ADDIS ABABA UNIVERISITY

ADDIS ABABA INSTITUTE OF TECHNOLOGY

SCHOOL OF INFORMATION AND TECHNOLOGY ENGINEERING

AAiT Information Management System (AAiT IMS)

Project Software Requirement Specification

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ADVISOR: Ms. Nuniyat Kifle **Date: Dec 13, 2021**

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DEFINITIONS ,ACRONYMS AND ABBREVIATIONS

Acronyms

SRS: Software Requirement Specification

AAiT IMS: Addis Ababa Institute of Technology Information Management System

DECLARATION

We declare that this written submission represents our ideas in our own words and where others' ideas or words have been included. We have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

Group NO: 1

Team:

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Date: Dec-12-2021

1. INTRODUCTION

1.1 Purpose

The purpose of this Software Requirements Specification (SRS) document is to provide the necessary information for designing and implementing software that meets the requirements. This Software Requirement Specification is intended to be used by the user in order to find out the functionalities and detailed specifications of the software.

1.2 Scope

This SRS will came up with every detail of the AAiT information management system which is a web based application.

AAiT will have:

- This system contains a database which provides students with course materials and exams relevant to students.
- The database enables us to keep records of users and admins.
- The system will enable students to be able to browse information that have been posted by the admin
- The system will let students view grades and register for courses
- The system will provide general information to the students

AAiT will not have:

- The system will not accept users that are not students
- The system will not allow the student to add or drop classes.

The general goal of the system is to provide students with information, materials and personnel's, so that students would be more effective.

1.3 Overview

This document is produced in an organized way to let the reader have a clear concept of what the software system does. This SRS includes a table of contents, a list of figures, and a list of tables. A reader can also check the meanings and definitions of acronyms and possibly confusing words in the Definitions and Appendices sections.

The Introduction part of the SRS introduces the reader to the document. It contains viithe purpose, scope, and an overview of the SRS document.

The General Description part of the document explains the general factors that affect the product and its requirements.

The Specific Requirements part contains all the software requirements. The specific requirements are discussed to enable the design and testing of the software system to be accomplished easily.

The fourth section of this document, Change Management Process, describes the process that will be used to update the SRS when project scope and/or requirements change. This document concludes with a list of References used for the production of this document

2. GENERAL DESCRIPTION

2.1 Product Perspective

This web based application intends to address the problem of accessing basic and recent information in a simple way. It will use the AAiT's website as a base and more interesting feature will be added to it.

Our project will be offering:

- an information access
- a portal access

2.2 Product Functions

This project will have a lot of functionalities in order to be a feature-rich app and easy to fetch the details of the information. These are the main features that are going to be included in the application.

- Bookstore and access to previous exams and materials
- Notice board
- Advisory section
- Portal
- Photo Archive

How it works?

First the users are expected to create an account and then will get all the information that are available in the application. For the portal system user should enter their password to be able to access for registration and grade reports.

2.3 User Characteristics

This AAiT IMS web application will be used by students. The users (students) are familiar with technologies and applications so they can adapt the software with in a short time as it follows typical website layout and easy navigation rules.

2.4 General Constraints

Time: the time frame given for the project lowers the number of features intending to be implemented.

Higher-order language requirements: having the necessary language requirement is difficult since the team still has to learn the languages needed for the project

2.5 Assumptions and Dependencies

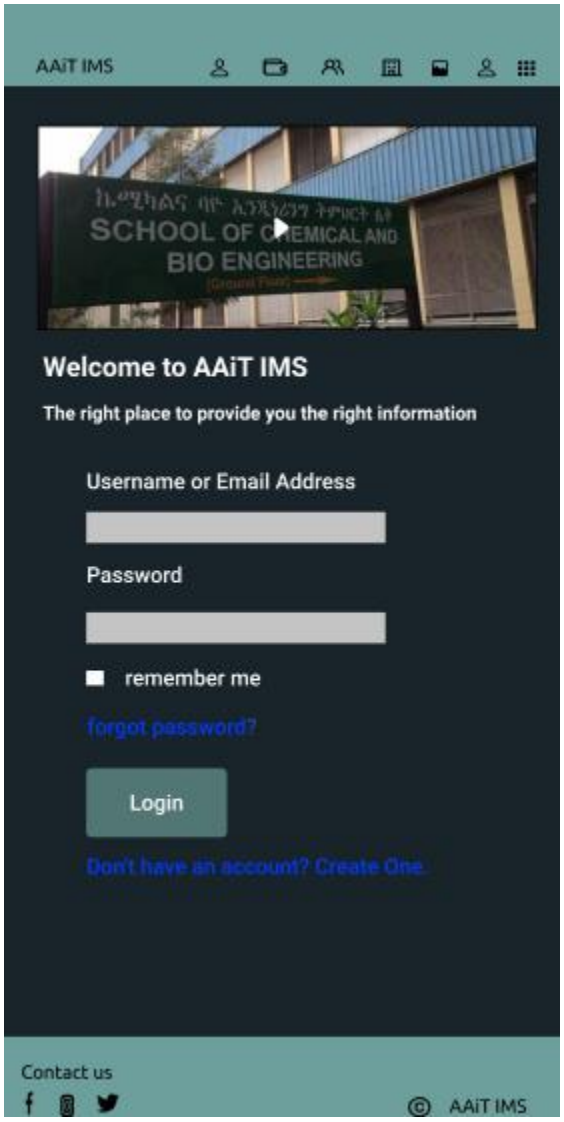
We are assuming that the users of this software system are easily adaptable with technologies and are able to get a good connection whenever they want to use this system because the system is highly dependent on network connection.

3. Specific Requirements

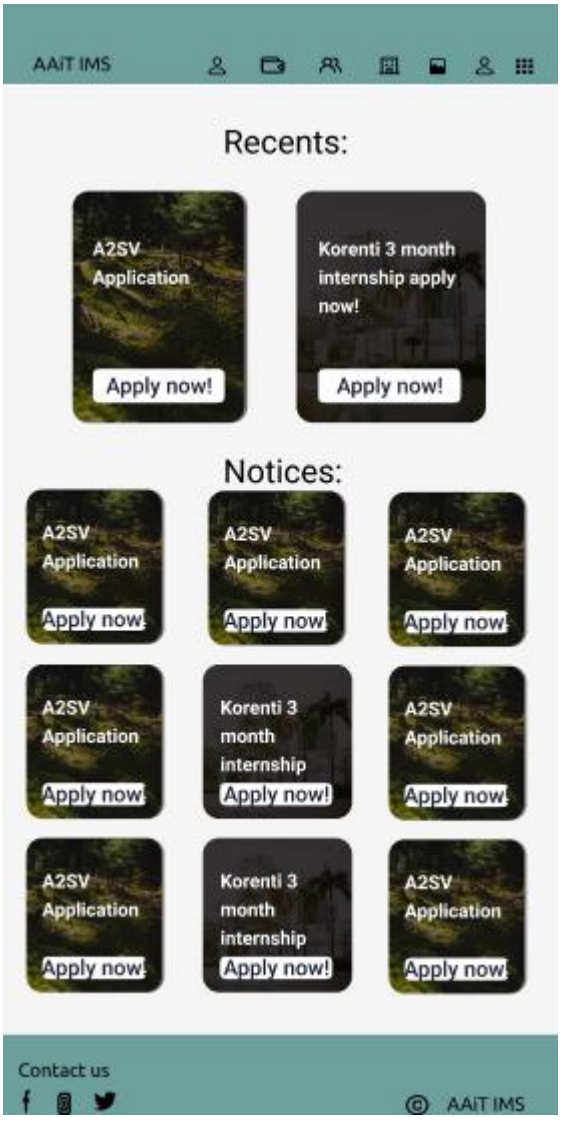
3.1. External Interfaces

3.1.1. User Interfaces

1. Landing page:



2. The notice board (home)



3. Advisory:

4. Schools

4. Portal:


AAiT IMS
Grades
Register
Abebe Kebede
year-3 2021
software-engineering
Contact us
AAiT IMS


AAiT IMS
Events
Offices
Almuni photos
Contact us
AAiT IMS

8. Archive


AAiT IMS
Materials
PreEng
See more
SCBE
See more
SMiE
See more
SiTE
See more
SCHE
See more
SECE
See more
Contact us
AAiT IMS

3.1.2 Hardware Interfaces

Computer with an internet connection and a browser is only required for the client to run the application.

The application will run on a browser which supports HTML, CSS & JavaScript.

3.1.3 Software Interfaces

Web Browser such as the latest Internet Explorer 8.0 or later, Google Chrome, Mozilla Firefox, or any browser to run the system.

3.2. Functional Requirements

3.2.1. Table FR-01-Sign up

Functional Requirement Name	Sign up
ID	FR-01-Sign up
Description	The system shall let the students register in order to use the website and exploit the resources.
Summary	The system shall register new students into its database.
Dependency	
References	UC-01-Signing up

3.2.2. Table FR-02-Login

Functional Requirement Name	Login
ID	FR-02- Login
Description	The system shall let the students who are registered to login to the system.in order to use the website and exploit the resources.
Summary	The system shall let registered new students login
Dependency	FR-01-Sign up
References	UC-02-Logging in

3.2.3. Table FR-03-Edit Profile

Functional Requirement Name	Edit Profile
ID	FR-03-Edit Profile
Description	The system shall let the students who have an account update and edit their profiles.
Summary	The users must be able to edit their profile
Dependency	FR-02- Login
References	UC-03-Editing Profile

3.2.4. Table FR-04-Access Materials

Functional Requirement Name	Access Materials
ID	FR-04-Access Materials
Description	The system shall let the students who have an account and are logged in access materials that are found in the database.
Summary	The users must be able to access materials
Dependency	FR-02- Login
References	UC-04-Accessing Material

3.2.5. Table FR-05-Contact Advisory

Functional Requirement Name	Contact Advisory
ID	FR-05-Contact Advisory
Description	The system shall let the students who are logged in to be able to contact an advisor from the advisory section.
Summary	The users must be able to contact.
Dependency	FR-02- Login
References	

3.2.6. Table FR-06-Access Portal

Functional Requirement Name	Access Portal
ID	FR-07-Access Portal
Description	The system shall let the students who are logged in to be able to access the portal site in order to see their grades and register.
Summary	The users must be able to access portal
Dependency	FR-02- Login
References	

3.2.7. Table FR-07-Access notice board

Functional Requirement Name	Access notice board
ID	FR-06-Access Information
Description	The system shall let the students who are logged in to be able to view updated information posted by the admin.
Summary	The users must be able to access information.
Dependency	FR-02- Login
References	

3.2.8. Table FR-08-Access School Information

Functional Requirement Name	Access School Information
ID	FR-08-Access School Information
Description	The system shall let the students who are logged in to be able to access the various information provided about the schools in the campus.
Summary	The users must be able to access school information
Dependency	FR-02- Login
References	

3.3. Use Cases

3.3.1. Table US-01-Signing up

Use Case Name	Signing up
ID	US-01-Signing up
Actors	Unregistered User
Triggers	Create an account link on the landing page
Precondition	Internet connection
Post condition	Login is possible
Main Course	1. Having a create account link 2. Clicking on that link 3. Filling out the necessary information 4. Clicking a create account button
Alternative	None
Exceptions	1. User already existing Notifying the user already exists. 2. User entering invalid information Notifying the user to enter valid inputs

3.3.2. Table US-02-Logging in

Use Case Name	Logging in
ID	US-02-Logging in
Actors	registered User
Triggers	Clicking the login link on the landing page
Precondition	Internet connection
Post condition	User will be able to access all features provided in the website application
Main Course	1. Having a login link on the landing page 2. Clicking on that link
Alternative	None
Exceptions	1. User unidentified Notify the user that the account does not exist and they should sign up before logging in 2. User entering invalid information Notify the user to enter valid information

3.3.3. Table US-01-Editing Profile

Use Case Name	Editing Profile
ID	US-03-Editing Profile
Actors	Logged in user
Triggers	Edit link in the profile
Precondition	1. Internet connection 2. Users must be logged in
Post condition	Updating profile is resulted
Main Course	1. Having an edit link 2. Clicking on the edit link 3. Making the changes 4. Saving the Changes
Alternative	None
Exceptions	1. Forgetting to save Notify the user that the changes have not been saved

3.3.4. Table US-01-Accessing Materials

Use Case Name	Accessing Material
ID	UC-04-Accessing Material
Actors	registered User
Triggers	Going to the Materials section
Precondition	1. Internet connection 2. Users must be logged in
Post condition	The user will be able to access all manners of materials
Main Course	1. Go to the Materials section by clicking links 2. Go to a specific department by clicking links 3. Browsing through Different Materials 4. Choosing the material 5. Download the material
Alternative	None
Exceptions	None

3.3.5. Table US-05-Contacting Advisors

Use Case Name	Contacting Advisors
ID	UC-05- Contacting Advisors
Actors	registered User
Triggers	Going to the Advisors section
Precondition	1. Internet connection 2. Users must be logged in
Post condition	The user will be able to access information related to who to ask for advice.
Main Course	1. Go to advisors section by using links 2. Looking through a list of advisors 3. Selecting an advisor that the user sees fit 4. Looking at the ways to contact that person 5. Using those ways to contact that advisor
Alternative	None
Exceptions	None

3.3.6. Table US-06-Accessing Notice Board

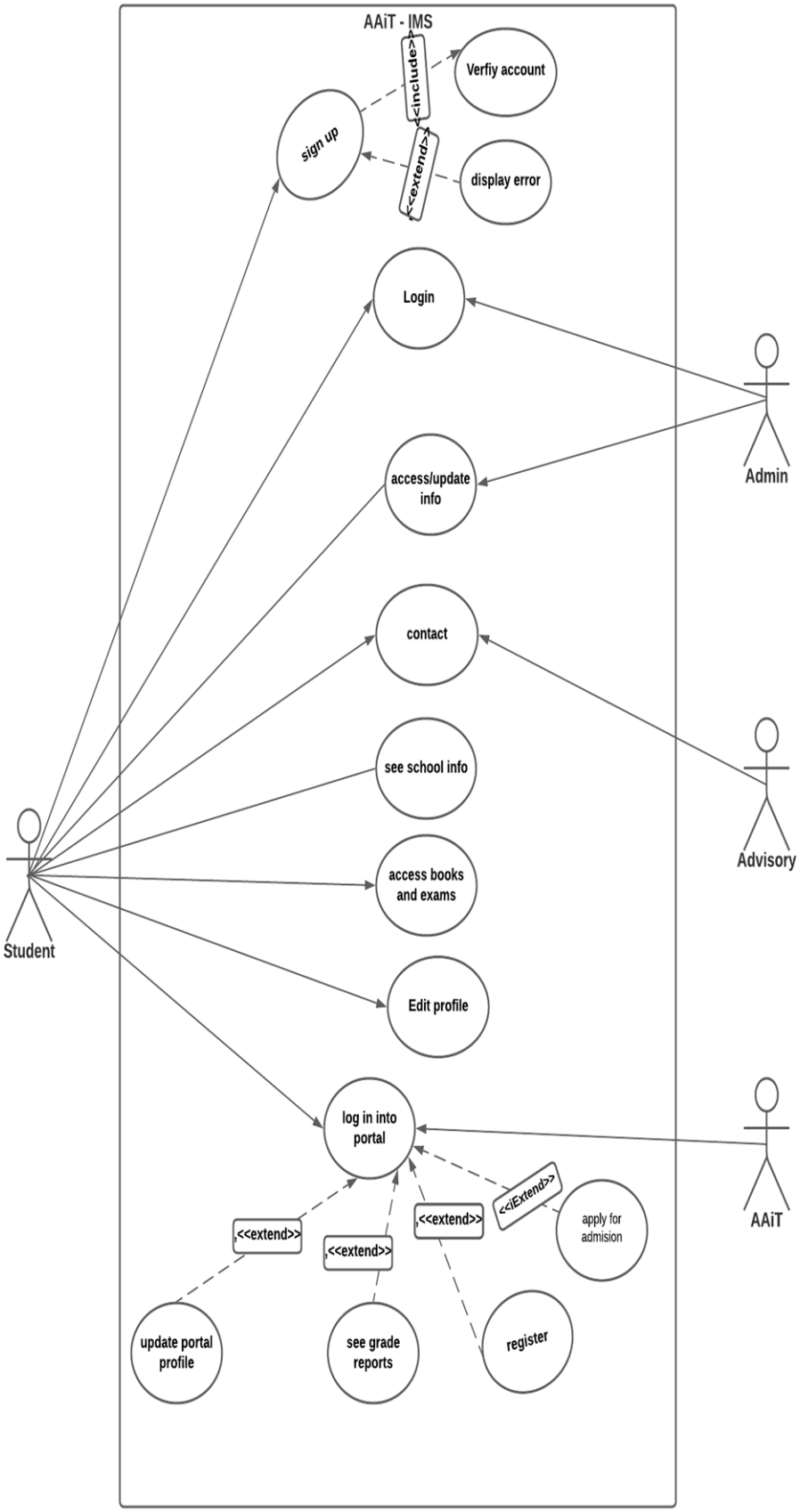
Use Case Name	Accessing Notice Board
ID	UC-06- Accessing Notice Board
Actors	registered User
Triggers	Logging in
Precondition	1. Internet connection 2. Users must be logged in
Post condition	The user will be able to access information.
Main Course	1. Logging in 2. Browsing information
Alternative	None
Exceptions	None

3.3.7. Table US-07-Accessing Portal

Use Case Name	Accessing portal
ID	UC-07- Accessing Portal
Actors	registered User
Triggers	Clicking on the portal link
Precondition	1. Internet connection 2. Users must be logged in
Post condition	The users will be able to access their portal information, view their grades and register for courses
Main Course	1. Having a portal button 2. Clicking on that button 3. Seeing grades/ registering
Alternative	None
Exceptions	None

3.3.8 Table US-08-Accessing School Information

Use Case Name	Accessing school information
ID	UC-08-Accessing school information
Actors	registered User
Triggers	Going to the Schools section
Precondition	1. Internet connection 2. Users must be logged in
Post condition	The user will be able to access information related to the schools in the campus
Main Course	1. Going to the schools section 2. Clicking on a specific school 3. Getting information about that school
Alternative	None
Exceptions	None


AAiT - IMS
sign up
<<include>>
Verfiy account
<<extend>>
display error
Login
access/update info
contact
see school info
access books and exams
Edit profile
log in into portal
<<extend>>
<<extend>>
<<extend>>
<<iExtend>>
apply for admision
update portal profile
see grade reports
register
Student
Admin
Advisory
AAiT

3.4 Non-Functional Requirements

3.4.1 Performance

AAiT IMS web app works in almost any platforms as it will be developed as a web app which is lightweight. The system shall at least deal with a thousand users at the same time. The application shall not take more than 20 seconds to open after being started. Since the system is web based the performance of the application is highly dependent on the connection the user has around him.

3.4.2 Reliability

The data stored on the application is expected to be available for many years. There will be consistent updates on the content of the data stored. The system should perform member validation accurately.

3.4.3 Availability

Our web app will be available at all times. Since it is web based app it will be accessible 24/7.

3.4.4 Security

Since this software will be hosted on cloud server, all the user data will be kept on the cloud server. Product should be able to protect privacy of user data. Workspace of the user should only be accessed through user own credentials and any other user should not be able to access to the user private data.

Since all the data will be transferred on the web, system should also use an encryption and decryption mechanism only intended user can decode the data and work on the data. The application will use HTTPS service on the backend to secure the server it is running on

3.4.5 Maintainability

When new requirements are met or when some parts are not functioning our web based app is easily maintainable because of its simplicity.

3.4.6 Portability

Our web app shall run on variety of platforms and variety of connection speeds. Portability also means running on most number of different platform without an additional effort. To achieve this, web application will be developed by using the common technologies and tools which are provided by all common web browsers and operating system such as HTML5, JS etc.

3.5 Inverse Requirements

- The application shall not provide information for teachers or staff members
- The application shall not store information for teachers or staff members
- The application shall not be available to students outside of AAIT

3.6 Logical Database Requirements

In our project we will use a document database MySQL, we can store almost all data formats for our site, and the size is unlimited.

Our database will include student databases with their information. Another is the materials that are going to be provided to the students.

3.7 Other requirements

3.7.1. Training Related Requirements

No training is required for the use of the software system as it is simple and intuitive enough for the user.

3.7.2. Legal Requirements

All files found in the Software system will be owned by AAT. once the website is launched.

4. Requirement change management process

When there is a change in requirement specification we are going to deal with some rules and guidelines. Every change request will pass through the change management process before they are accepted or rejected.

One requirement change will pass the following steps in the change management process

- collect the changed request
- Conduct a meeting with all team members
- Decide to accept or to reject the request
- Report the accepted and rejected requests
- Modify the SRS based on the changed requirements

To approve the change we will consider the following criteria's

- The advantage and the disadvantage of making the change or transition
- How much time and resource it will cost us making the change
- Ensure that all parties are informed or not
- What additional feature is going to be added because of the change

References

- Previous SRS documents prepared by our seniors
- Template provided to us by Mr. Nuniyat Kifle