failure and crashes.
- Possible exploits must be figured out to find an immediate solution.

3.1.11.2 Deliverables and Milestones

- Accomplishment of System Test Document (STD).

3.1.11.3 Resources Needed

- The working system

3.1.11.4 Dependencies and Constraints

- Implementation (T10) must be already finished.

3.1.11.5 Risks and Contingencies

- Must provide back-up or copy on the document to prevent data loss.

3.1.12 Maintenance – T12

3.1.12.1 Description

- Maintenance is an ongoing task which is applied for the purpose of fixing errors, bugs and exploits while the system is currently being deployed and used.
- This task also includes system upgrades and updates to fix the current problems of the system after it is deployed.

3.1.12.2 Deliverables and Milestones

- Specific problem has been resolved.

3.1.12.3 Resources Needed

- Issued Report

3.1.12.4 Dependencies and Constraints

- Implementation (T10) must be already finished.

3.1.12.5 Risks and Contingencies

- The system might get outdated; there should be at least an update every 3 months.

3.1 Assignments

Table 3.1.1 Assignments of Team Members

Team Members	Tasks					
	Data Gathering	Planning	Analysis	Requirements Gathering	Feasibility Studies	Designing
Parayno, John Angelo D.C.	X	X	X	X	X	
Timbang, Cassandra Beatriz F.	X	X	X	X	X	
Refuerzo, Fredel Flores	X			X		X
Poyaoan, Ally	X			X		
Golfo, Bience Vince Angelo B.	X			X		

Table 3.1.2 Assignments of Team Members (continued)

Team Members	Tasks					
	Initial Prototyping	Aesthetic Prototyping	Database Prototyping	Implementation	Testing	Maintenance
Parayno, John Angelo D.C.				X		X
Timbang, Cassandra Beatriz F.						
Refuerzo, Fredel Flores	X	X		X	X	X
Poyaoan, Ally	X	X	X	X	X	X
Golfo, Bience Vince Angelo B.	X	X	X	X	X	X

3.2 Timetable

Table 3.2.1 Timetable

Tasks	Date																						
	November				December					January				February				March					
	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	3	10	17	24	31
Data Gathering																						
Planning																						
Analysis																						
Requirements Gathering																						
Feasibility Studies																						
Designing																						
Initial Prototyping																						
Aesthetic Prototyping																						
Database Prototyping																						
Implementation																						
Testing																						
Maintenance																						

Figure 3.2.2 Timetable (continued)

Tasks	Date															
	April				May				June					July			
	7	14	21	18	5	12	19	26	2	9	16	23	30	7	14	21	28
Data Gathering																	
Planning																	
Analysis																	
Requirements Gathering																	
Feasibility Studies																	
Designing																	
Initial Prototyping																	
Aesthetic Prototyping																	
Database Prototyping																	
Implementation																	
Testing																	
Maintenance																	

Figure 3.2.3 Timetable (continued)

Tasks	Date															
	August				September				October				November			
	4	11	18	25	8	15	22	29	6	13	20	27	3	10	17	24
Data Gathering																
Planning																
Analysis																
Requirements Gathering																
Feasibility Studies																
Designing																
Initial Prototyping																
Aesthetic Prototyping																
Database Prototyping																
Implementation																
Testing																
Maintenance																

4 ADDITIONAL MATERIAL

- **DEFINITIONS, ACRONYMS, AND ABBREVIATIONS**

  Availability - The degree to which a system, subsystem or equipment is in a specified operable and committable state at the start of a mission, when the mission is called for at an unknown, i.e. a random, time

  Biometrics - is the science and technology of measuring and analyzing biological data. In information technology, biometrics refers to technologies that measure and analyze human body characteristics, such as DNA, fingerprints, eye retinas and irises, voice patterns, facial patterns and hand measurements, for authentication purposes.

  Bug - is a coding error in a computer program.

  Computer - A computer is a device that accepts information and manipulates it for some result based on a program or sequence of instructions on how the data is to be processed.

  Confidentiality - is a set of rules or a promise that limits access or places restrictions on certain types of information.

  Database - is a collection of information that is organized so that it can easily be accessed, managed, and updated. In one view, databases can be classified according to types of content: bibliographic, full-text, numeric, and images.

  Deadlock - is a situation in which two or more competing actions are each waiting for the other to finish, and thus neither ever does.

  Dia – is free and open source general-purpose diagramming software, developed originally by Alexander Larsson.

  Entity - is a person, object, place or event for which data is collected.

  Feasibility - the state or degree of being easily or conveniently done.

  Graphical User Interface (GUI) - is a type of user interface that allows users to interact with electronic devices through graphical icons and visual indicators such as secondary notation, as opposed to text-based interfaces, typed command labels or text navigation.

Hardware - is the collection of physical elements that constitutes a computer system.

Human-Computer Interaction (HCI) - involves the study, planning, design and uses of the interaction between people (users) and computers.

Input - is the term denoting either an entrance or changes which are inserted into a system and which activate or modify a process.

Integrated Development Environment (IDE) - is a software application that provides comprehensive facilities to computer programmers for software development.

Joint Application Design (JAD) - is a process used in the prototyping life cycle area of the Dynamic Systems Development Method to collect business requirements while developing new information systems for a company.

Java Runtime Environment (JRE) - is part of the Java Development Kit (JDK), a set of programming tools for developing Java applications.

MS Excel - is a spreadsheet application developed by Microsoft for Microsoft Windows and Mac OS.

MS Word - is a word processor developed by Microsoft.

MySQL – is an open source relational database management system based on Structured Query Language.

Output - is the term denoting either an exit or changes which exit a system and which activate/modify a process.

Process - a series of actions or steps taken in order to achieve a particular end.

Prototype - is a rudimentary working model of a product or information system, usually built for demonstration purposes or as part of the development process.

Software – computer programs

Software Development Kit (SDK) - is typically a set of software development tools that allows for the creation of applications for a certain software package, software framework, hardware platform, computer system, video game console, operating system, or similar development platform.

Software Process Model – is a standardized format for planning organizing and running a development project.

System - is a collection of elements or components that are organized for a common purpose.

User Interface (UI) - is everything designed into an information device with which a human being may interact -- including display screen, keyboard, mouse, light pen, the appearance of a desktop, illuminated characters, help messages, and how an application program or a Web site invites interaction and responds to it.

XAMPP - is a free and open source cross-platform web server solution stack package, consisting mainly of the Apache HTTP Server, MySQL database, and interpreters for scripts written in the PHP and Perl programming languages.

- **REFERENCES**

Delaney, D. & Brown, S. (n.d.). *Guidelines for documents produced by student projects in software engineering*. Available from http://www.cs.nuim.ie/research/reports/2002/nuim-cs-tr-2002-06.pdf

Java. (n.d.). Java SE – Downloads. Retrieved from http://www.oracle.com/technetwork/java/javase/downloads/index.html

XAMPP. (2014). Xampp installers and downloads for apache friends. Retrieved from http://www.apachefriends.org/index.html

Java. (2013) javax.swing (Java Platform SE 7). Retrieved from http://docs.oracle.com/javase/7/docs/api/javax/swing/package-summary.html

Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas

Institute of Information and Computing Sciences
Faculty of Engineering
University of Santo Tomas

11/15/2014

Software Requirements Specifications (SRS)
Version 4.2

In Partial Fulfillment
of the Requirements for the Subject
in IT109 (Software Engineering)

by

Golfo, Bien Vince Angelo B.
Parayno, John Angelo D.C.
Refuerzo, Fredel F.

BS Information Technology

Presented to

Ms. Janette Sideño

Revisions Page

Overview

This document should provide the developers to define the expected software features, constraints, interfaces and other attributes. The process implementation should be documented in this document. The purpose of this document is to document the agreed requirement with the project supervisor; to provide the basis design; to provide the basis for system test.

Target Audience

Chair Department of Information Technology

Chair Department of Computer Science

Chair Department of Information Systems

Project Team Members

Golfo, Bien Vince Angelo B.

Parayno, John Angelo D.C.

Refuerzo, Fredel F.

Version Control History:

Version	Primary Author(s)	Description of Version	Date Completed
1.0	Refruerzo, Fredel Flores	*first draft*	02/07/14
1.1	Parayno, John Angelo	*second draft*	02/14/14
1.2	Parayno, John Angelo	*completed and checked submission*	02/22/14
2.0	Parayno, John Angelo	*edited format for oral-defense*	3/10/14
3.0	Parayno, John Angelo	*revisions*	03/18/14
4.0	Parayno, John Angelo	*edited for SE presentation*	08/10/14
4.1	Parayno, John Angelo	*SE minor revisions*	09/25/14
4.2	Parayno, John Angelo	*Updated for final submission*	11/9/2014

Table of Contents

Revisions Page ii
Overview ii
Target Audience ii
Project Team Members ii
Version Control History: ii
Table of Contents iii
1 INTRODUCTION 1
1.1 Product Overview 1
2 SPECIFIC REQUIREMENTS 1
2.1 External Interface Requirements 1
2.1.1 User Interfaces 1
2.1.2 Hardware Interfaces 2
2.1.3 Software Interfaces 2
2.1.4 Communication Interfaces 2
2.2 Software Production Features 2
2.3 Software System Attributes 5
2.3.1 Reliability 5
2.3.2 Availability 5
2.3.3 Security 6
2.3.4 Maintainability 6
2.3.5 Portability 6
2.3.6 Performance 6
2.4 Database Requirements 7
3. ADDITIONAL MATERIAL 9
o DEFINITIONS, ACRONYMS, AND ABBREVIATIONS 9
o REFERENCES 12

1 INTRODUCTION

1.1 Product Overview

The purpose of the Attendance Monitoring System is to automate and digitalize the current attendance monitoring system. Automating and digitalizing the system will make the attendance monitoring system much faster and less prone to errors. The system will use a fingerprint scanner for ease in checking-in time logs and prevent dishonesty. Through the admin GUI, the Department Chair Head would be able to track time logs and the daily attendance. The software system could immediately generate soft copies of the weekly attendance report for the purpose of having an option of printing it or sending it online. The system will be deployed at the designated faculty of each department (Information Technology Department, Computer Science Department, and Information Systems Department). The system is designed based on the university's culture and the current process.

2 SPECIFIC REQUIREMENTS

2.1 External Interface Requirements

2.1.1 User Interfaces

- The User-Interface shall be implemented using Java SDK 1.7 specifically the package javax.swing which composes of different GUI objects like Frames, Panels, Buttons, Text box etc.
- The User Interface of the software shall run to any computer installed with Java Runtime Environment.

2.1.2 Hardware Interfaces

- The system will require basic parts of a computer system which include a CPU, Monitor, Mouse and Keyboard that will used by mainly by the administrator.
- The system will require network devices like network cables, router, and switches to be able to connect other computers to connect to the database.
- The system will require a fingerprint scanner for the input to be used by the persons whose attendance will be checked.

2.1.3 Software Interfaces

- The Attendance Monitoring System shall communicate with the Department Head Chairs for the checking of daily attendance time logs and weekly attendance sheet; adding, changing and deleting records in the database and generating automated reports and copies to the email.
- The Attendance Monitoring System shall communicate with the Faculty Members for the collection of their own individual time log, viewing of daily attendance time logs and weekly attendance sheet.

2.1.4 Communication Interfaces

- The system shall use the port 3306 to communicate with MySQL database.
- The system shall use the port 25 to communicate with Simple Mail Transfer Protocol (SMPTP).

2.2 Software Production Features

- Software Graphical User Interface for viewing.
  - The system shall have 2 tabs and will display the home page upon accessing the software.
    - Home
      1. Displays daily check-in/out attendance of all the faculty members.
      2. Includes an *Admin Login* button which directs the user to the admin username and password page.

- Professors - Displays a list of faculty (with photo, Faculty ID, name and employee type) which lists their individual check-in attendance of the week when clicked.

- Software Graphical User Interface for the Administrator
  - The system shall provide a login page which will check for the *Admin_ID* and *password*.
  - The administrator could also use his fingerprint to login instead of typing his *Admin_ID* and *password*.
  - After Login, the system shall provide 3 tabs:
    - Dashboard
      1. Displays daily check-in attendance of all the faculty members.
      2. Includes a *Logout* button which terminate the admin session.
      3. Includes a *Generate Report* button which directs the administrator to the *Generate Report* page for the checking of weekly attendance reports(will be discussed later).
    - Professors – Displays a list of faculty (with their photo, Faculty ID, name and employee type) which lists their individual check-in attendance of the week when clicked. Also has an add/edit buttons for further changes on the list.
    - Account – this will be used for the management of the admin account.

- Generate Weekly Attendance Report
  - This feature will be included in the *Generate Report* page
  - The admin user will be able to choose the date in which week will be the scope of the report.
    - This feature displays a table about the attendance of the faculty members from Monday to Saturday of the chosen week.
    - The columns are for dates and rows are for the professors.
    - Dates when the professor is present is marked with a letter “P” on the table.

- *Edit Report* has the following function: all non-present entries on the table could be edited.

- The *Generate* button has the following characteristics:
  - There will be a dialog box which asks the following:
    1. Asks if the user is sure to generate the file report
    2. Asks if the user wants to back-up the file on an e-mail address which will be chosen through a check box.
  - Once the *Okay* button is clicked a PDF file of the weekly report will generated, and will also send a back-up file on an email (designated by the user on the *Account* tab) if the check box is checked.

- Manual Attendance Page
  - Will be used in case if the fingerprint scanner is not available.
  - In logging-in/out, professors must provide their registered password to be able to sign-in/out.

- Fingerprint Log-in/out
  - A feature which is used for checking-in/out of attendance for the faculty through the use of a fingerprint scanner.
  - This will make the process faster since it will give a unique identifier to each faculty.

- Add/Edit/Delete Faculty Member to the System
  - A feature for the administrator for him or her to be able to add faculty members, change information variables or delete who will leave the faculty.
  - This includes fingerprint enrollment interface for the adding of professors fingerprint image detail.
- Fingerprint Enrolment
  - Encodes the fingerprint of a professor into FPT format.
  - This involves a series of scans to improve its validity.

- Faculty Daily Time-in/out Logs
  - A feature which displays daily time-in/out log of the entire faculty member if he or she is either present or not on the day on the home screen.
  - It will be displayed per faculty with their details.

- File Back-up through E-mail
  - A feature which automatically uploads PDF file of the generated report in an email account designated by administrator.
  - This feature is served for easy back-up and storing.

- Admin Edit Account
  - Makes the admin change administrative variables:
    - Password
    - E-Mail address(for the file back-up)
    - Admin Fingerprint Image(for instant login without using username/password)

2.3 Software System Attributes

2.3.1 Reliability

- The system shall provide easy navigation on the GUI for the user which displays records from the database for easy monitoring.
- The system shall generate a formatted PDF file of the chosen weekly attendance for easy checking and compliance.
- The system shall automatically back-up records through sending the report on an email providing the department chair of an initial of two copies.

2.3.2 Availability

- The system shall provide manual checking-in in case the fingerprint scanner breaks down.
- The system shall be availably deployed to any computer with any OS as long it's installed with Java Runtime Environment.

- The system shall be available during Faculty of Engineering working hours (6:30 AM to 9:00 PM).
- The system shall be deployed in a computer outside their own respective department faculty.

2.3.3 Security

- The faculty users shall only be limited to fingerprint scanning and viewing only.
- The system shall ask for a username and password before going to the administrative UI.
- The administrative UI shall only be handled by only one administrator which is the Faculty Head Chair.
- The file that will be generated by the systems is a PDF file, making it final and unchangeable.

2.3.4 Maintainability

- The system shall have Adding/Removing of Faculty Member in the GUI of the system to update the *Faculty_Table*.

2.3.5 Portability

- The system shall be available to any computer with Java Runtime Environment and MySQL database.
- The localhost will be deployed mainly on a computer outside the faculty which has the database server, program software and fingerprint scanner.
- Other computers can connect on to the system as long as they are installed with the program software and connected through a switch or wireless router.

2.3.6 Performance

- The system shall not require costly computer units to be able to run since almost all working computers on the university qualifies to the Java Run Time Environment system requirements.

2.4 Database Requirements

- The system shall use MySQL database.
- The system shall use the JDBC driver to connect to MySQL Database to the application software locally.
- The Profile System shall implement the following:
  - ✓ The system database shall store Faculty_ID, Faculty_Name and FacultyIMG_Filepath on the *Faculty_Table.*
- The Attendance System shall implement the following:
  - ✓ The system database shall store the Attendance_ID, Faculty_ID and TimeStamp on the *Attendance_Table*.
  - ✓ If the fingerprint image stored and fingerprint scanned matches, the Attendance Table will generate a record.
- The Login System shall implement the following:
  - ✓ The system database shall store the *Admin_ID*, *Faculty_ID*, and *Password* on the *Admin_Table*.
- The Fingerprint System shall implement the following:
  - ✓ The system database shall store *Faculty_ID* and FingerprintIMG_Filepath on the *Fingerprint_Table*.
  - ✓ The FingerprintIMG_Filepath that is stored in the database will be used for comparison against the scanned fingerprint image of the faculty that is trying to check in while the system is running.

- Data Entities and Relationships states as follow:

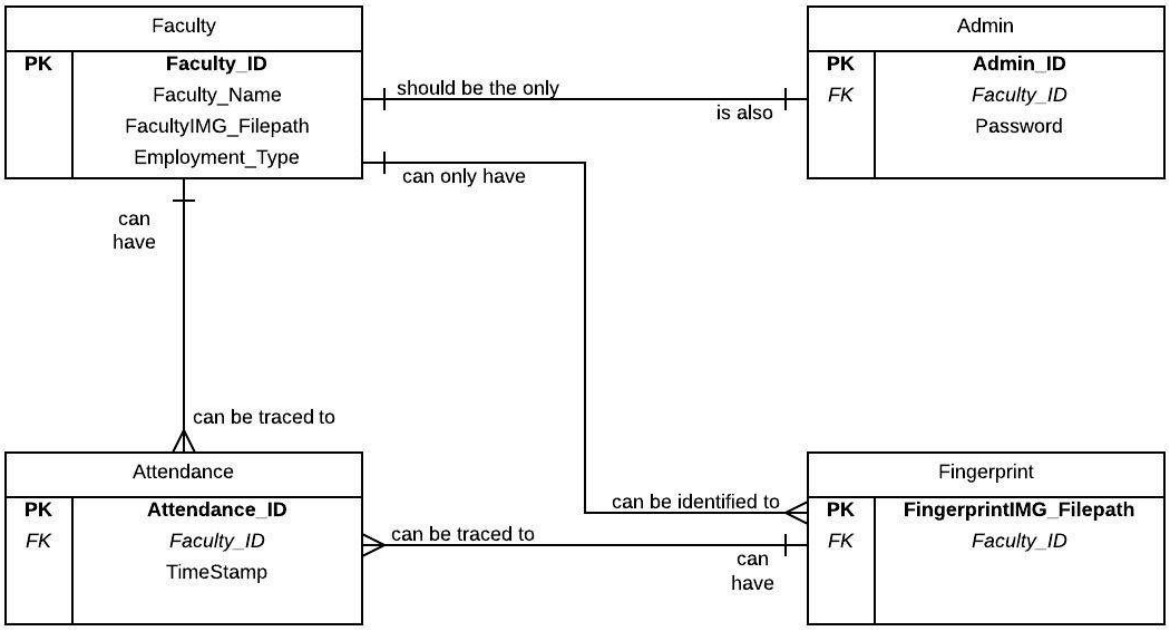

Figure 2.4.1: Attendance Monitoring System ERD

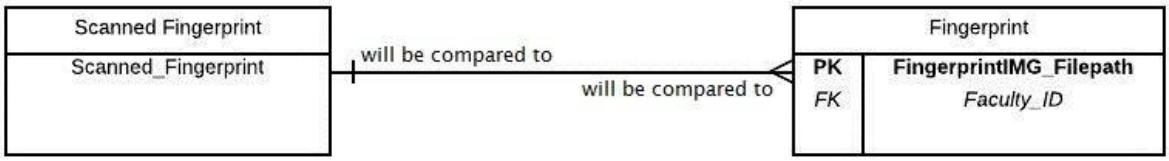

Figure 2.4.2: Fingerprint System ERD

3. ADDITIONAL MATERIAL

- **DEFINITIONS, ACRONYMS, AND ABBREVIATIONS**

Computer - A computer is a device that accepts information and manipulates it for some result based on a program or sequence of instructions on how the data is to be processed.

System - is a collection of elements or components that are organized for a common purpose.

SRS - Software Requirements Specification

User Interface (UI) - is everything designed into an information device with which a human being may interact -- including display screen, keyboard, mouse, light pen, the appearance of a desktop, illuminated characters, help messages, and how an application program or a Web site invites interaction and responds to it.

Database - is a collection of information that is organized so that it can easily be accessed, managed, and updated. In one view, databases can be classified according to types of content: bibliographic, full-text, numeric, and images.

Graphical User Interface (GUI) - is a type of user interface that allows users to interact with electronic devices through graphical icons and visual indicators such as secondary notation, as opposed to text-based interfaces, typed command labels or text navigation. GUIs were introduced in reaction to the perceived steep learning curve of command-line interfaces, which require commands to be typed on the keyboard.

MySQL – is an open source relational database management system based on Structured Query Language.

Biometrics - is the science and technology of measuring and analyzing biological data. In information technology, biometrics refers to technologies that measure and analyze human body characteristics, such as DNA, fingerprints, eye retinas and irises, voice patterns, facial patterns and hand measurements, for authentication purposes.

MS Excel - is a spreadsheet application developed by Microsoft for Microsoft Windows and Mac OS.

MS Word - is a word processor developed by Microsoft.

Input - is the term denoting either an entrance or changes which are inserted into a system and which activate or modify a process.

Output - is the term denoting either an exit or changes which exit a system and which activate/modify a process.

Hardware - is the collection of physical elements that constitutes a computer system.

Software – computer programs

Software Development Kit (SDK) - is typically a set of software development tools that allows for the creation of applications for a certain software package, software framework, hardware platform, computer system, video game console, operating system, or similar development platform.

Availability - The degree to which a system, subsystem or equipment is in a specified operable and committable state at the start of a mission, when the mission is called for at an unknown, i.e. a random, time

Process - a series of actions or steps taken in order to achieve a particular end.

Frame - A Frame is a top-level window with a title and a border.

Panel - Panel is the simplest container class. A panel provides space in which an application can attach any other component, including other panels.

Java Runtime Environment (JRE) - is part of the Java Development Kit (JDK), a set of programming tools for developing Java applications.

Central Processing Unit (CPU) - is the hardware within a computer that carries out the instructions of a computer program by performing the basic arithmetical, logical, and input/output operations of the system.

Java Database Connectivity (JDBC) - is the industry standard for database-independent connectivity between the Java programming language and a wide range of

databases – SQL databases and other tabular data sources, such as spreadsheets or flat files. The JDBC API provides a call-level API for SQL-based database access.

Entity Relationship Diagram (ERD) - is a data modeling technique that creates a graphical representation of the entities, and the relationships between entities, within an information system.

Entity - is a person, object, place or event for which data is collected.

Portable Document Format (PDF) -a file format used to present documents in a manner independent of application software, hardware, and operating system.

- **REFERENCES**

Delaney, D. & Brown, S. (n.d.). *Guidelines for documents produced by student projects in software engineering*. Available from http://www.cs.nuim.ie/research/reports/2002/nuim-cs-tr-2002-06.pdf

Java. (n.d.). Java SE – Downloads. Retrieved from http://www.oracle.com/technetwork/java/javase/downloads/index.html

XAMPP. (2014). Xampp installers and downloads for apache friends. Retrieved from http://www.apachefriends.org/index.html

Java. (2013) javax.swing (Java Platform SE 7). Retrieved from http://docs.oracle.com/javase/7/docs/api/javax/swing/package-summary.html

Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas

Institute of Information and Computing Sciences
Faculty of Engineering
University of Santo Tomas

11/15/2014

Software Design Description (SDD)
Version 4.2

In Partial Fulfillment
of the Requirements for the Subject
in IT109 (Software Engineering)

by

Golfo, Bien Vince Angelo B.
Parayno, John Angelo D.C.
Refuerzo, Fredel F.

BS Information Technology

Presented to

Ms. Janette Sideño

Revisions Page

Overview

This document should provide the developers to define and describe how the software will meet the requirements. The system architectural design, software architectural design, and the software detailed design should be documented in this document. The purpose of this document is to document the design and design decisions in order to provide the basis for implementation and unit test.

Target Audience

Chair Department of Information Technology

Chair Department of Computer Science

Chair Department of Information Systems

Project Team Members

Golfo, Bien Vince Angelo B.

Parayno, John Angelo D.C.

Refuerzo, Fredel F.

Version Control History:

Version	Primary Author(s)	Description of Version	Date Completed
1.0	Golfo, Bien Vince Angelo B.	*complete*	02/07/14
2.0	Refurzo, Fredel F.	*revisions*	02/07/19
4.0	Refurzo, Fredel F.	*edited for SE presentation*	08/10/14
4.1	Refurzo, Fredel F.	*SE minor revisions*	09/25/14
4.2	Refuerzo, Fredel F.	*Updated for final submission*	11/09/14

Table of Contents

Revisions Page ii
Overview ii
Target Audience ii
Project Team Members ii
Version Control History: ii
Table of Contents iii
1 INTRODUCTION 1
1.1 Design Overview 1
1.2 Requirements Traceability Matrix 2
2 SYSTEM ARCHITECTURAL DESIGN 3
2.1 Chosen System Architecture 3
2.2 Discussion of Alternative Designs 3
2.3 System Interface Description 4
3 DETAILED DESCRIPTION OF COMPONENTS 4
3.1 Dashboard (Viewing) 4
3.2 Dashboard (Admin) 4
3.3 Login Page 4
3.4 Professor List Page (Admin) 4
3.5 Professor Page (Specific Professor) 5
3.6 Add Professor 5
3.7 Edit Professor 5
3.8 Account Screen 5
3.9 Generate Report Screen 5
3.9 Manual Attendance 6
4 USER INTERFACE DESIGN 6
4.1 Description of the User Interface 6
4.1.1 Screen Images 7
4.1.2 Objects and Actions 21
5 Additional Materials 25
- DEFINITIONS, ACRONYMS, AND ABBREVIATIONS 25
- REFERENCES 26

1 INTRODUCTION

1.1 Design Overview

There will be two components of our design, the Fingerprint scanner and the Attendance Monitoring System itself. Through the Fingerprint scanner, the faculty members can time in and the scanner will send the data to the system. The attendance monitoring system can do the following:

- ✓ Has an authentication feature
- ✓ Ability to edit information of the faculty member
- ✓ Ability to add new faculty members in the database
- ✓ Generate a weekly/daily report of the attendance of the Faculty members
- ✓ Manually check the attendance if the Scanner is not working
- ✓ Can run on any OS as long as JRE is installed
- ✓ Option to send generated report through e-mail

1.2 Requirements Traceability Matrix

Table 1.2.1 Requirements Traceability Matrix

REQUIREMENTS TRACEABILITY MATRIX										
Project Name:	Attendance Monitoring System for the Faculty of Information and Computer Studies of the University of Santo Tomas									
Project Manager Name:	Parayno, John Angelo DC.									
Project Description:	An attendance automation system that uses a biometrics scanner to systematically to capture input. It will also generate organize information as an output									
ID	Assoc ID	Functional Requirement	Status	Technical Specification	System Components	Software Module(s)	Tested In	Implemented In	Verification	Additional Comments
A		Software Graphical User Interface for viewing.	Completed	JRE		Javax.swing, java.sql	3/14/2014	3/14/2014		
A.1	A	Home Page (view only)	Completed	JRE		Javax.swing, java.sql	3/14/2014	3/14/2014		
A.2	A	Proffesors Page (view only)	Completed	JRE		Javax.swing, java.sql	3/14/2014	3/14/2014		
B		Software Graphical User Interface for the Administrator	Completed	JRE		Javax.swing, java.sql	3/14/2014	3/14/2014		
B.1	B	Dashboard	Completed	JRE		Javax.swing, java.sql	3/14/2014	3/14/2014		
B.2	B	Professors	Completed	JRE		Javax.swing, java.sql	3/14/2014	3/14/2014		
B.3	B	Edit Account	Completed	JRE		Javax.swing, java.sql	3/14/2014	3/14/2014		
C		Generate Weekly Attendance Report	Completed	Adobe Reader, *MySQL Database connected*	MySQL Database	Javax.swing, java.sql	10/16/2014	10/12/2014		
D	C	Edit Report	Completed	MySql Database is connected	MySQL Database	Javax.swing, java.sql	8/30/2014	8/30/2014		
E		Manual Attendance Page	Completed	JRE, *MySQL Database is connted*	MySQL Database	Javax.swing, java.sql	8/30/2014	8/30/2014		
F		Fingerprint Log-in/out	Completed	*Fingerprint Scanner is connected*	Digital Persona U.are.U 4500	Javax.swing, java.sql	10/16/2014	10/12/2014		
G		Add Faculty Member to the System	Completed	*MySql Database is connected*	MySQL Database, Digital Persona U.are.U 4500	Javax.swing, java.sql	8/30/2014	8/30/2014		
H	G	Edit/Delete Faculty Member to the System	Completed	*MySql Database is connected*	MySQL Database	Javax.swing, java.sql	8/30/2014	8/30/2014		
I	G	Fingerprint Enrollment	Completed	*Fingerprint Scanner is connected, MySql Database is connected*	MySQL Database, Digital Persona U.are.U 4500	Javax.swing, java.sql	8/30/2014	8/30/2014		
J	F	Faculty Daily Time-in/out Logs	Completed	*MySql Database is connected*	MySQL Database	Javax.swing, java.sql	10/16/2014	10/12/2014		
K		File Back-up through E-mail	Completed	*Internet Connection*	Internet Connection	Javax.swing, java.sql, Java Mail	8/30/2014	8/30/2014		
L		Edit Admin Account	Completed	*JRE, MySQL Database is connted*	MySQL Database	Javax.swing, java.sql	8/30/2014	8/30/2014		

2 SYSTEM ARCHITECTURAL DESIGN

2.1 Chosen System Architecture

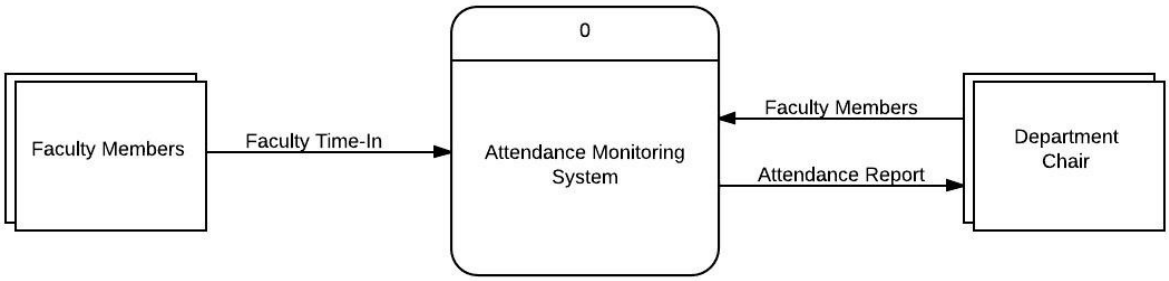

Figure 2.1.1 System Architecture (Data Flow Diagram)

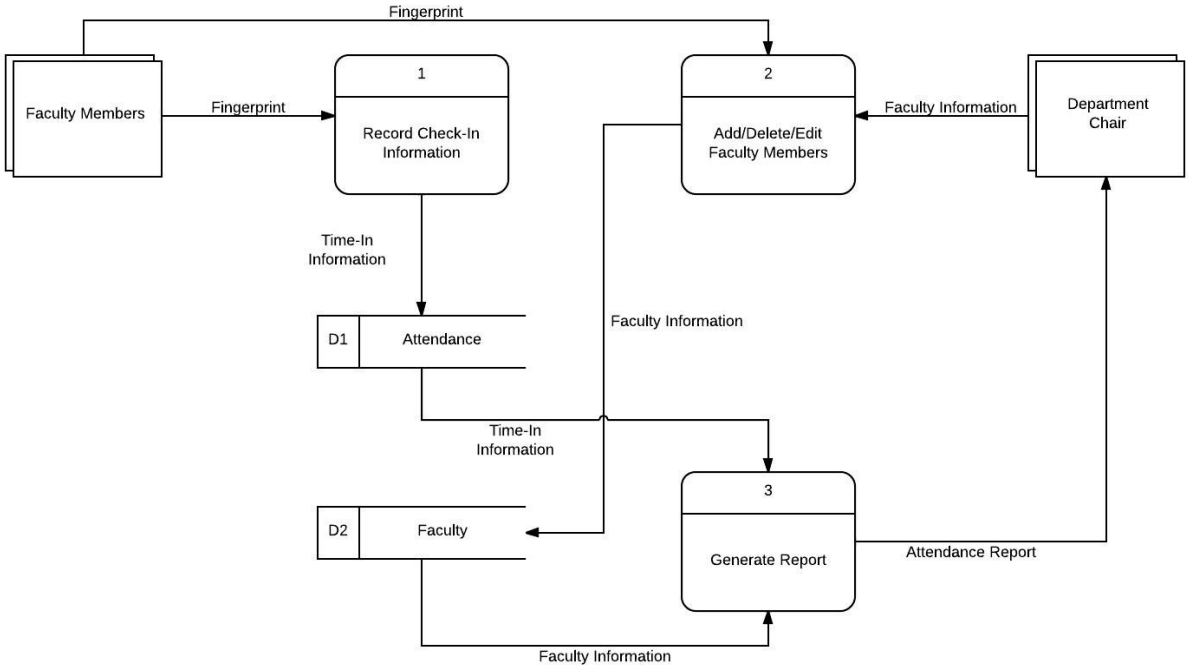

Figure 2.1.2 System Architecture (Data Flow Diagram – Diagram 0)

2.2 Discussion of Alternative Designs

The alternative design for that the proponents came up with is using A RFID scanner instead of a fingerprint scanner. The advantage of using a RFID scanner is that the scanner is cheaper than a Finger print scanner. In this design, the client's requirement

is to use the UST ID card but there was a problem in using it. The officer in charge for the use of the ID card of UST prohibited the proponents in using the database in the ID card.

2.3 System Interface Description

The user/faculty member will use the biometric scanner which is a fingerprint scanner to input data such as fingerprint image and check-in time and date. Then, these data will be save to the database which will be represented by the java program using Javax.swing and generate an excel report for system chair head person.

3 DETAILED DESCRIPTION OF COMPONENTS

3.1 Dashboard (Viewing)

- Daily Attendance – This will show the list of all the faculty members and their time in and time out.
- Admin Login – This is where the Admin will login if some changes to the system shall be made.
- Manual Attendance – This will be used in case the Fingerprint scanner broke down or became unavailable.

3.2 Dashboard (Admin)

- Daily Attendance – This will show the list of all the faculty members and their time in and time out.
- Generate Report – This will generate report about the attendance of the professors based on their record.

3.3 Login Page

- Username and Password textfields – This is where the admin will type in the admin credentials.
- Login – If the credentials are correct, the admin will be redirected to the Admin dashboard.

3.4 Professor List Page (Admin)

- Professor List – This will show the list of the professors with their images. This will also show whether the professor is Full Time or Part Time.
- Add Professor – This is where the admin will add a new professor into the system.

3.5 Professor Page (Specific Professor)

- Professor Profile – This will show the name, faculty type, and image.
- Attendance Summary – This will show the summary the professor's attendance. It shows the date and the attendance of the professor.

3.6 Add Professor

- Registration Form – These is a form where the user will type in the basic information about the professor such as the professor's first name, last name, faculty ID, and faculty type. The system will also require the user to upload image of the professor.
- Password textfields – Password are required as it will be used for the manual attendance.
- Upload Finger Print (Fingerprint enrollment) – This is where the professor will register the fingerprint for the biometric scanner.

3.7 Edit Professor

- Edit Professor Form – This is where the admin can edit information about the professor. The admin can edit the first name, last name and the faculty type.

3.8 Account Screen

- Admin password textfields – This is where the admin can change the password of the admin account
- Email address textfield – This is where the admin can type-in the email address where the system will send the generated report.
- Change faculty password – This is where the admin can change the password of a professor.
- Register Fingerprint – This is where the admin can register his/her fingerprint. This fingerprint can be used to login to the admin account from the login page.

3.9 Generate Report Screen

- Attendance Table – This is where the admin can view the summary of the attendance.
- Week drop-down list – This is where the admin will select the week to generate report.
- Weekly attendance sheet – This is where the admin can edit the table before the report is generated.

- Department drop-down list – This is where the admin can change the department. This will reflect on the generated report.
- Send to e-mail – This will send the generated PDF file to the admin's e-mail address.

3.9 Manual Attendance

- Faculty ID and Password text fields – This is where the Faculty will type-in his/her Faculty ID and Password to time in and time out.

4 USER INTERFACE DESIGN

4.1 Description of the User Interface

- The User interface the Attendance Monitoring System will have eight main Screens.
- The features of each component in the different screens are discussed fully in the part 3 of this document.

4.1.1 Screen Images

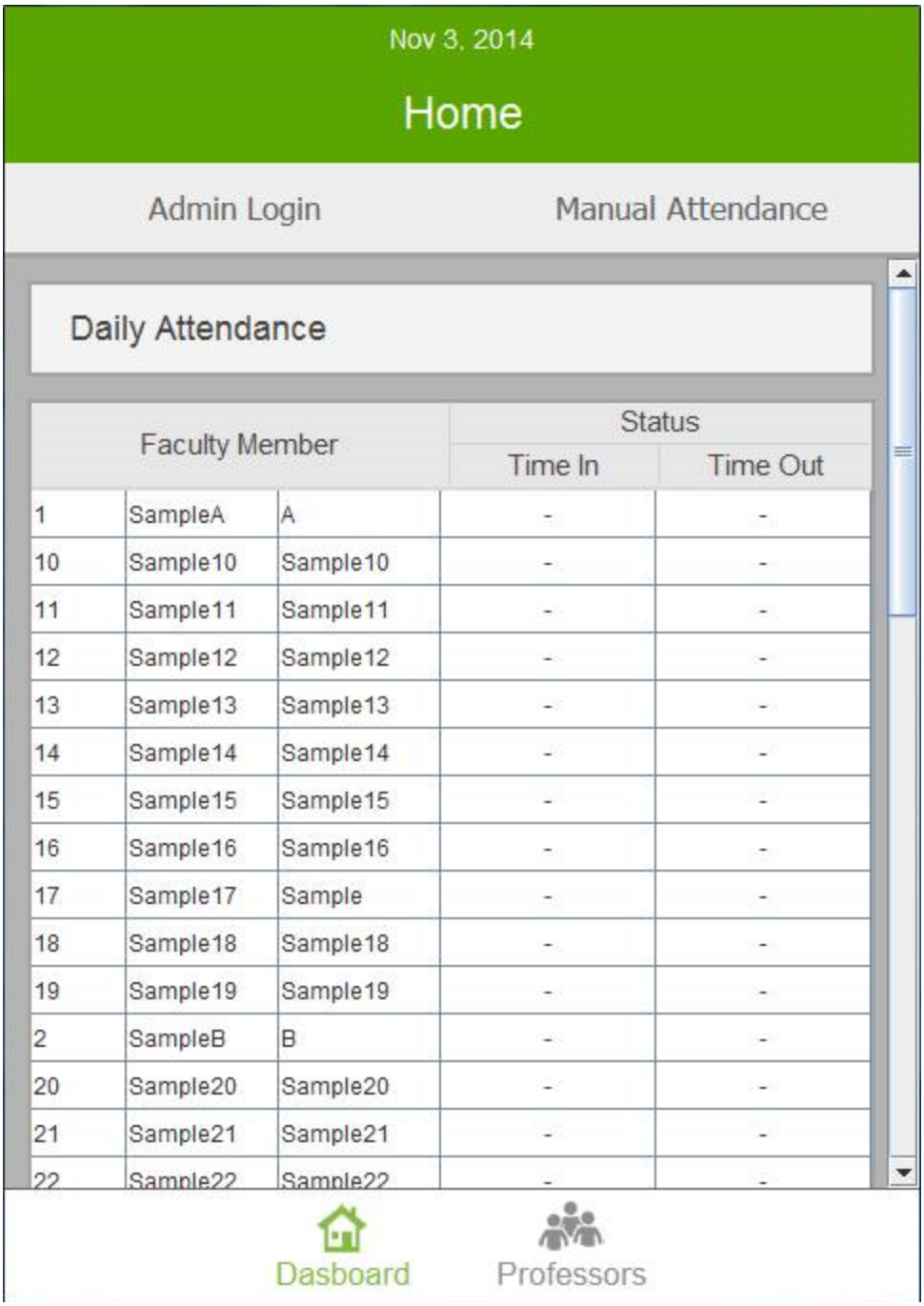

Figure 4.1.1.1 Dashboard (view only)

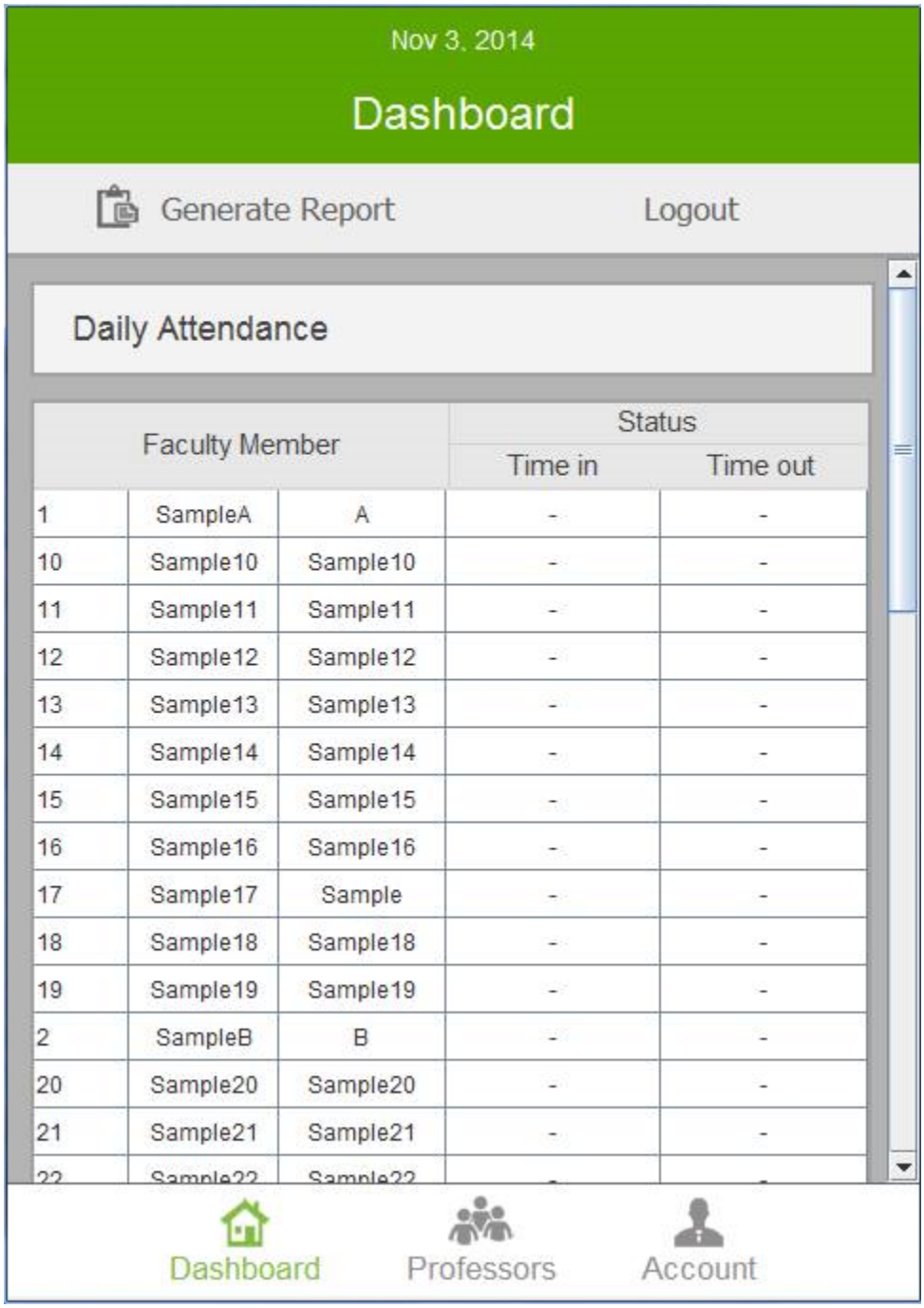

Figure 4.1.1.2 Dashboard (admin)

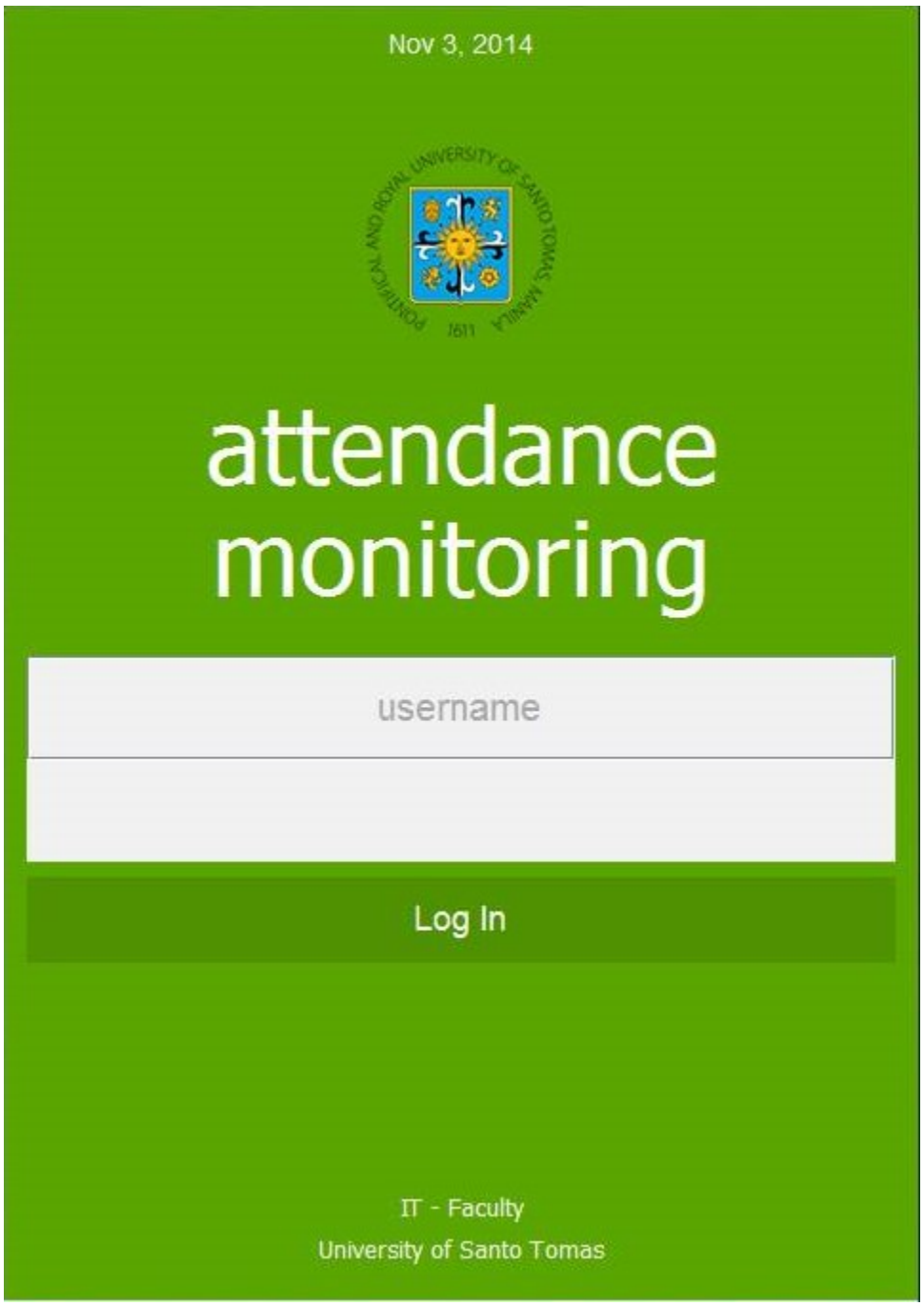

Figure 4.1.1.3 Admin Login Screen

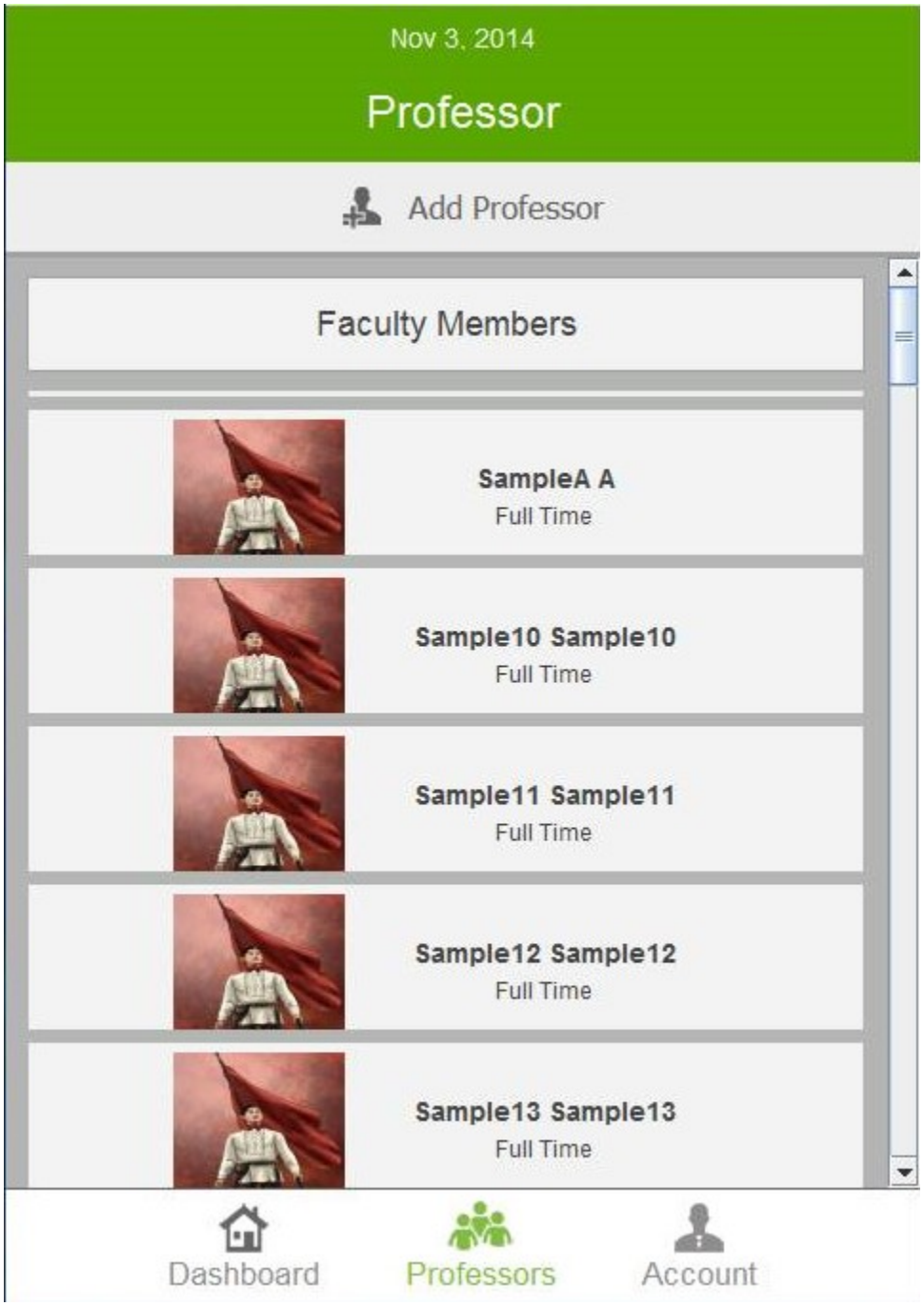

Figure 4.1.1.4 Professor List Screen

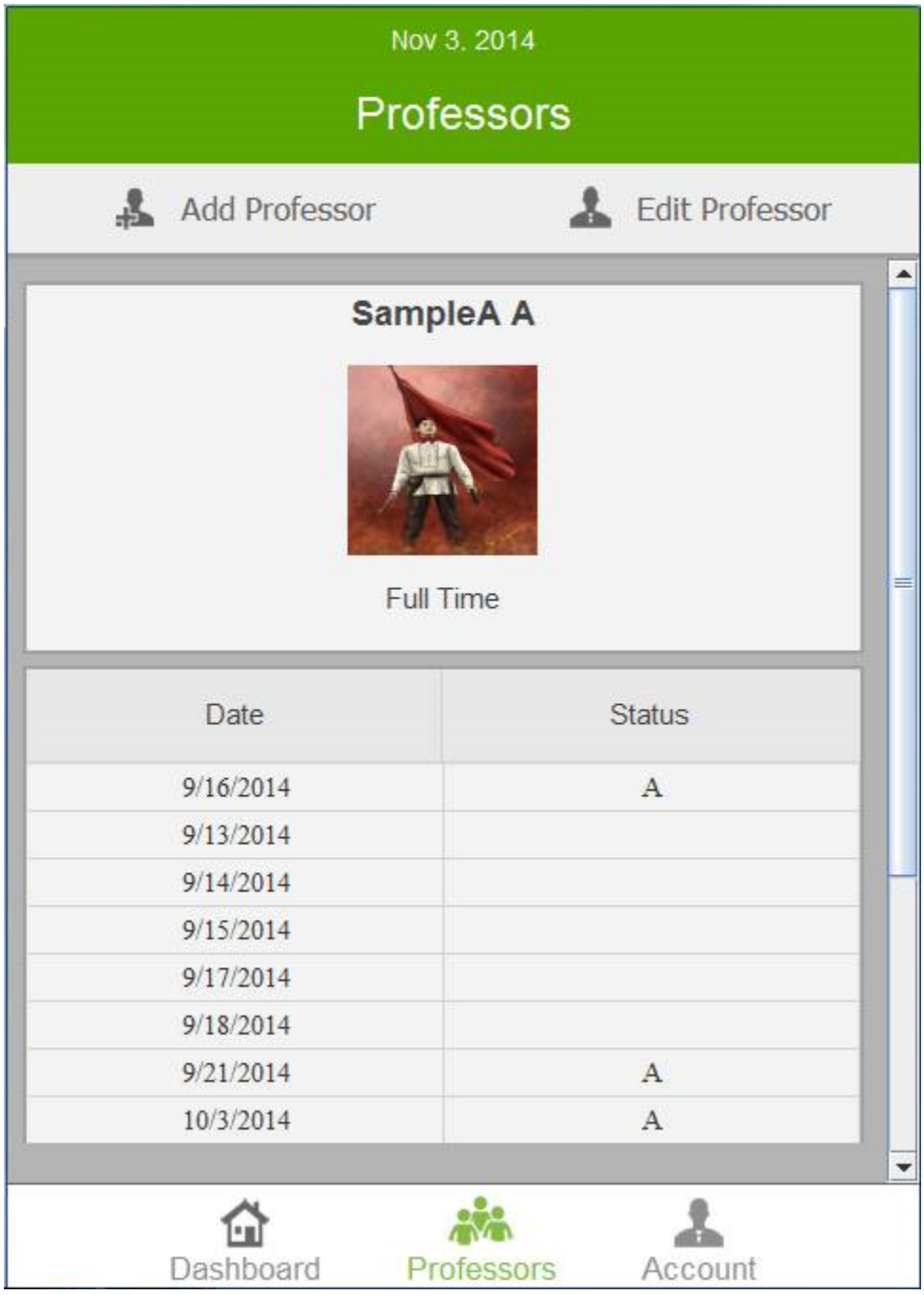

Figure 4.1.1.5 Professor Screen (Specific)

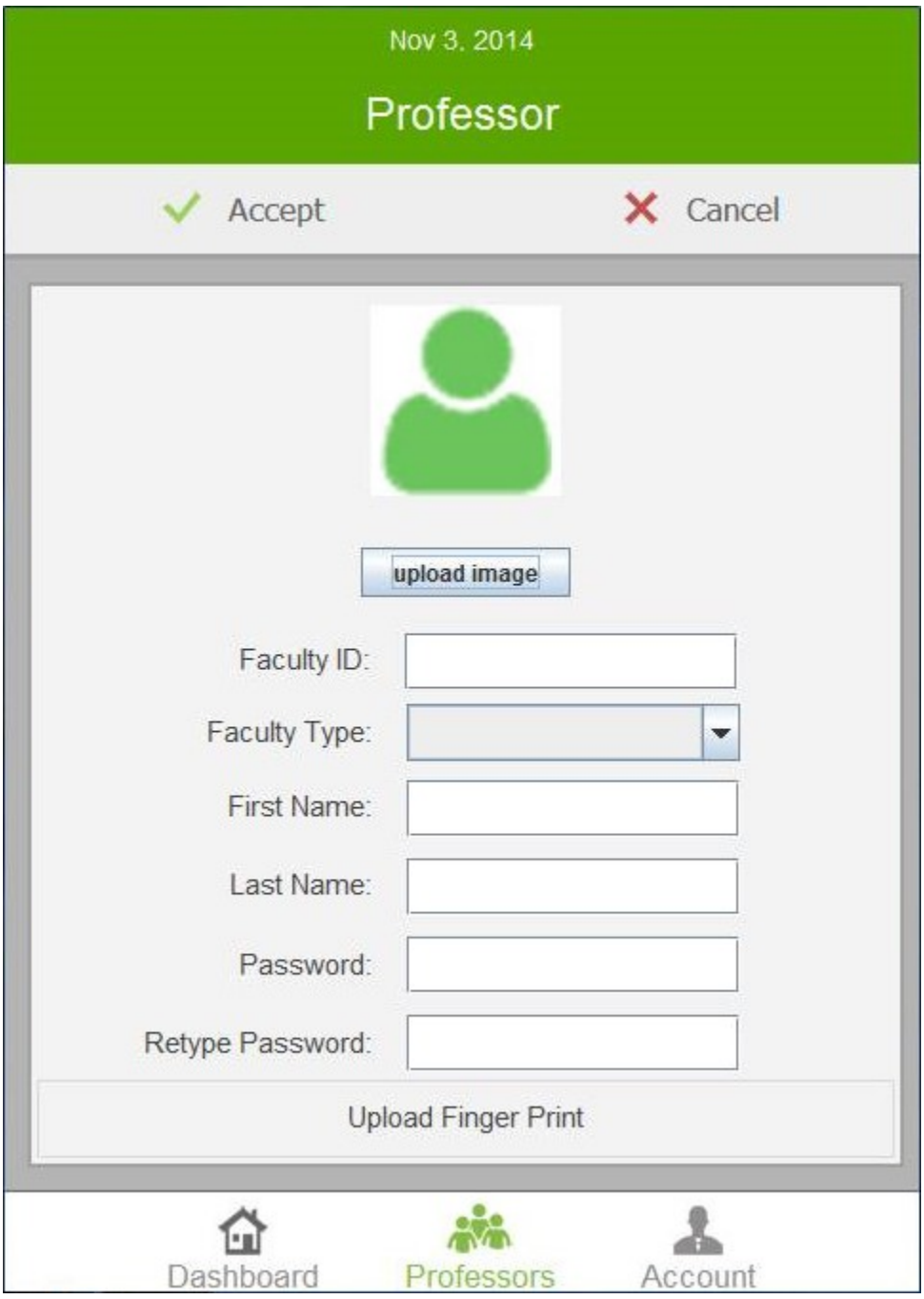

Figure 4.1.1.6 Add Professor

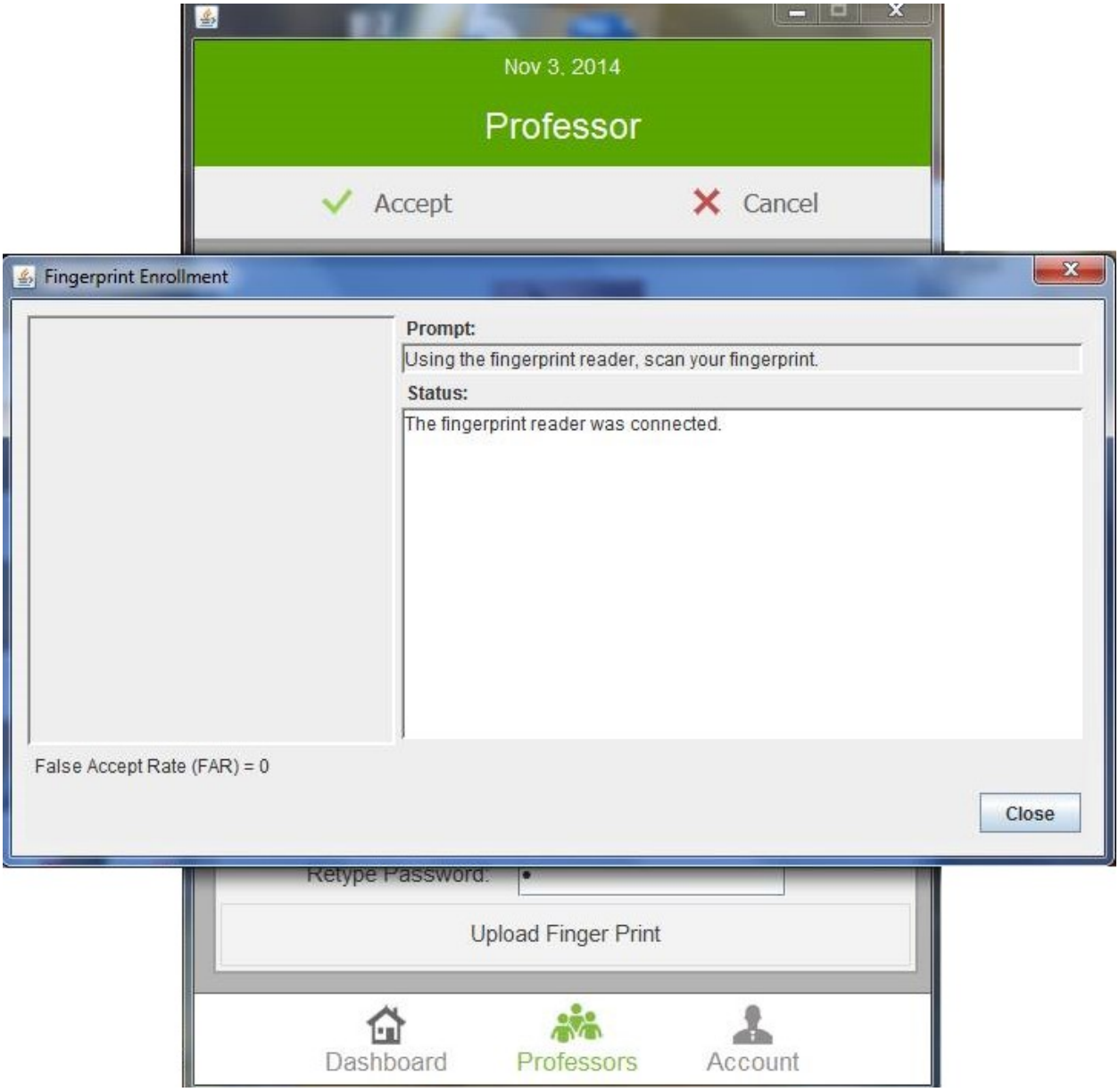

Figure 4.1.1.7 Fingerprint Enrollment

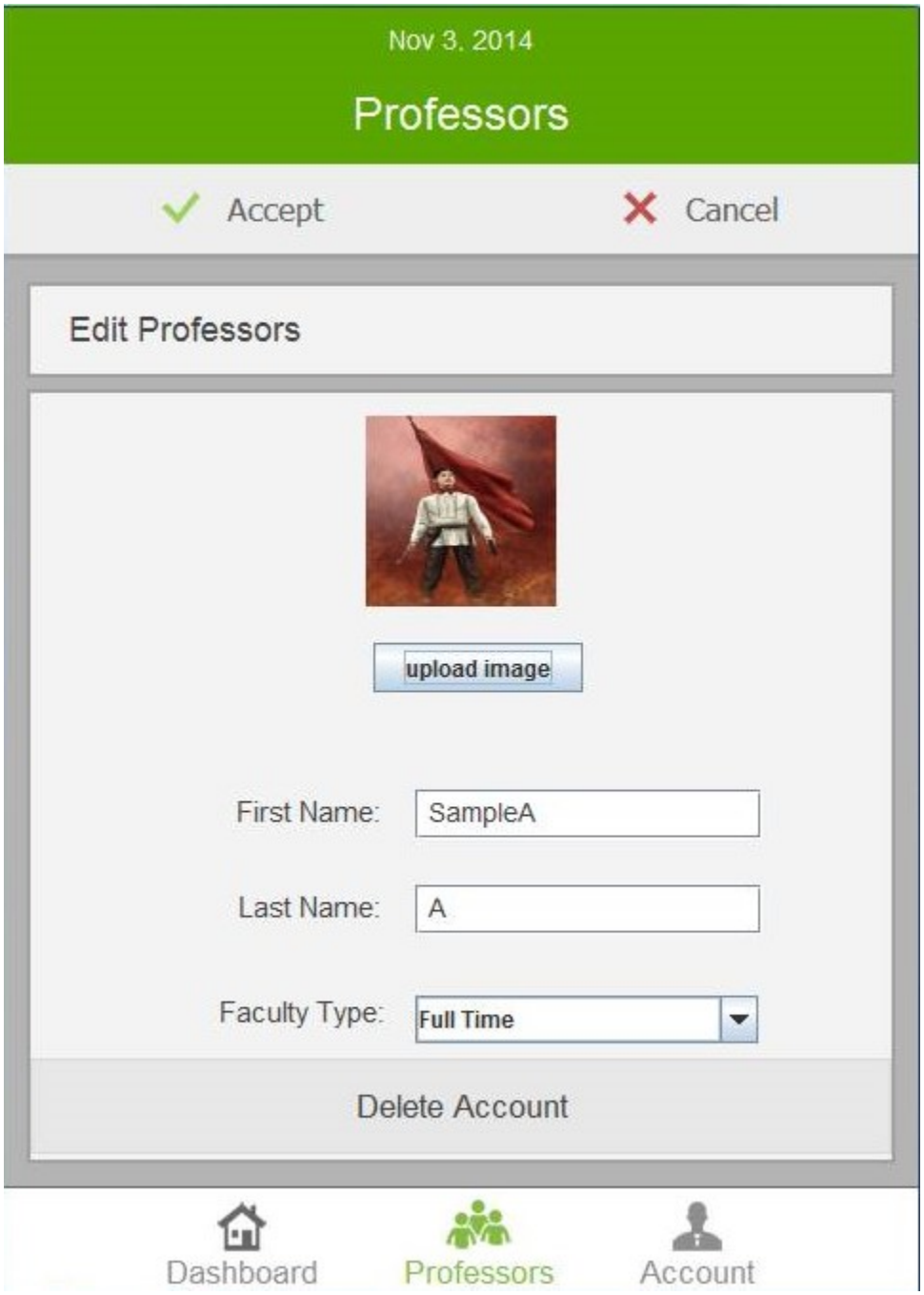

Figure 4.1.1.8 Edit Professor

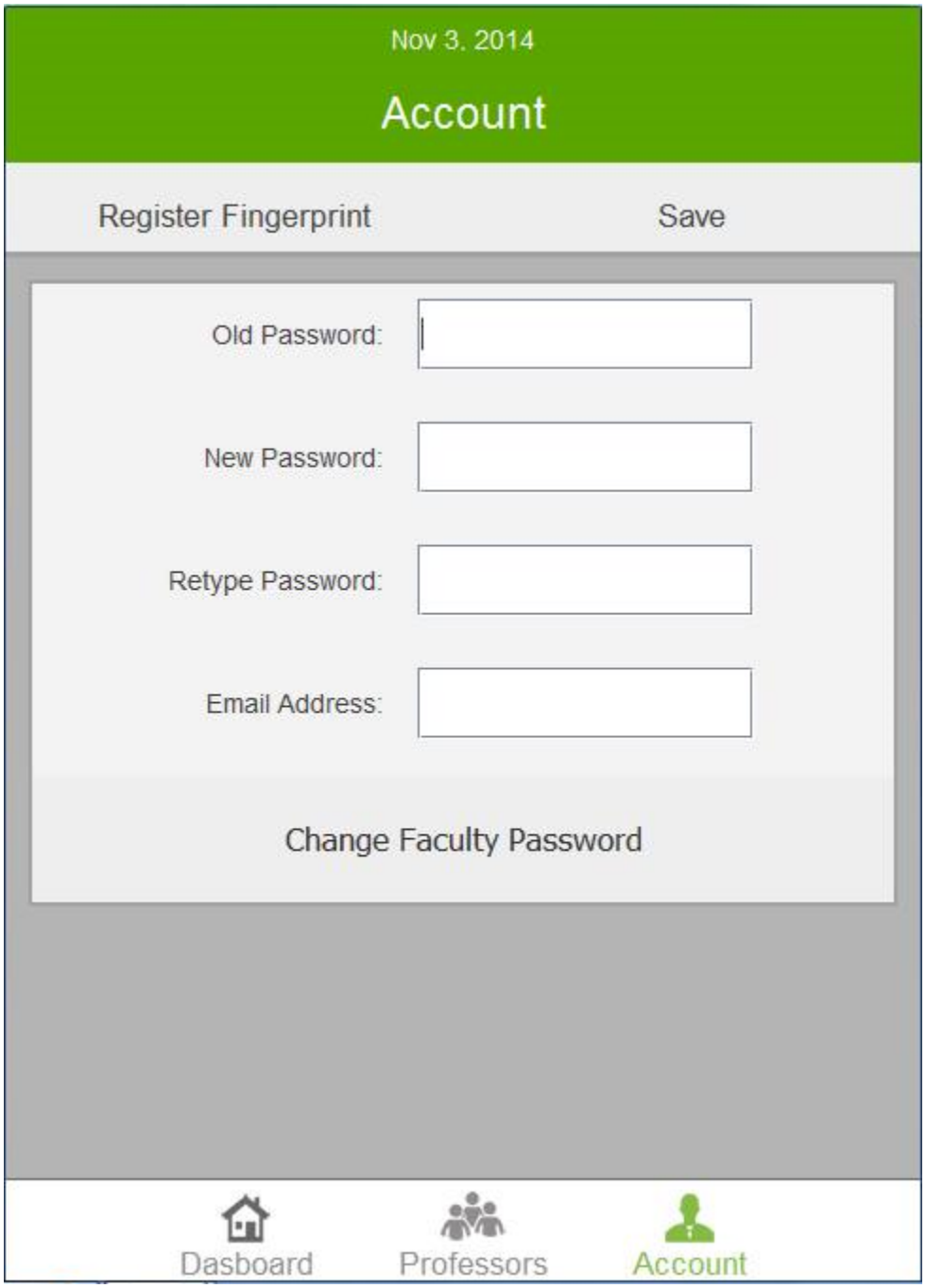

Figure 4.1.1.9 Admin Account Screen

Figure 4.1.1.10 Change Faculty Password

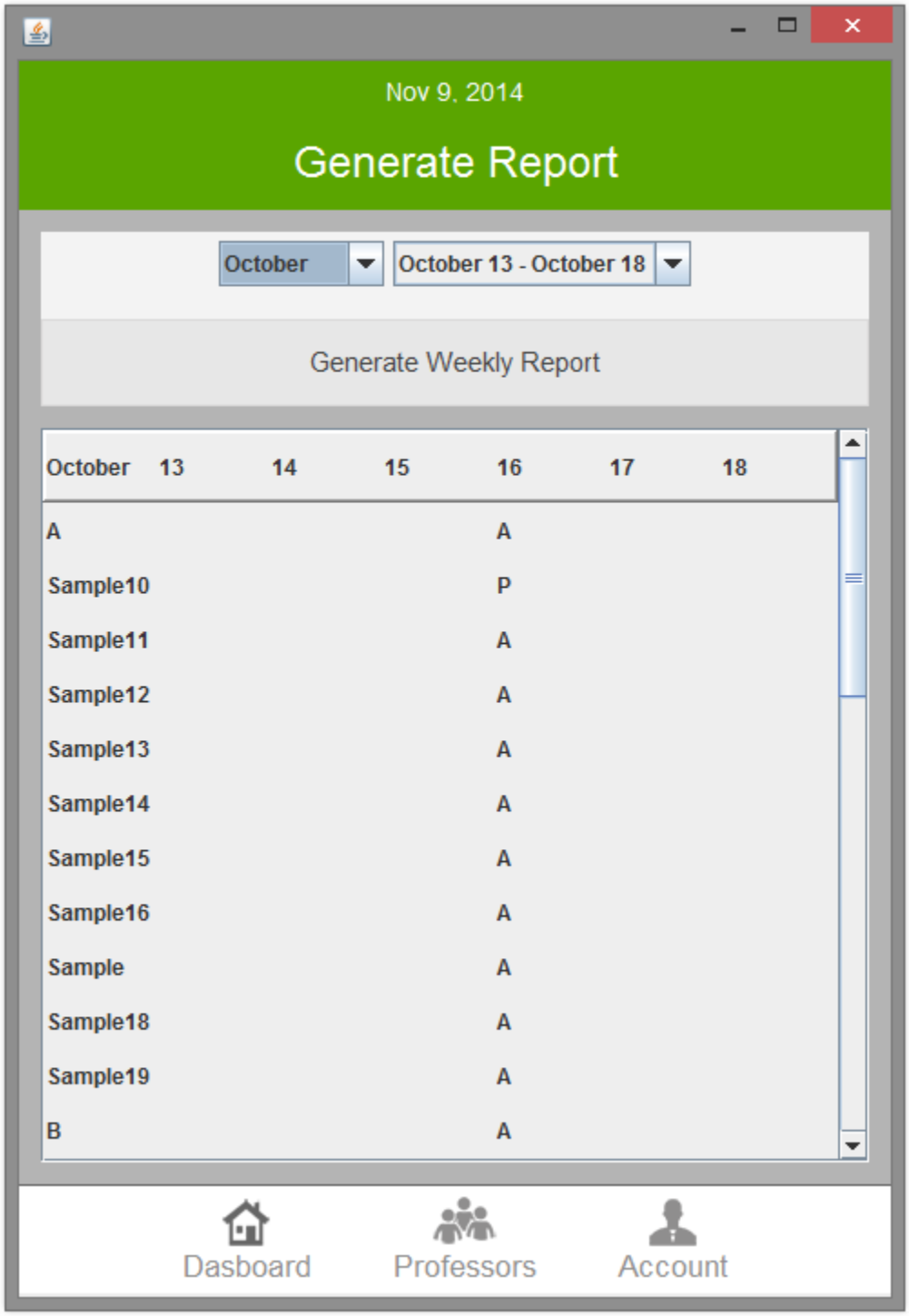

Figure 4.1.1.11 Generate Report Screen

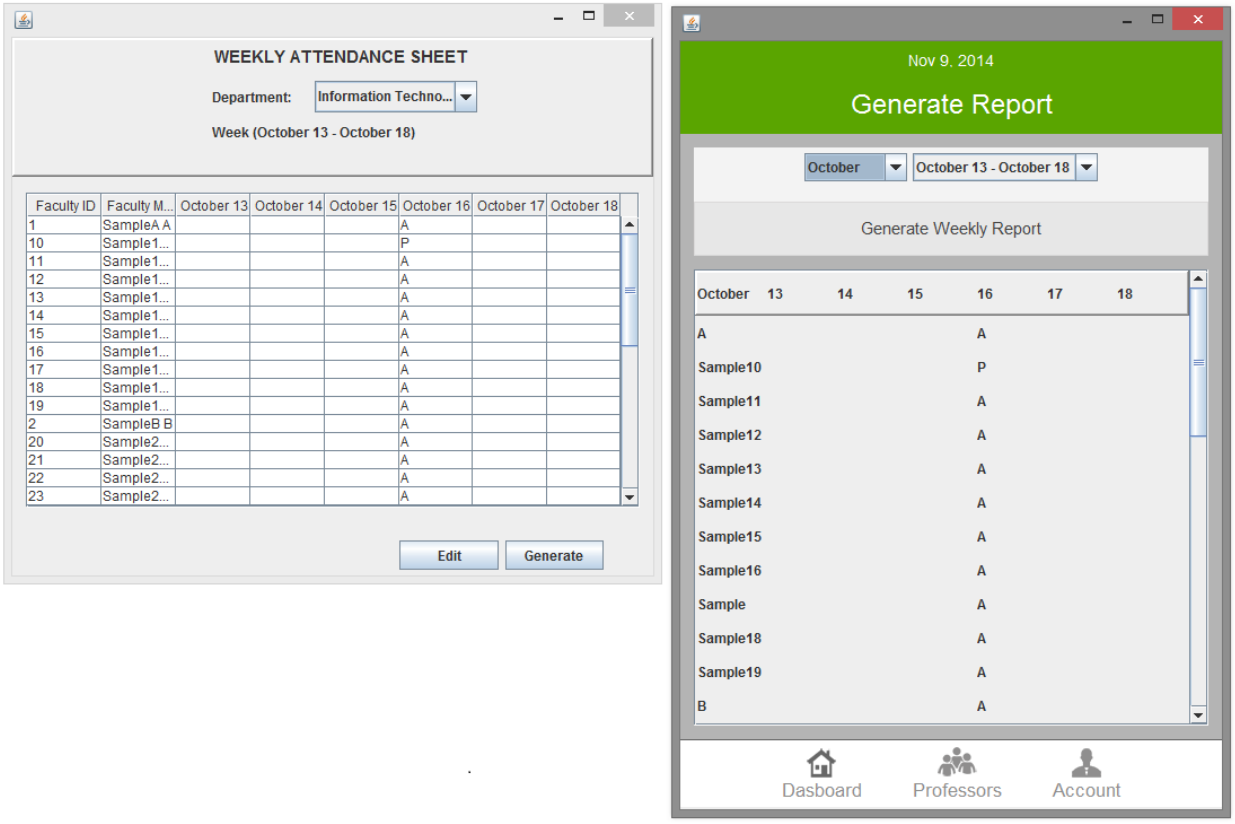

Figure 4.1.1.12 Weekly Attendance Sheet Screen

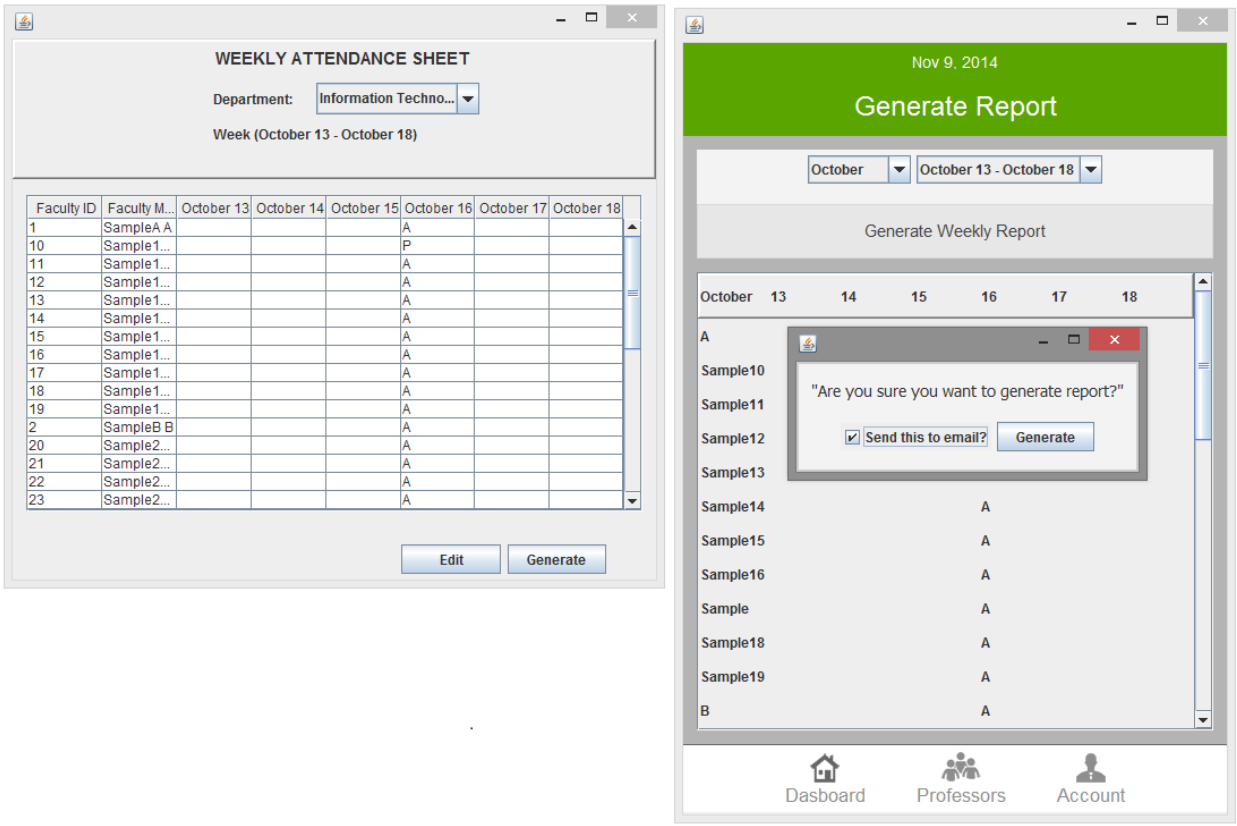

Figure 4.1.1.13 Email Back-up

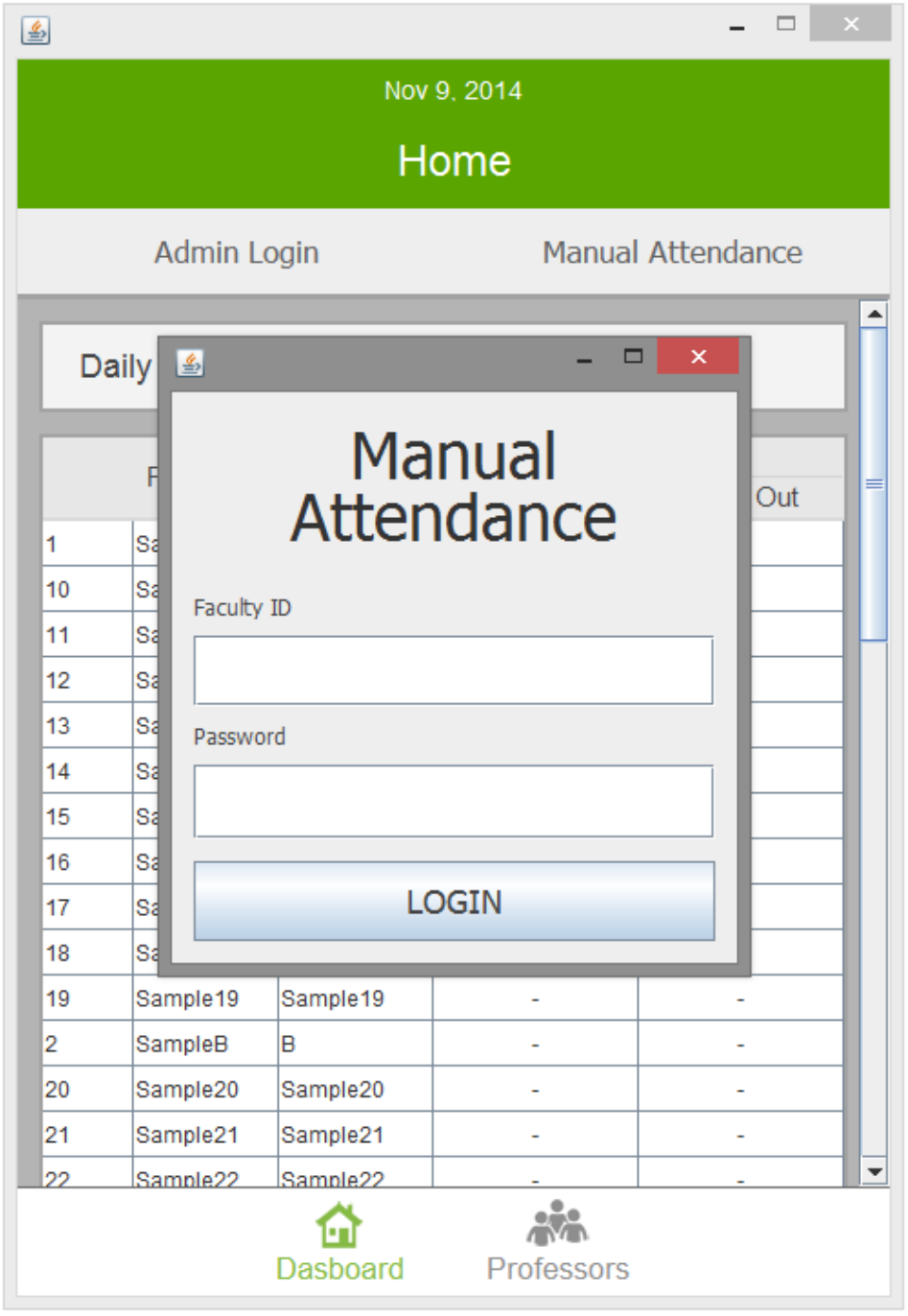

Figure 4.1.1.14 Manual Attendance

4.1.2 Objects and Actions

Home Screen (View Only)

- Faculty Attendance List/Table – Here is where the admin can see if the faculty member is checked-in.
- Professors Button – The admin can click on this button to go to the Professors Screen.
- Manual Attendance – This button will redirect the admin to the Manual Attendance Screen.

Professor List Screen (View Only)

- Faculty Button – Each faculty member will have this button. This button will redirect the admin to the faculty member's Professor Information Screen.
- Home Button – This button will redirect the admin to the Home Screen.

Professor Screen (View Only)

- Attendance Table – This table will show if the professor checked-in on a specific date.
- Home Button – This button will redirect the admin to the Home Screen.

Manual Attendance Screen

- Professor Button – Each professor that is registered to the system will have one of this. If this button is clicked, the time on check-in will appear next to the professor button and the time will be recorded to the database.
- Time-in – This will display the time on check-in.

Log In Screen

- Username/Admin text field – Here is where the admin can enter the username.
- Password field – Here is where the admin can enter the password to get in to the Admin/Home Screen.

- Log In Button – The admin can click on this button to log in to the Admin/Home Screen.

Home Screen (admin)

- Faculty Attendance List/Table – Here is where the admin can see if the faculty member is checked-in.
- Professors Button – The admin can click on this button to go to the Professors Screen.
- Generate Report – This button will redirect the admin to the Generate Report Screen.
- Logout Button – This button will logout the admin from the system.

Professor List Screen (admin)

- Faculty Button – Each faculty member will have this button. This button will redirect the admin to the faculty member's Professor Information Screen.
- Home Button – This button will redirect the admin to the Home Screen.
- Add Professor Button – The admin can click on this button to add new faculty member to the system. The admin will be redirected to the Add Professor Screen.
- Account Button – The admin can click on this button to go to the Account Screen.

Professor Screen (admin)

- Attendance Table – This table will show if the professor checked-in on a specific date.
- Edit Professor Button – The admin can click on this button to edit information about a specific professor.
- Add Professor Button – The admin can click on this button to add new faculty member to the system. The admin will be redirected to the Add Professor Screen.
- Home Button – This button will redirect the admin to the Home Screen.
- Account Button – The admin can click on this button to go to the Account Screen.

Add Professor Screen

- Accept Button – This button will add the new faculty member to the system.
- Cancel Button – This button will cancel the adding of new faculty member.

- Upload Image Button – This button will prompt the admin to upload the photo of the new faculty member.
- Faculty ID field – Here is where the admin will enter the faculty ID of the new faculty member.
- Name Field – Here is where the admin will enter the name of the new faculty member.
- Home Button – This button will redirect the admin to the Home Screen.
- Account Button – The admin can click on this button to go to the Account Screen.

Account Screen (admin)

- Old Password Field – Here is where the admin will enter current password.
- New Password Field – Here is where the admin will enter new password.
- Retype new password Field – Here is where the admin will enter the new password again for checking purposes.
- Save Button – This button will save changes on the account.
- Home Button – This button will redirect the admin to the Home Screen.
- Professors Button – The admin can click on this button to go to the Professors Screen.

Generate Report Screen

- Generate Button – This button will generate the report.
- Weekly Faculty Attendance Table – This will show the attendance of the professors listed on the first column of the table.
- Absent Drop-down Menu – This drop-down menu will appear only if the professor was absent. The admin can change the value of the professor was absent for some reason. The menu will have the options P for present, A for absent, OF for official function, and SL for sick leave.
- Home Button – This button will redirect the admin to the Home Screen.
- Professors Button – The admin can click on this button to go to the Professors Screen.
- Account Button – The admin can click on this button to go to the Account Screen.

Manual Attendance

- Text Field – Accepts the Faculty_ID and Password input of the user
- Login Button – Checks-in/out the timestamp of the faculty

5 Additional Materials

- **DEFINITIONS, ACRONYMS, AND ABBREVIATIONS**

  Database - is a collection of information that is organized so that it can easily be accessed, managed, and updated. In one view, databases can be classified according to types of content: bibliographic, full-text, numeric, and images.

  Fingerprint scanner - a device which is used to verifying a match between two human fingerprints.

  Hardware - is the collection of physical elements that constitutes a computer system.

  Input - is the term denoting either an entrance or changes which are inserted into a system and which activate or modify a process.

  Java Runtime Environment (JRE) - is part of the Java Development Kit (JDK), a set of programming tools for developing Java applications.

  Operating system (OS) - is a collection of software that manages computer hardware resources and provides common services for computer programs.

  Output - is the term denoting either an exit or changes which exit a system and which activate/modify a process.

  Password - is a word or string of characters used for user authentication to prove identity or access approval to gain access to a resource, which should be kept secret from those not allowed access.

  Process - a series of actions or steps taken in order to achieve a particular end.

  Radio-frequency identification (RFID) - is the wireless non-contact use of radio-frequency electromagnetic fields to transfer data, for the purposes of automatically identifying and tracking tags attached to objects. The tags contain electronically stored information.

  Software - computer programs

  Software design - is the process by which an agent creates a specification of a software artifact, intended to accomplish goals, using a set of primitive components and subject to constraints.

  System - is a collection of elements or components that are organized for a common purpose.

Traceability matrix - is a document, usually in the form of a table that correlates any two base lined documents that require a many-to-many relationship to determine the completeness of the relationship.

User Interface (UI) - is everything designed into an information device with which a human being may interact -- including display screen, keyboard, mouse, light pen, the appearance of a desktop, illuminated characters, help messages, and how an application program or a Web site invites interaction and responds to it.

- **REFERENCES**

Delaney, D. & Brown, S. (n.d.). *Guidelines for documents produced by student projects in software engineering*. Available from http://www.cs.nuim.ie/research/reports/2002/nuim-cs-tr-2002-06.pdf

Java. (n.d.). Java SE – Downloads. Retrieved from http://www.oracle.com/technetwork/java/javase/downloads/index.html

XAMPP. (2014). Xampp installers and downloads for apache friends. Retrieved from http://www.apachefriends.org/index.html

Java. (2013) javax.swing (Java Platform SE 7). Retrieved from http://docs.oracle.com/javase/7/docs/api/javax/swing/package-summary.html

Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas

Institute of Information and Computing Sciences
Faculty of Engineering
University of Santo Tomas

11/15/2014

System Test Documentation (STD)
Version 2.0

In Partial Fulfillment
of the Requirements for the Subject
in IT109 (Software Engineering)

by

Golfo, Bien Vince Angelo B.
Parayno, John Angelo D.C.
Refuerzo, Fredel F.

BS Information Technology

Presented to

Ms. Janette Sideño

Revisions Page

Overview

This document is a source of information if the function of the system is working as it is expected. This tells how the system will be tested asking what are the components to be checked are and its criteria for passing. It also states the different factors and needs of the system to work functionally and effectively.

Target Audience

Chair Department of Information Technology

Chair Department of Computer Science

Chair Department of Information Systems

Project Team Members

Golfo, Bien Vince Angelo B.

Parayno, John Angelo D.C.

Refuerzo, Fredel F.

Version Control History

Version	Primary Author(s)	Description of Version	Date Completed
1.0	Parayno, John Angelo	*first draft*	08/10/14
1.1	Parayno, John Angelo	*SE minor revisions*	09/25/14
2.0	Parayno, John Angelo	*Updated for the final submission*	11/09/14

Table of Contents

Revisions Page ii
Overview ii
Target Audience ii
Project Team Members ii
Version Control History ii
Table of Contents iii
1. TEST PLAN IDENTIFIER 1
2. REFERENCES 1
3. INTRODUCTION 1
4. TEST ITEMS 2
5. SOFTWARE RISK ISSUES 3
6. FEATURES TO BE TESTED 5
7. FEATURES NOT TO BE TESTED 17
8. APPROACH 17
9. ITEM PASS/FAIL CRITERIA 18
10. SUSPENSION CRITERIA AND RESUMPTION REQUIREMENTS 19
11. TEST DELIVERABLES 19
12. REMAINING TEST TASKS 20
13. ENVIRONMENTAL NEEDS 21
14. STAFFING AND TRAINING NEEDS 22
15. RESPONSIBILITIES 22
16. SCHEDULE 23
17. PLANNING RISKS AND CONTINGENCIES 24
18. APPROVALS 25
19. GLOSSARY 25

1. TEST PLAN IDENTIFIER

- ID: **AMS-STD v2.0**
- Author: Parayno, John Angelo DC.
- Date Completed: 08/31/14

2. REFERENCES

- Software Project Management Plan
  - Project Deliverables (*SPMP v4.2 p.2*)
  - Assignments (*SPMP v4.2 p.18*)
- Software Requirements Specifications
  - Software Production Features (*SRS v4.2 p.2*)
- Software Design Description
  - Requirements Traceability Matrix (*SDD v4.2 p.2*)
  - User Interface Design (*SDD v4.2 p. 6*)

3. INTRODUCTION

This software test documentation provides plan and guidelines on the tests on the function and features of the Attendance Monitoring System for the Faculty of Information and Computer Studies of the University of Santo Tomas. This document will guide the testers to obtain accurate and unbiased results which will to help enhance the system.

The testing phase will be run through to user testing, integration testing and system testing. Acceptance testing is also possible depending on the stakeholder. The approach will be mostly black box testing in examining each functions and features of the system.

Testing will run through a schedule in a span of 7 weeks. Testing will be done by the Project Manager, a System Tester which includes either a System Developer and a System Designer and possible by the Client Stakeholder if ever the Acceptance testing has been push through.

4. TEST ITEMS

A. Software Graphical User Interface for viewing.

- The user interface the will display daily check-in attendance for the faculty, login link for the administrator and a profile list of each professors in the department.

B. Software Graphical User Interface for the Administrator

- The user interface that will be used by the administrator which provides more than of the view-only user interface. Additionally it will provide a link to the account module and generate report function.

C. Generate Weekly Attendance Report

- The main features of the system that will provides a systematical and fixed approach in in finalizing records; generating a PDF file with accurate information.

D. Edit Report

- Provides the system administrator the capability to edit records to the database specifically on the attendance table.

E. Manual Attendance Page

- A user interface that will provide manual log-in method incase the fingerprint scanner is not available.

F. Fingerprint Log-in/out

- A special function of the system the will provide professors an easy way to time-in on the system using their fingerprint as a unique identifier for the system.

G. Add Faculty Member to the System

- Provides the system administrator the capability to add records to the database specifically on the faculty member table.

H. Edit/Delete Faculty Member to the System

- Provides the system administrator the capability to edit and delete records to the database specifically on the faculty member table.

I. Fingerprint Enrollment

- Registers the fingerprint sample of a professor.

J. Faculty Daily Time-in/out Logs

- A user interface that will show the daily time-in logs.

K. File Back-up through E-mail.

- A special function of the system that will send the weekly attendance report (PDF file) in the admin's email account.

L. Edit Admin Account

- A page where admin could change administrative records.

5. SOFTWARE RISK ISSUES

5.1 Hardware, Software and Operating System Incompatibilities

- The hardware where the system and its components are running might have conflicts with each other.
- Incompatibilities might occur against different Operating systems. It might give unexpected results on the functionality of the system.
- Digital Persona U.are.U 4500 may not work on other operating system and virtual environment.

5.2 Outdated Software Version

- The software in the system unit is in need of an update to ensure that incompatibilities and bugs are fixed.
- The following software of a system unit must be always be updated in latest:
  - Operating System
  - Java Runtime Environment
  - Database
  - Hardware Drivers

5.3 Obsolete Hardware Components

- The system must be tested on a stable system unit that meets the demands of the current technology.
- All hardware components of the system unit are working fine.

5.4 Malware, Viruses and Spyware on System Unit

- The system unit where the system will be tested must have appropriate protection to prevent of slowing down of the processes or accumulating error.

5.5 Database Mishandling

- The database must be always connected at all times on the system.
- Hard Drive must have an efficient space for storing records in the database.

6. FEATURES TO BE TESTED

A. Software Graphical User Interface for viewing

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	A	Test Designed by:	Refuerzo, Fredel
Test Priority:	Medium	Test Desgined date:	8/30/2014
Module Name:	Software GUI (Viewing)	Test executed by:	Refuerzo, Fredel
Test Title:	Viewing GUI Test	Test Execution date:	11/9/2014
Description:	Test if GUI is functional and has all needed units		
Pre-Conditions:			
Dependencies:			

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Click Admin Login Button		Redirect to Admin Login window	User was redirected to the Admin Login Window	Passed	
2	Click Manual Attendance		Redirect to Manual Attendance window	User was redirected to the Manual Attendance window	Passed	
3	Check Faculty Member List		List all Faculty Member	All Faculty Members are listed	Passed	
4	Check Status Column		Show the status faculties if present or not	Shown status of professor if absent or present	Passed	
5	Click Professor Tab		Redirect to Professor window	User was redirected to Professor window	Passed	
6	Click Specific Faculty		Redirect to specific Faculty window	User was redirected to the specific Faculty window	Passed	
7	Check Specific Faculty Window		Show image and attendance summary	Shown the faculty's name and attendance summary	Passed	

Post Conditions:

Table 6.1 Feature A Test Case

B. Software Graphical User Interface for the Administrator

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	B	Test Designed by:	Refuerzo, Fredel
Test Priority:	Medium	Test Desgind date:	8/30/2014
Module Name:	Software GUI (Admin)	Test executed by:	Refuerzo, Fredel
Test Title:	Admin GUI Test	Test Execution date:	11/9/2014
Description:	Test if GUI is functional and has all needed units		
Pre-Conditions:	Admin needs to navigate and modify information within the system		
Dependencies:	Admin Account		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Enter username	admin			N/A	
2	Enter password	12345			N/A	
3	Click login button		User should redirected to Admin Dashboard	User was redirected to Admin Dashboard	Passed	
4	Click Generate Report		User should be redirected to Generate Weekly Report window	User was redirected to Generate Weekly Report window	Passed	
5	Check Faculty Members List		Show list of faculty members	Shown list of faculty members	Passed	
6	Check Faculty Status		Show if faculty is present or absent	Shown status if faculty is present or absent	Passed	
7	Click Professor Tab		User should be redirected to Professor window	User was redirected to Professor window	Passed	
8	Click Add Professor		User should be able to login to Admin account	User was redirected to Add Professor window	Passed	
9	Check Faculty members		Show all registered faculty members	Shown all registered faculty members	Passed	
10	Click Specific Faculty Member		User should be redirected to specific faculty's window	User was redirected to specific faculty's window	Passed	
11	Click Account Tab		User should be redirected to Admin account window	User was redirected to Admin account window	Passed	
12	Click Edit Professor		User should be redirected to Edit professor window	User was redirected to Edit Professor window	Passed	
13	Check Specific Faculty Window		Show attendance summary and status	Shown attendance summary and status	Passed	
14	Check Edit Professor Window		Show information that can be edited	Shown information that can be edited	Passed	
15	Check Edit Account Window		Show information that can be edited	Shown information that can be edited	Passed	
16	Click Logout button		User should be redirected to Home Screen	User was redirected to Home Screen	Passed	

Post Conditions:

Table 6.2 Feature B Test Case

C. Generate Weekly Attendance Report

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	C	Test Designed by:	Refuerzo, Fredel
Test Priority:	High	Test Designed date:	8/30/2014
Module Name:	Weekly Report Generator	Test executed by:	Refuerzo, Fredel
Test Title:	Report Generation Test	Test Execution date:	11/9/2014
Description:	Test if the application can generate weekly attendance report.		
Pre-Conditions:	Admin should be logged-in to the admin dashboard		
Dependencies:	Admin account		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Navigate to Generate Report Window		User should be redirected to the Report Generation Window	User was able to Navigate to Generate Report Window	Passed	
2	Change Month and Week	November, November 3 - November 7	Generated report should be from November 3 - November 8	Attendance from January 1 - January 4 was generated	Passed	
3	Click Generate Weekly Report button		Weekly Attendance Sheet should pop up	Weekly Attendance Sheet window popped out	Passed	
4	Change Department	Information Technology	Information Technology should show up in the generated report instead of the others	Information Technology was shown as the department on the generated report	Passed	
5	Click Generate button on the prompt		Should be Load to the save file window	Loaded to the saved file window	Passed	
6	Edit file name and target folder	Sample.pdf			N/A	
7	Click save		Report should be generated	PDF Report generated	Passed	

Post Conditions:

Table 6.3 Feature C Test Case

D. Edit Report

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	D	Test Designed by:	Refuerzo, Fredel
Test Priority:	Medium	Test Desgind date:	11/2/2014
Module Name:	Edit Report	Test executed by:	Refuerzo, Fredel
Test Title:	Edit Report Test	Test Execution date:	11/9/2014
Description:	Test if the admin can edit the report before the generation of the .pdf file		
Pre-Conditions:	Admin should be in Weekly Attendance Sheet window		
Dependencies:	Admin should be logged in		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Click Generate Weekly Report		Weekly Attendance Sheet window should pop up	Weekly Attendance Sheet window popped out	Passed	
2	Click Edit		Table cells should be editable	Table cells are editable	Passed	

Post Conditions:

Table 6.4 Feature D Test Case

E. Manual Attendance Page

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	E	Test Designed by:	Refuerzo, Fredel
Test Priority:	High	Test Desgind date:	11/2/2014
Module Name:	Manual Attendance	Test executed by:	Refuerzo, Fredel
Test Title:	Manual Attendance Test	Test Execution date:	11/9/2014
Description:	Test if the users can time in and time out if the fingerprint scanner is unavailable.		
Pre-Conditions:	Fingerprint Scanner not Available		
Dependencies:	Fingerprint Scanner Availability		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Click Manual Attendance		Manual Attendance window should pop up	Manual Attendance window popped out	Passed	
2	Enter Faculty ID	2010020400			N/A	
3	Enter Password	12345			N/A	
4	Click LOGIN/LOGOUT button		Time In should be recorded	Time In was recorded	Passed	
5	Enter Faculty ID	2010020400			N/A	
6	Enter Password	12345			N/A	
7	Click LOGIN/LOGOUT button		Time Out should be recorded	Time Out was recorded	Passed	

Post Conditions:

Table 6.5 Feature E Test Case

F. Fingerprint Log-in/out

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	F	Test Designed by:	Refuerzo, Fredel
Test Priority:	High	Test Desgind date:	11/2/2014
Module Name:	Fingerprint LogIn & LogOut	Test executed by:	Refuerzo, Fredel
Test Title:	Fingerprint LogIn & LogOut Test	Test Execution date:	11/9/2014
Description:	Test if the fingerprint log in and log out module records the time in and time out		
Pre-Conditions:	Fingerprint scanner should be available		
Dependencies:	Fingerprint Scanner		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Navigate to Dashboard(Admin or Viewing)		User should be redirected to dashboard	User was redirected to dashboard	Passed	
2	Check faculty list		Faculty list should be complete	Faculty list is complete	Passed	
3	Put registered finger over the scanner(first time)	Fredel Refuerzo's right thumb fingerprint	Time In should be registered in-line with the faculty	Time In was registered in-line with the faculty	Passed	
4	Put non-registered finger over the scanner(first time)	Fredel Refuerzo's right poiting finger fingerprint	Nothing should happen	Nothing happened	Passed	
5	Put registered finger over the scanner(second time)	Fredel Refuerzo's right thumb fingerprint	Time Out should be registered	Time Out was registered in-line with the faculty	Passed	
6	Put non-registered finger over the scanner(second time)	Fredel Refuerzo's right pointing finger fingerprint	Nothing should happen	Nothing happened	Passed	

Post Conditions:

Table 6.6 Feature F Test Case

G. Add Faculty Member to the System

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	G	Test Designed by:	Refuerzo, Fredel
Test Priority:	Medium	Test Desgind date:	8/30/2014
Module Name:	Add Faculty	Test executed by:	Refuerzo, Fredel
Test Title:	Add Faculty Test	Test Execution date:	11/9/2014
Description:	Test if the Admin can add a professor data into the system		
Pre-Conditions:	Admin should be logged in		
Dependencies:	Admin Account		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Navigate to Professors window		User should be redirected to Professors window	User should was redirected to Professors window	Passed	
2	Click Add Professor		Admin should be redirected to Add Professor window	Admin was redirected to Add Professor window	Passed	
3	Click upload image		File manager should pop up to select image	File manager popped out	Passed	
4	Enter Faculty ID	1000			N/A	
5	Select Faculty Type	Part-Time			N/A	
6	Enter First Name	Juan			N/A	
7	Enter Last Name	Dela Cruz			N/A	
8	Enter Password	12345			N/A	
9	Retype Password	12345			N/A	
10	Click Upload Finger Print		User should be redirected to Fingerprint Enrollment	User was redirected to Fingerprint Enrollment	Passed	
11	Click Accept		Professor should be created	Professor was created	Passed	
12	Click Cancel		User should be redirected to Professors window	User was redirected to Professors window	Passed	

Post Conditions:

Table 6.7 Feature G Test Case

H. Edit/Delete Faculty Member to the System

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	H	Test Designed by:	Refuerzo, Fredel
Test Priority:	Medium	Test Desgind date:	08/30/20114
Module Name:	Edit Faculty	Test executed by:	Refuerzo, Fredel
Test Title:	Edit Faculty Test	Test Execution date:	11/9/2014
Description:	Test if the Admin can edit a professor data into the system		
Pre-Conditions:	Admin should be logged in		
Dependencies:	Admin Account		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Navigate to Professors window		User should be redirected to Professors window	User should was redirected to Professors window	Passed	
2	Click a Professor		Admin should be redirected to the Professor's window	Admin was redirected to the Professor's window	Passed	
3	Click Edit Professor		Admin should be redirected to Edit Professor window	Admin was redirected to Edit Professor window	Passed	
4	Click upload image		File manager should pop up to select image	File manager popped out	Passed	
5	Change Faculty Type	Full-Time			N/A	
6	Change First Name	Jose			N/A	
7	Change Last Name	Rizal			N/A	
8	Click Accept		Professor's information should changed	Professor's information was changed	Passed	

Post Conditions:

Table 6.8 Feature H Test Case

I. Fingerprint Enrollment

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	I	Test Designed by:	Refuerzo, Fredel
Test Priority:	High	Test Desgind date:	8/30/2014
Module Name:	Faculty Enrollment	Test executed by:	Refuerzo, Fredel
Test Title:	Faculty Enrollment Test	Test Execution date:	11/9/2014
Description:	Test if the fingerprint can be enrolled when adding a professor into the system		
Pre-Conditions:	Admin should be logged in, Fingerprint scanner should be available		
Dependencies:	Admin Account, Fingerprint scanner Availability		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Click Fingerprint Enrollment		Fingerprint Enrollment should pop-up	Fingerprint Enrollment popped out	Passed	
2	Put finger over the scanner four times	Fredel Refuerzo's right thumb fingerprint	Application should only accept fingerprint from one finger	Application only accepted fingerprint from one finger	Passed	
3	Set Path		fingerprint image file should be save in the set path	fingerprint image file was save in the set path	Passed	

Post Conditions:

Table 6.9 Feature I Test Case

J. Faculty Daily Time-in/out Logs

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas					
Test Case ID:	J		Test Designed by:	Refuerzo, Fredel		
Test Priority:	High		Test Desgind date:	11/2/2014		
Module Name:	Fingerprint TimeIn & TimeOut		Test executed by:	Refuerzo, Fredel		
Test Title:	Fingerprint TimeIn/Out Test		Test Execution date:	11/9/2014		
Description:	Test if the application records the time in and time out accurately					
Pre-Conditions:	Fingerprint scanner should be available					
Dependencies:	Fingerprint Scanner					
Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Navigate to Dashboard(Admin or Viewing)		User should be redirected to dashboard	User was redirected to dashboard	Passed	
2	Check faculty list sample		Faculty list should be complete	Faculty list is complete	Passed	
3	Put finger on the scanner	Fredel Refuerzo's right thumb fingerprint	Recorded time-in should be 11:05 PM	Recorded time-in was be 11:05 PM	Passed	
4	Put finger on the scanner	Fredel Refuerzo's right thumb fingerprint	Recorded time-out should be 11:06 PM	Recorded time-out was be 11:06 PM	Passed	
Post Conditions:						

Table 6.10 Feature J Test Case

K. File Back-up through E-mail.

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	K	Test Designed by:	Refuerzo, Fredel F.
Test Priority:	Medium	Test Desgind date:	8/30/2014
Module Name:	File back-up through e-mail	Test executed by:	Refuerzo, Fredel F.
Test Title:	File back-up test	Test Execution date:	11/9/2014
Description:	Test if the application sends the generated report to the email address of the admin		
Pre-Conditions:	User should be in the Generation Report Window		
Dependencies:	Internet Connection Availability		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Add/Edit e-mail address on the admin account window	2010020400@ust-ics.mygbiz.com	E-mail address should change/be added	Email address was added/changed	Passed	
2	Navigate to Generate Report window through Admin Dashboard		User should be redirected to Generate Report window	User was redirected to Generate Report window	Passed	
3	Check "Send to Email" checkbox	Checkbox			N/A	
4	Click Generate		Generated report should be sent to the e-mail address	Generated report was sent to e-mail address	Passed	
5	Check Email Inbox		Should receive an email with the generated report attached	Received an email with the generated report attached	Passed	

Post Conditions:

Table 6.11 Feature K Test Case

L. Edit Admin Account

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	L	Test Designed by:	Refuerzo, Fredel
Test Priority:	Medium	Test Desgind date:	11/2/2014
Module Name:	Edit Admin Account	Test executed by:	Refuerzo, Fredel
Test Title:	Test Edit Admin Account	Test Execution date:	11/9/2014
Description:	Test if Admin can change admin information and credentials		
Pre-Conditions:			
Dependencies:	Admin Account		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Navigate to Account Tab through Admin Dashboard		User should be redirected to Admin Account window	User was redirected to Admin Account window	Passed	
2	Enter old password	12345				
3	Enter new password	abcde				
4	Enter new password on the retype field	abcde				
5	Enter new E-mail address	abcde				
6	Click Save		All changes should be saved	All changes saved	Passed	

Post Conditions:

Table 6.12 Feature L Test Case

7. FEATURES NOT TO BE TESTED

The features not to be tested are existing and commercially available products in the market like Operating Systems (Windows 7, 8), Java Runtime Environment, Network devices, MySQL database, up to date hardware technology etc. that run in background of the system. The reason behind is that they already exist for a long time that the tools and programs are stable enough to be used.

8. APPROACH

Table 8.1 Tests Levels

Levels	Decription	Approach	Metrics	Tester
Unit	Testing of each objects and components of the system. In which results are provided on the Test Cases	White Box Testing	Defect Origin, Error Logs	System Developer, System Designer
Integration	Testing of each function and features of the system. In which reports are provided on the Test Case and Tracebility Matrix.	Black Box Testing, White Box Testing	Defect Origin, Defects by module and serverity	Project Manger, System Testers, System Developer, System Designer
System	Testing of the overall performance of the system. Objectives are check and corrections/revisions are to be done on the functions that won't meet the expected result	Black Box Testing	Defects by module and serverity	Project Manger, System Testers
Acceptance	Testing is performed by the actual end-user. The system must accomplish the objective of it and satisfy the stakeholders.	Black Box Testing	Defects by module and serverity	Project Manger, Stakeholders

Table 8.2 Tests Approach

Test Approach	Definition	Focus
Black Box Testing	Software testing method in which the internal structure/ design/ implementation of the item being tested is NOT known to the tester	Requirement Specification
White box Testing	Software testing method in which the internal structure/ design/ implementation of the item being tested is known to the tester.	Detail Design

9. ITEM PASS/FAIL CRITERIA

Table 9.1 Pass/Fail Criteria

Status		Criteria
Unit Testing	Pass	The object responded to the trigger
	Fail	The object did not respond to the trigger
Integration Testing	Pass	The function worked as expected
	Fail	The function did not work as expected
System Testing	Pass	The system provides its purpose and accomplish its objective
	Fail	The system partially provide its purpose or partially met its objective
		The system did not provide its purpose or did not met its objective
Acceptance Testing	Pass	The client stakeholder was satisfied to the result
	Fail	The client stakeholder was satisfied to the result

10. SUSPENSION CRITERIA AND RESUMPTION REQUIREMENTS

Table 10.1 Suspension Criteria and Resumptions Requirements Table

	Suspension Criteria	Resumption Criteria
A.	Hardware components are broken that would make the system unable to work properly.	Hardware that cause problems are fixed or been replaced.
B.	Important updates of the software where the system runs are in need of an update.	Softwares are already got updated.
C.	No qulified tester is present in a said schedule.	A qualified tester had been present.
		An unqualified tester had been trained.
D.	Conditions where power source or internet speed is being altered.	Conditions is already stable and appropriate for testing.
E.	System Unit where the system is being tested doesn't met the minimum requirements of the system being tested.	System unit is being replaced or been upgraded to meet the requirements of the system being tested.

11. TEST DELIVERABLES

- System Test Document (STD)
  - The compilation of testing guidelines, metrics and plan.
- Test Cases
  - A set of conditions or variables under which a tester will determine whether an application, software system or one of its features is working as it was originally established for it to do.

- Error Logs
  - Provide list of information on the error in the system testing.
- Traceability Matrix
  - It evaluates and relates between different system components and provides the status of project requirements in terms of their level of completion.
- Screen prototypes
  - Presentations of the user interface of the system

12. REMAINING TEST TASKS

Table 12.1 Test Phase Status

Test Phase	Assigned To	Status
Test Plan Creation	Project Manager	*Completed*
Test Specification Creation	Project Manager	*Completed*
Unit Testing	System Tester	*Completed*
Integration Testing	Project Manager, System Tester	*Completed*
System Testing	Project Manager, System Tester, Client Stakeholder	*In process*
Verify Prototypes of Screen	System Tester	*Completed*
Verify Prototype of Report	System Tester, Project Manager	*Completed*

13. ENVIRONMENTAL NEEDS

13.1 Hardware

- The hardware of the system unit where the test will happen must be all in a working condition.
- Hardware must meet the requirements of the latest Java Run Environment (JRE) version and the Operating System.
- Peripherals such as keyboard, mouse and monitor is provided.
- Cables (Ethernet, power cable, peripheral's cable etc.) of the system unit must be intact.
- Fingerprint Scanner (Digital Persona U.are.U 4500) must be working in good condition.

13.2 Software

- All required software (JRE, MySQL Database, OS, and drivers) must be properly installed and updated in the System Unit.

13.3 Security

- Anti-virus must be installed and updated to check for viruses and malwares on the system-unit.
- All needed ports on the network must not be blocked.

13.4 Service Provider

- The computer must be connected to the internet to be able to test the function that sends the PDF File to the email address of the administrator of the system.
- The internet speed must have a minimal ping and at least connected to a 0.3mbps interconnection to prevent packet loss.
- Electricity in the area must be stable to prevent data loss.

14. STAFFING AND TRAINING NEEDS

Table 14.1 Staff's Responsibilities and Training Needs

Staff	Responsibilities	Training Needs
Project Manager	Responsible for disseminating training and instructions on his staffs.	Sets test procedures and rules
		Has good decision making
		Familiar in Java, Netbeans, MySQL and software components
System Tester	.Compromises of either System Developer or System Desginer. Responsible for checking of UI objects, features and functionalities	Must know Java, SQL and the computer architecture
		Must know on IDE (NetBeans, Eclipse)
		Must be updated on the technological advancements
Client Stakeholder	Responsible for checking if the requirements and objectives are met.	Must be trained on the processes and procedures of the system
		Must have a background on the present technological advancements
		Must be trained on the basics of the computer UI environment

15. RESPONSIBILITIES

Table 15.1 Responsibilities of each staff

Responsibilities	Project Manager	Systems Tester	Client
Unit Testing		X	
Integration Testing	X	X	
System Testing	X	X	
Acceptance Testing	X	X	X
System Design Reviews	X	X	X
Detail Design Reviews		X	
Screen and Report Prototype Reviews		X	X
Decision Making	X		X
Test procedures and Rules	X		

Displayed on Table 15.1 the Project Manager is responsible for testing the overview of the system and the integration of each function to each another. He is also responsible for managing, planning and providing guidelines for the project testing.

The systems tester compromises of either systems developer or systems designer. He is responsible for testing the individual components, objects and code of the system. They are also responsible in the details of the user interface and its functionality.

The client is responsible to be an overseer if the project is doing its objective to be able to accomplish the projects goal. Since they are the major stakeholders they should be vigilant in overseeing the project.

16. SCHEDULE

Figure 16.1 Test Phase Schedule

Test Phase	Date																		
	July				August				September					October				November	
	7	14	21	28	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17
Test Plan Creation																				
Test Specification Creation																				
Unit Testing																				
Integration Testing																				
System Testing																				
Acceptance Testing																				

17. PLANNING RISKS AND CONTINGENCIES

	Risks	Mitigation Plan	Contingencies
A.	Lack of availability of required hardware, software, data or tools.	List and contact legit supplier for the availability of the products. Listing stores will provide other options in availing the products.	Find alternative product, sources or approach.
B.	Over budget	Audit the costing effeciently. Establish cost-effective analysis.	Downscale the project.
C.	Hardware and Software Incompatibilities	Have a personel that will check and plan hardware and software compatibilities before aquiring.	Reasearch and asks experts to be able to fix corresponding issues
D.	Changes to the Original Requirements or Designs	Plan effectively on the requirements gathering. Update the client for each changes and milestone accomplished. Check for system loop holes and redundancy.	Apply changse if neccesary.Adjust schedule so that other tasks won't be affected and be overdue to lack of time
E.	Project Member Conflicts	Proper management must be ensure. Background check on the staffs could also be a solution.	Settle conflicts with respect. Someone should act as midiator to the conflict.
E.	Project Schedule Not Feasible.	Plan schedule efficiently by having meetings	Fast track the approach or remove tests that aren't necessary.
F.	Communication Problems between Members and Clients	Find a means of having stable communication tool or approach for every staff. Have a team building activity or JAD before doing such tasks	Settle problems face- to-face and be open to inquire with the project head.
G.	External Tester are Not Qualified	Conduct survey and test to determine their skills. Provide trainings if neccesary.	Find a qualified tester. Provide training and seminars.

18. APPROVALS

- Client Stakeholder
  - Primary
    - Chair Departments of the ICS Faculty of the University of Santo Tomas
  - Secondary
    - Faculty Professors
    - Students
- Software Engineering Defense Panels
- Project Manager

19. GLOSSARY

Ethernet - the most widely-installed local area network (LAN) technology

Integrated Development Environment (**IDE)** – a software application that provides comprehensive facilities to computer programmers for software development.

Java - programming language expressly designed for use in the distributed environment of the Internet. It was designed to have the "look and feel" of the C++ language, but it is simpler to use than C++ and enforces an object-oriented programming model.

Java Runtime Environment (JRE) - also known as Java Runtime, is part of the Java Development Kit (JDK), a set of programming tools for developing Java applications.

Operating System (OS) – software that manages computer hardware and software resources and provides common services for computer programs.

Structured Query Language (SQL) - a standard interactive and programming language for getting information from and updating a database.

System Test Document (STD) – document how the software will be tested, and record the results

APPENDIX

APPENDIX i

- Rubrics of Pre Oral Defense ii
- Rubrics of Final Defense iv
- User Acceptance Test Cases vii
- User Acceptance Evaluation xix

- **Rubrics of Pre Oral Defense**

AITB
REFUERZO
PARAMO
GOLFO

Attendance Monitoring System for ICS department of UST

Rubric for Prototype **Score**

Criteria	5 Terrific	2 Satisfactory	1 Still needs work	
Appropriate technology (drawings, prototype, other medium) to perform task	Clearly identifies a range of possible alternative technologies to create an understanding of the product and chooses the most appropriate to perform the task.	Applies selected technology to perform the task with some efficiency and effectiveness. Displays understanding of the results.	Uses selected technology inaccurately to perform task ineffectively and inefficiently, while demonstrating only a minimal understanding of purpose and results.	3
Development of work	Students did thumbnail sketches, and preliminary drawings to get an idea of which way to continue.	Students did some planning ahead of time to develop ideas.	Students just began working without thinking out different possibilities.	2
Construction or drawings.	Evidence of thorough work appropriate to the time allotted, drawings or prototype were complete with attention to detail.	Evidence of work done on the project. Project is seen as complete.	Students left some stuff undone due to lack of work or time.	4
Aesthetics	Drawings are crisp and clean with measurements labeled properly. Prototype does not show glue marks or other evidence of sloppiness.	Drawings or prototype, are clean and neat, but not particularly attractive to the eye.	Drawings or prototype are unsightly and messy.	3
Scale	Drawings or prototype are made to scale with a legend provided.	Drawings or prototype were attempted to be made at scale, with some issues.	There was no attempt to make drawings or prototypes to scale.	3
Presentation	Articulate and well planned explanation of drawings or prototype. All parts are described.	Fair explanation, some description of parts.	Some explanation, leaving much misunderstood.	3

Total =

71.67
5
76.67

4110
REFUERZO
PARAMO
GOLFO

Rubric for Prototype

Score

Criteria	5 Terrific	2 Satisfactory	1 Still needs work	
Appropriate technology (drawings, prototype, other medium) to perform task	Clearly identifies a range of possible alternative technologies to create an understanding of the product and chooses the most appropriate to perform the task.	Applies selected technology to perform the task with some efficiency and effectiveness. Displays understanding of the results.	Uses selected technology inaccurately to perform task ineffectively and inefficiently, while demonstrating only a minimal understanding of purpose and results.	5
Development of work	Students did thumbnail sketches, and preliminary drawings to get an idea of which way to continue.	Students did some planning ahead of time to develop ideas.	Students just began working without thinking out different possibilities.	4
Construction or drawings.	Evidence of thorough work appropriate to the time allotted, drawings or prototype were complete with attention to detail.	Evidence of work done on the project. Project is seen as complete.	Students left some stuff undone due to lack of work or time.	4
Aesthetics	Drawings are crisp and clean with measurements labeled properly. Prototype does not show glue marks or other evidence of sloppiness.	Drawings or prototype, are clean and neat, but not particularly attractive to the eye.	Drawings or prototype are unsightly and messy.	4
Scale	Drawings or prototype are made to scale with a legend provided.	Drawings or prototype were attempted to be made at scale, with some issues.	There was no attempt to make drawings or prototypes to scale.	4
Presentation	Articulate and well planned explanation of drawings or prototype. All parts are described.	Fair explanation, some description of parts.	Some explanation, leaving much misunderstood.	4

Total = 25

W. CORTEZ
10/13/2014

- **Rubrics of Final Defense**

Manila, Philippines

Software Engineering Project Criteria Sheet

Direction: Please evaluate each of the criteria by indicating check mark on the appropriate box.

A. The Full-blown System

Criteria	0-No Compliance	1 Poor	2 Needs Improvement	3 Adequate	4 Quality	5 Exemplary	Remarks
Meets the requirements that guided its design and development				✓			
Implementation is according to characteristics				✓			
Works as expected				✓			
Satisfies the Needs of the stakeholders				✓			
Ascertains security, maintenance and back up				✓			
Logically relates documentation to software accomplishments				✓			
Total							

B. Individual Grade

Member Name	0-No Compliance	1 Poor	2 Needs Improvement	3 Adequate	4 Quality	5 Exemplary	Remarks
1. Golfo, Bien Vince Angelo				✓			
2. Parayno, John Angelo DC.				✓			
3. Refuerzo, Fredel F.				✓			
4.							
5.							

C. Group Grade

Group Grade	0-No Compliance	1 Poor	2 Needs Improvement	3 Adequate	4 Quality	5 Exemplary	Remarks
				✓			

Please check according to your evaluation and recommendation.

Final Decision ☐ Approved for installation

Approved decision should have an over all average of is 3 and above

Remarks: _____

☑ Disapproved for installation

Disapproved decision should have an over all average of less than 3

Remarks: Apply recommendations, changes.

PRINCE HOMER CAMOS

Panel Member (Name and Signature)

Manila, Philippines

Software Engineering Project Criteria Sheet

Direction: Please evaluate each of the criteria by indicating check mark on the appropriate box.

A. The Full-blown System

Criteria	0-No Compliance	1 Poor	2 Needs Improvement	3 Adequate	4 Quality	5 Exemplary	Remarks
Meets the requirements that guided its design and development			✓				
Implementation is according to characteristics				✓			
Works as expected				✓			
Satisfies the Needs of the stakeholders			✓				
Ascertains security, maintenance and back up			✓				
Logically relates documentation to software accomplishments			✓				
Total							

B. Individual Grade

Member Name	0-No Compliance	1 Poor	2 Needs Improvement	3 Adequate	4 Quality	5 Exemplary	Remarks
1. Golfo, Bien Vince Angelo			✓				
2. Parayno, John Angelo DC.		✓					
3. Refuerzo, Fredel F.				✓			
4.							
5.							

C. Group Grade

Group Grade	0-No Compliance	1 Poor	2 Needs Improvement	3 Adequate	4 Quality	5 Exemplary	Remarks
				(3)			

Please check according to your evaluation and recommendation.

Final Decision ☐ Approved for installation

Approved decision should have an over all average of is 3 and above

Remarks: _____ - Filtering monitoring ↳ per Faculty

☒ Disapproved for installation

- Manual Attendance ↳ include add'l Security feature (Emp # & Password)

Disapproved decision should have an over all average of less than 3

Remarks: - time stamp should be added - Monthly

- Remove checkbox of faculty schedule (M-S)
- Include ISO #

Mia Eleazar
Panel Member (Name and Signature)

security (forgot password) -

Manila, Philippines

Software Engineering Project Criteria Sheet

Direction: Please evaluate each of the criteria by indicating check mark on the appropriate box.

A. The Full-blown System

Criteria	0-No Compliance	1 Poor	2 Needs Improvement	3 Adequate	4 Quality	5 Exemplary	Remarks
Meets the requirements that guided its design and development				✓			
Implementation is according to characteristics			✓				
Works as expected				✓			
Satisfies the Needs of the stakeholders			✓				
Ascertains security, maintenance and back up				✓			
Logically relates documentation to software accomplishments			✓				
Total							

B. Individual Grade

Member Name	**0-No Compliance**	**1 Poor**	**2 Needs Improvement**	**3 Adequate**	**4 Quality**	**5 Exemplary**	**Remarks**
1. Golfo, Bien Vince Angelo			✓				
2. Parayno, John Angelo DC.			✓				
3. Refuerzo, Fredel F.				✓			
4.							
5.							

C. Group Grade

Group Grade	0-No Compliance	1 Poor	2 Needs Improvement	3 Adequate	4 Quality	5 Exemplary	Remarks
			✓				

Please check according to your evaluation and recommendation.

Final Decision ☐ Approved for installation

Approved decision should have an over all average of is 3 and above

Remarks: _____

☑ Disapproved for installation

Disapproved decision should have an over all average of less than 3

Remarks: needs to improve the data manipulation of the system. Meet the requirements and perform User Acceptance Test

Nikko Jay Lazaretts

Panel Member (Name and Signature)

- **User Acceptance Test Cases**

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	A	Test Designed by:	Refuerzo, Fredel
Test Priority:	Medium	Test Desgined date:	8/30/2014
Module Name:	Software GUI (Viewing)	Test executed by:	Refuerzo, Fredel
Test Title:	Viewing GUI UAT	Test Execution date:	11/15/2014
Description:	Test if GUI is functional and has all needed units		
Pre-Conditions:			
Dependencies:			

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Click Admin Login Button		Redirect to Admin Login window	User was redirected to the Admin Login Window	Passed	
2	Click Manual Attendance		Redirect to Manual Attendance window	User was redirected to the Manual Attendance window	Passed	
3	Check Faculty Member List		List all Faculty Member	All Faculty Members are listed	Passed	
4	Check Status Column		Show the status faculties if present or not	Shown status of professor if absent or present	Passed	
5	Click Professor Tab		Redirect to Professor window	User was redirected to Professor window	Passed	
6	Click Specific Faculty		Redirect to specific Faculty window	User was redirected to the specific Faculty window	Passed	
7	Check Specific Faculty Window		Show image and attendance summary	Shown the faculty's name and attendance summary	Passed	

Post Conditions:

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	B	Test Designed by:	Refuerzo, Fredel
Test Priority:	Medium	Test Desgind date:	8/30/2014
Module Name:	Software GUI (Admin)	Test executed by:	Refuerzo, Fredel
Test Title:	Admin GUI UAT	Test Execution date:	11/15/2014
Description:	Test if GUI is functional and has all needed units		
Pre-Conditions:	Admin needs to navigate and modify information within the system		
Dependencies:	Admin Account		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Enter username	admin			N/A	
2	Enter password	12345			N/A	
3	Click login button		User should redirected to Admin Dashboard	User was redirected to Admin Dashboard	Passed	
4	Click Generate Report		User should be redirected to Generate Weekly Report window	User was redirected to Generate Weekly Report window	Passed	
5	Check Faculty Members List		Show list of faculty members	Shown list of faculty members	Passed	
6	Check Faculty Status		Show if faculty is present or absent	Shown status if faculty is present or absent	Passed	
7	Click Professor Tab		User should be redirected to Professor window	User was redirected to Professor window	Passed	
8	Click Add Professor		User should be able to login to Admin account	User was redirected to Add Professor window	Passed	
9	Check Faculty members		Show all registered faculty members	Shown all registered faculty members	Passed	
10	Click Specific Faculty Member		User should be redirected to specific faculty's window	User was redirected to specific faculty's window	Passed	
11	Click Account Tab		User should be redirected to Admin account window	User was redirected to Admin account window	Passed	
12	Click Edit Professor		User should be redirected to Edit professor window	User was redirected to Edit Professor window	Passed	
13	Check Specific Faculty Window		Show attendance summary and status	Shown attendance summary and status	Passed	
14	Check Edit Professor Window		Show information that can be edited	Shown information that can be edited	Passed	
15	Check Edit Account Window		Show information that can be edited	Shown information that can be edited	Passed	
16	Click Logout button		User should be redirected to Home Screen	User was redirected to Home Screen	Passed	

Post Conditions:

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	C	Test Designed by:	Refuerzo, Fredel
Test Priority:	High	Test Designed date:	8/30/2014
Module Name:	Weekly Report Generator	Test executed by:	Engr. Mia V. Eleazar
Test Title:	Report Generation UAT	Test Execution date:	11/15/2014
Description:	Test if the application can generate weekly attendance report.		
Pre-Conditions:	Admin should be logged-in to the admin dashboard		
Dependencies:	Admin account		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Navigate to Generate Report Window		User should be redirected to the Report Generation Window	User was able to Navigate to Generate Report Window	Passed	
2	Change Month and Week	November, November 10 - November 15	Generated report should be from November 10 - November 15	Attendance from January 1 - January 4 was generated	Passed	
3	Click Generate Weekly Report button		Weekly Attendance Sheet should pop up	Weekly Attendance Sheet window popped out	Passed	
4	Change Department	Information Technology	Information Technology should show up in the generated report instead of the others	Information Technology was shown as the department on the generated report	Passed	
5	Click Generate button on the prompt		Should be Load to the save file window	Loaded to the saved file window	Passed	
6	Edit file name and target folder	Sample.pdf			N/A	
7	Click save		Report should be generated	PDF Report generated	Passed	

Post Conditions:

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	D	Test Designed by:	Refuerzo, Fredel
Test Priority:	Medium	Test Desgind date:	11/2/2014
Module Name:	Edit Report	Test executed by:	Refuerzo, Fredel
Test Title:	Edit Report UAT	Test Execution date:	11/15/2014
Description:	Test if the admin can edit the report before the generation of the .pdf file		
Pre-Conditions:	Admin should be in Weekly Attendance Sheet window		
Dependencies:	Admin should be logged in		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Click Generate Weekly Report		Weekly Attendance Sheet window should pop up	Weekly Attendance Sheet window popped out	Passed	
2	Click Edit		Table cells should be editable	Table cells are editable	Passed	

Post Conditions:

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	E	Test Designed by:	Refuerzo, Fredel
Test Priority:	High	Test Desgind date:	11/2/2014
Module Name:	Manual Attendance	Test executed by:	Refuerzo, Fredel
Test Title:	Manual Attendance UAT	Test Execution date:	11/15/2014
Description:	Test if the users can time in and time out if the fingerprint scanner is unavailable.		
Pre-Conditions:	Fingerprint Scanner not Available		
Dependencies:	Fingerprint Scanner Availability		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Click Manual Attendance		Manual Attendance window should pop up	Manual Attendance window popped out	Passed	
2	Enter Faculty ID	2010020400			N/A	
3	Enter Password	12345			N/A	
4	Click LOGIN/LOGOUT button		Time In should be recorded	Time In was recorded	Passed	
5	Enter Faculty ID	2010020400			N/A	
6	Enter Password	12345			N/A	
7	Click LOGIN/LOGOUT button		Time Out should be recorded	Time Out was recorded	Passed	

Post Conditions:

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	F	Test Designed by:	Refuerzo, Fredel
Test Priority:	High	Test Desgind date:	11/2/2014
Module Name:	Fingerprint LogIn & LogOut	Test executed by:	Refuerzo, Fredel
Test Title:	Fingerprint LogIn & LogOut UAT	Test Execution date:	11/15/2014
Description:	Test if the fingerprint log in and log out module records the time in and time out		
Pre-Conditions:	Fingerprint scanner should be available		
Dependencies:	Fingerprint Scanner		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Navigate to Dashboard(Admin or Viewing)		User should be redirected to dashboard	User was redirected to dashboard	Passed	
2	Check faculty list		Faculty list should be complete	Faculty list is complete	Passed	
3	Put registered finger over the scanner(first time)	Fredel Refuerzo's right thumb fingerprint	Time In should be registered in-line with the faculty	Time In was registered in-line with the faculty	Passed	
4	Put non-registered finger over the scanner(first time)	Fredel Refuerzo's right poiting finger fingerprint	Nothing should happen	Nothing happened	Passed	
5	Put registered finger over the scanner(second time)	Fredel Refuerzo's right thumb fingerprint	Time Out should be registered	Time Out was registered in-line with the faculty	Passed	
6	Put non-registered finger over the scanner(second time)	Fredel Refuerzo's right pointing finger fingerprint	Nothing should happen	Nothing happened	Passed	

Post Conditions:

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas

Test Case ID:	G	Test Designed by:	Refuerzo, Fredel
Test Priority:	Medium	Test Desgind date:	8/30/2014
Module Name:	Add Faculty	Test executed by:	Engr. Mia V. Eleazar
Test Title:	Add Faculty UAT	Test Execution date:	11/15/2014
Description:	Test if the Admin can add a professor data into the system		

Pre-Conditions:	Admin should be logged in
Dependencies:	Admin Account

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Navigate to Professors window		User should be redirected to Professors window	User should was redirected to Professors window	Passed	
2	Click Add Professor		Admin should be redirected to Add Professor window	Admin was redirected to Add Professor window	Passed	
3	Click upload image		File manager should pop up to select image	File manager popped out	Passed	
4	Enter Faculty ID	1000			N/A	
5	Select Faculty Type	Part-Time			N/A	
6	Enter First Name	Juan			N/A	
7	Enter Last Name	Dela Cruz			N/A	
8	Enter Password	12345			N/A	
9	Retype Password	12345			N/A	
10	Click Upload Finger Print		User should be redirected to Fingerprint Enrollment	User was redirected to Fingerprint Enrollment	Passed	
11	Click Accept		Professor should be created	Professor was created	Passed	
12	Click Cancel		User should be redirected to Professors window	User was redirected to Professors window	Passed	

Post Conditions:

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	H	Test Designed by:	Refuerzo, Fredel
Test Priority:	Medium	Test Desgind date:	08/30/20114
Module Name:	Edit Faculty	Test executed by:	Refuerzo, Fredel
Test Title:	Edit Faculty UAT	Test Execution date:	11/15/2014
Description:	Test if the Admin can edit a professor data into the system		
Pre-Conditions:	Admin should be logged in		
Dependencies:	Admin Account		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Navigate to Professors window		User should be redirected to Professors window	User should was redirected to Professors window	Passed	
2	Click a Professor		Admin should be redirected to the Professor's window	Admin was redirected to the Professor's window	Passed	
3	Click Edit Professor		Admin should be redirected to Edit Professor window	Admin was redirected to Edit Professor window	Passed	
4	Click upload image		File manager should pop up to select image	File manager popped out	Passed	
5	Change Faculty Type	Full-Time			N/A	
6	Change First Name	Jose			N/A	
7	Change Last Name	Rizal			N/A	
8	Click Accept		Professor's information should changed	Professor's information was changed	Passed	

Post Conditions:

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	I	Test Designed by:	Refuerzo, Fredel
Test Priority:	High	Test Desgind date:	8/30/2014
Module Name:	Faculty Enrollment	Test executed by:	Engr. Mia V. Eleazar
Test Title:	Faculty Enrollment UAT	Test Execution date:	11/15/2014
Description:	Test if the fingerprint can be enrolled when adding a professor into the system		
Pre-Conditions:	Admin should be logged in, Fingerprint scanner should be available		
Dependencies:	Admin Account, Fingerprint scanner Availability		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Click Fingerprint Enrollment		Fingerprint Enrollment should pop-up	Fingerprint Enrollment popped out	Passed	
2	Put finger over the scanner four times	Fredel Refuerzo's right thumb fingerprint	Application should only accept fingerprint from one finger	Application only accepted fingerprint from one finger	Passed	
3	Set Path		fingerprint image file should be save in the set path	fingerprint image file was save in the set path	Passed	

Post Conditions:

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	J	Test Designed by:	Refuerzo, Fredel
Test Priority:	High	Test Desgind date:	11/2/2014
Module Name:	Fingerprint TimeIn & TimeOut	Test executed by:	Engr. Mia V. Eleazar
Test Title:	Fingerprint TimeIn/Out UAT	Test Execution date:	11/15/2014
Description:	Test if the application records the time in and time out accurately		
Pre-Conditions:	Fingerprint scanner should be available		
Dependencies:	Fingerprint Scanner		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Navigate to Dashboard(Admin or Viewing)		User should be redirected to dashboard	User was redirected to dashboard	Passed	
2	Check faculty list sample		Faculty list should be complete	Faculty list is complete	Passed	
3	Put finger on the scanner	Fredel Refuerzo's right thumb fingerprint	Recorded time-in should be 11:05 PM	Recorded time-in was be 11:05 PM	Passed	
4	Put finger on the scanner	Fredel Refuerzo's right thumb fingerprint	Recorded time-out should be 11:06 PM	Recorded time-out was be 11:06 PM	Passed	

Post Conditions:

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	K	Test Designed by:	Refuerzo, Fredel F.
Test Priority:	Medium	Test Desgind date:	8/30/2014
Module Name:	File back-up through e-mail	Test executed by:	Engr. Mia V. Eleazar
Test Title:	File back-up UAT	Test Execution date:	11/15/2014
Description:	Test if the application sends the generated report to the email address of the admin		
Pre-Conditions:	User should be in the Generation Report Window		
Dependencies:	Internet Connection Availability		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Add/Edit e-mail address on the admin account window	2010020400@ust-ics.mygbiz.com	E-mail address should change/be added	Email address was added/changed	Passed	
2	Navigate to Generate Report window through Admin Dashboard		User should be redirected to Generate Report window	User was redirected to Generate Report window	Passed	
3	Check "Send to Email" checkbox	Checkbox			N/A	
4	Click Generate		Generated report should be sent to the e-mail address	Generated report was sent to e-mail address	Passed	
5	Check Email Inbox		Should receive an email with the generated report attached	Received an email with the generated report attached	Passed	

Post Conditions:

Project Name:	Attendance Monitoring System for the Faculty of Institute of Information and Computing Sciences of the University of Santo Tomas		
Test Case ID:	L	Test Designed by:	Refuerzo, Fredel
Test Priority:	Medium	Test Desgind date:	11/2/2014
Module Name:	Edit Admin Account	Test executed by:	Refuerzo, Fredel
Test Title:	Test Edit Admin Account	Test Execution date:	11/15/2014
Description:	Test if Admin can change admin information and credentials		
Pre-Conditions:			
Dependencies:	Admin Account		

Step	Test Steps	Test Data	Expected Result	Acutal Result	Status	Notes
1	Navigate to Account Tab through Admin Dashboard		User should be redirected to Admin Account window	User was redirected to Admin Account window	Passed	
2	Enter old password	12345				
3	Enter new password	abcde				
4	Enter new password on the retype field	abcde				
5	Enter new E-mail address	abcde				
6	Click Save		All changes should be saved	All changes saved	Passed	

Post Conditions:

- **User Acceptance Evaluation**

UAT Checklist

The following checklist's purpose is to ensure that the appropriate steps have been taken to execute a user acceptance test (UAT), to wrap up the process and ensure proper documentation has been completed. Simply choose "Yes, No or N/A" as it applies to the UAT process in the organization. The criteria listed below may not apply to all organizations, however, if a column contains a "No" answer, it should be revisited.

Criteria	Completed?
IT Project Team Preparedness	
Has the project team been made aware of its role in advising on changes to business processes and procedures?	yes
Has the project team been made aware of its role in providing support for all testing issues and concerns?	yes
Has the project team been made aware of its role in tracking and managing test problems?	yes
Has the project team been made aware of its role in changing system functionality?	yes
UAT Team Preparedness	
Has the UAT team been defined?	yes
Does the UAT team understand its responsibility in executing the test cases and ensuring that the final outcomes of the tests are satisfactory?	yes
Has the UAT team been told about its role and responsibility in ensuring that all test case input sources and output results are documented and auditable?	yes
Has the UAT team agreed that the test cases provides comprehensive and effective coverage of all aspects of functionality of the application?	yes
Has the UAT team been told about its role in documenting problems and working with the project team to resolve problems identified during testing?	yes
Does the UAT team agree upon and understand the range of severity levels discussed with the project team and project stakeholders?	yes
Does the UAT team understand the responsibilities and required actions for each category of problem identified during testing?	yes
Does the UAT team understand that it must sign off on all test cases by signing the completed test worksheets?	yes
Has the UAT team been made aware of its role in accepting the results on behalf of the relevant user population?	yes
Does the UAT team understand that it must recognize any changes necessary to existing processes and take a lead role in ensuring that the changes are made and communicated to other users?	yes
Does the UAT team understand its role in confirming use of the system in performing business processes?	yes
Does the UAT team understand its role in verifying performance on business critical functions?	yes
Does the UAT team understand its role in confirming the integrity of data?	yes
Does the UAT team understand its role in assessing system final production readiness?	yes
Test Preparation	
Has the plan for acceptance testing been submitted?	Yes
Have all possible system functions been described?	Yes
Is all input data available that is required for testing?	Yes
Has acceptance criteria be defined on which the completion of the acceptance test will be judged?	No
Have all user specific constraints been considered?	Yes
Has the testing procedure been defined?	Yes
Have test cases been created to discover contradictions between the software product and the requirements?	No
Have test cases been created to review whether timing constraints are met by the system?	No
Test Execution and Evaluation	
Were all steps of the test run documented?	No
Was the acceptance test performed according to the test plan?	Yes
Did the users review the test results?	Yes
Are the services provided by the system in compliance with user requirements?	Yes
Were all defect documented?	No
Were all identified defects and issues resolved?	No
Did the users judge acceptability in accordance with the predetermined criteria?	Yes
Did each user sign off on output?	Yes

Name and Signature of Evaluator: Engr. Mia V. Eleazar	
Designation: Chair Department of Information Technology	
Company Name:University of Santo Tomas	
Address: Roque Ruaño Bulding, University of Santo Tomas, España, Manila 1008	
Contact Number/s: 786 1611 - 8575	
Date: 11/15/14	

Initial DB was deleted due to unforseen events not within the control of the user & proponents. Output results were incomplete but overall acceptable 11/15/14