Document

Software Requirement Specification

ONLINE SCHOLARSHIP

for:

…….

Prepared by:

Andy Yohannes 5114100050

Arya Putra Kurniawan 5114100107

Informatics Engineering Department – Sepuluh Nopember Institue of Technology

ITS Keputih Sukolilo Surabaya Campus

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1 Introduction

1.1 Purpose Document

This document contains the Software Requirements Specification (SKPL) for Scholarships Registration System. The purpose of writing this document is to provide an explanation of the results about the software to be built either in the form of a general overview as well as detailed and thorough explanations.

This document will be used as reference material in the process of development and evaluation materials during the process of software development as well as the end of development. With the SRS document it is expected software development will be directed and focused and do not give rise to ambiguity, especially for software developers of scholarship application system.

1.2 Scope of the Problem

The software that is being built is Student Scholarships Registration System Informatics Engineering ITS, namely in the form of software is a desktop web information system that is used to serve the scholarship application in Informatics Engineering ITS.
The built system can do the following things:
1) Collect and process information existed scholarship in Information Engineering ITS
2) Being a media for registration or resignation scholarship in Informatics Engineering ITS
With the system of registration scholarships in Information Engineering ITS it is expected that the student scholarship applicants can more easily find out about scholarship info that is being offered and to register or resignation from scholarship.

1.3 Definitions and terms

Beehold are list of important definition and term that is used in this SRS document:

- SRS : *Software Requirements Specification*
  Document of resulted analysis that contain software requirement specification.
- IEEE : *Institute of Electrical and Electronics Engineering*
  International standard for product developing and designing.
- ANSI : *American National Standard Institute*
  America Standaradrization .
- TBD : *To Be Defined*
- LAN : Local Area Network
- SIFIS : Scholarship Information System

1.4 Naming and Numbering Rules

Writing this SKPL document using a variety of naming and numbering rules are different for certain parts. Naming and numbering used by it / The sections are as listed in Table 1 below.

Table 1 Naming and Numbering Rules

Case/Part	Numbering/Naming Rules
Functional Need	SRS-FXX : Shows the XX functional needs
Non Functional Needs	SRS-NFXX : Shows the XX non functional needs
Functional Needs Summary	SRS-Fxxx where xxx is three digit integer starts from 000
Non Functional Needs Summary	SKPL-NFxxx where xxx is three digit integer starts from 000

1.5 Reference

The documents used as a reference in making this SRS are as follows:

1) Document *Software Requirement Spesification (SRS) – IEEE* 1999 by Karl E. Wiegers.
2) Panduan Penggunaan dan Pengisian Spesifikasi Perangkat Lunak (SKPL), Informatics Engineering Department, Sepuluh November Institute of Technology. Ikhtisar Dokumen

This document outlines consists of three chapters with the following details:

- Chapter 1 Introduction, an introduction to this SRS document that contains the purpose of writing the document, the scope of the problem, also contains definitions and terms used as well as a general description of the document which is a summary of SRS document.
- Chapter 2 Software Global Description, define the perspective of software products as well as assumptions and dependencies that are used in the development of Scholarships Registration System.
- Chapter 3 Detailed Description of Requirement, describing the special needs of Scholarship Registration System, which includes an external interface requirements, functionality requirements, performance requirements, design constraints, attributes of software systems, and other needs of the Scholarship Registration System.

2 General Description of the Software

2.1 General Description of the system

Scholarship registration information system is a system that holds information on scholarships offered to students of Informatics Engineering ITS and a media in the scholarship application. In this system there are two users connected to the system, the registrant scholarships (User) and manager of scholarship Informatics Engineering ITS (Admin). Users have the right to obtain information about the scholarship and enroll in the scholarship. Manager of scholarship Informatics Engineering ITS duty is to provide information to applicants and controlling system. This information system can be accessed by all applicants who will register and who have done the scholarship application.

The software system is built has a few main parts by the user, which is as follows:

1) From the Applicant, the system provides a wide range of scholarships to facilitate registration and faster to access Registration Scholarships Information System, such as registration as a user, change the account information on the user, the facilitating view information of available scholarships, registering a scholarship from the list of available scholarships, upload documents into the scholarship requirements and resigned from the scholarship that has been registered.
2) From the admin side, the system can handle multiple management process list of scholarships and scholarship application, such as the process of adding available scholarships, and validate the scholarship application. These systems have the protection of access rights for users devoted to security and safety systems.

2.2 User Characteristics

User characteristic of the Scholarship Information System is defined on this table :

Table 2 User Characteristics

No	User Category	Role	Access Rights to Application	Prerequiste Ability
1.	Manager of Scholarship Informatics Engineering ITS	Manage Information System	Could manage(add and delete) Schoalrship Application Information	1.Should be able to operate PC 2.Should be able to operate web and database
2.	Applicant	Accessing Information System	Could create account as applicant, look as well apply to the scholarship and resign from applied scholarship	1.Should be able to operate PC 2.Should be able to use web browser application

2.3 Limitation

Developing the Scholarship Application System has several boundary including:

1. Application Scholarship Information System are created using HTML, ASP C# programming language.
2. Interface is just displaying a simple menu.
3. The limitations of the hardware used, for example, limited memory capacity, storage capacity is limited, and input only in the form of text and numbers, as well as some of the characters. The input data may include details of scholarships, requirements, substantial assistance, registration limit, etc.
4. Supporting software that may be used including DBMS SQL-Server, Visual Studio 2012, Notepad++ dan Sublime text 3.

2.4 Operating Environment

The Application Scholarship Information Sysystem will run on the system specification :

System operation platform : Microsoft Windows
System Operation Version : Windows Server 2003/XP SP2/Vista/7/8/10
DBMS : SQL-Server
Framework : HTML dan ASP C#

3 General Description Requirement

3.1 External Interface requirements

3.1.1 User Interface

SIFIS use Graphic User Interface(GUI). User could input data from keyboard and mouse that is used with windows operating system.

3.1.2 Hardware Interface

SIFIS system run on th server pc. All of the pc that is installed with SIFIS has to be connected on the LAN.

3.1.3 Software Interface

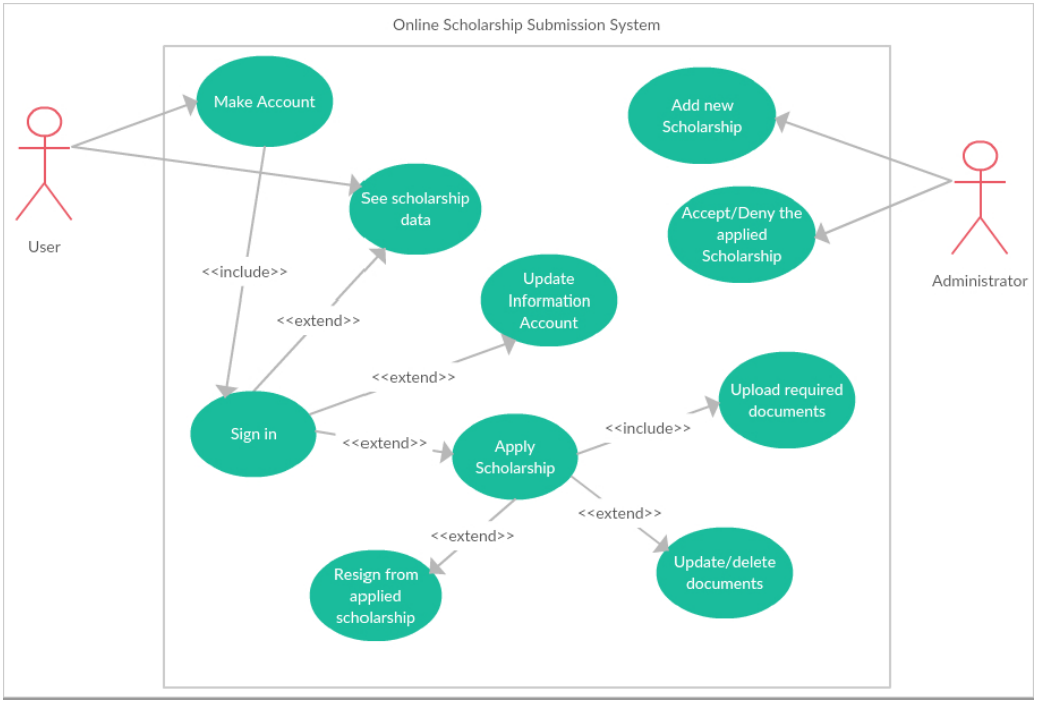
SIFIS is a program that will be built from HTML, ASP C# , SQL-Server programming language and will run on windows operating system.

3.1.4 Communication Interface

SIFIS is a system that will connect to the internet.

3.2 Functional Description

3.2.1 Use Case Diagram



Figures 1. Use Case Diagram

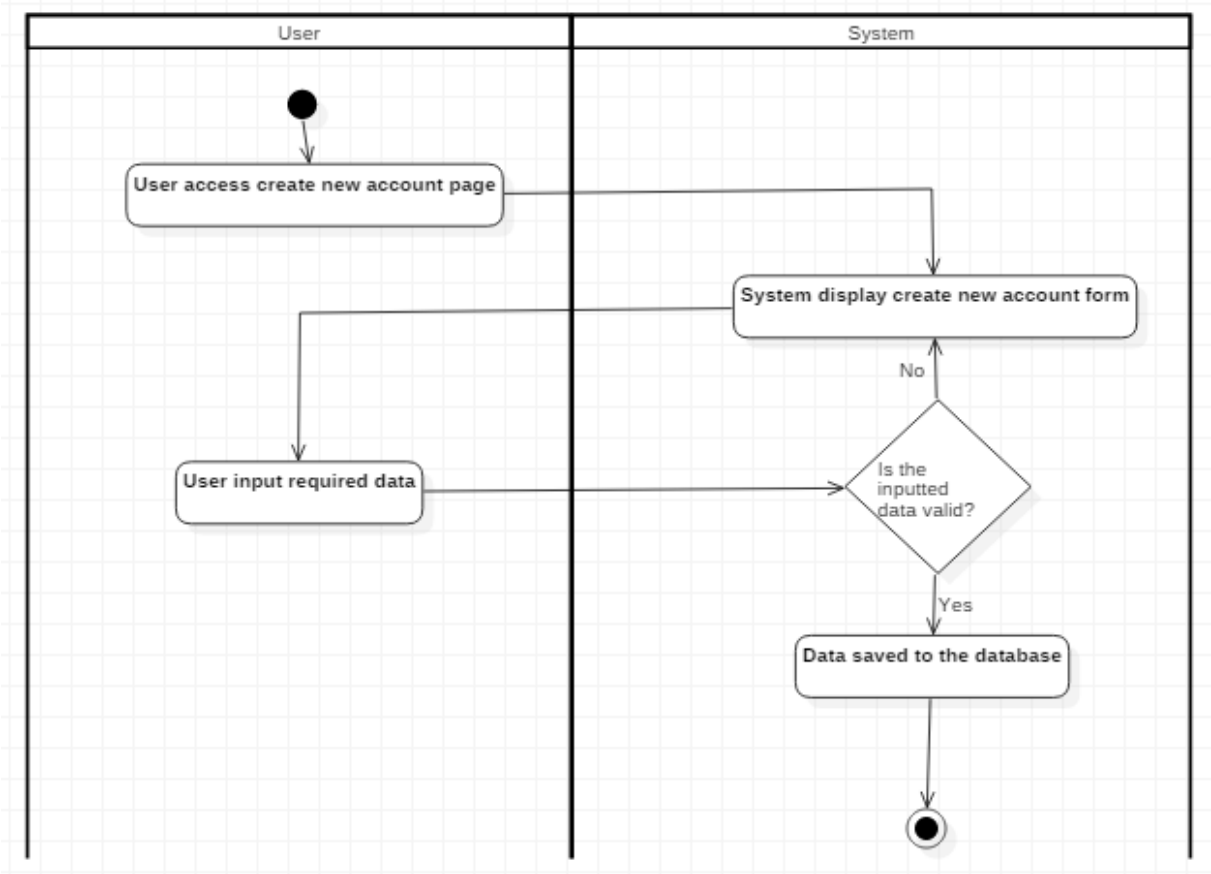
3.2.2 Function 1: Make New Account

3.2.2.1 Scenario: Make New Account

Use Case Code	UC 001
Use Case Name	Make new account
Actor	User
Description	This Use Case descripted how user could create new account that is used for applying scholarship.
Relation	-
Initial State	There is database that can hold user information
Final State	User's new account is registered to the database
Normal Flow of Event	
Actor	System
1.User access create new account page	

. 3.User input required data for creating new user	2.System display create new user page 4. System add new user account information to the database A1.Inputted data is not valid 5. Finished
Alternative Flow of Event	
A1. Inputted data is not valid	
Actor	System
A1.2 User see the message and click the “OK” button that is showed by system	A1.1 System display “inputted data error” message A1.3 System return to the flow number 2

3.2.2.2 Activity Diagram: Make New Account



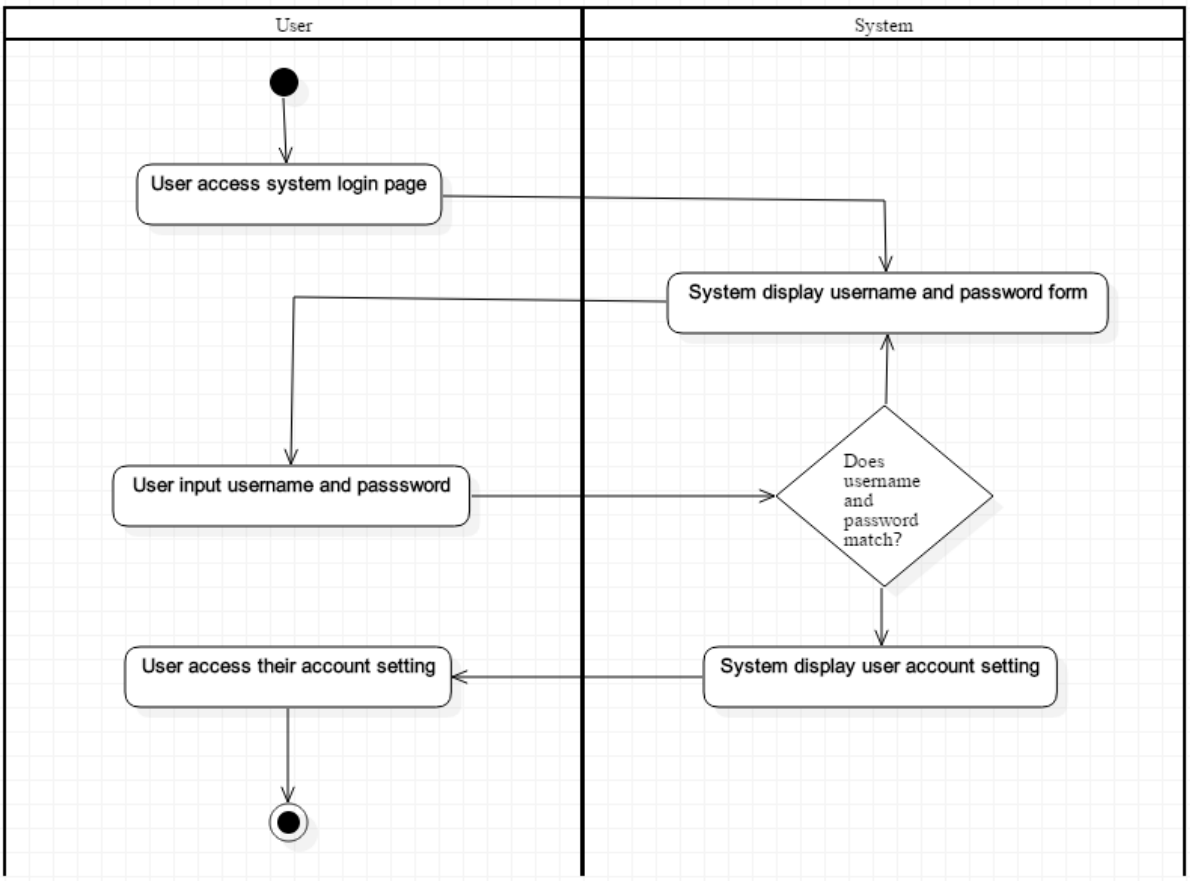
Figures 2. Activity Diagram "Make New Account"

3.2.3 Function 2: Login to the User Account

3.2.3.1 Scenario: Login to the User Account

Use Case Code	UC 002
Use Case Name	Log in to the user account
Actor	User
Description	This Use Case descripted how user could login to the existing account in the system and access their personal information
Relation	-
Initial State	There is user account existing in the system database
Final State	User logged in to their account
Normal Flow of Event	
Actor	System
1.User access log in to account page . 3.User input username and password of their account	2.System display log in to account page 4. System display user is logged in to the account notification A1.Username and password doesn't match 5. Finished
Alternative Flow of Event	
A1. Inputted data is not valid	
Actor	System
A1.2 User see the message and click the "OK" button that is showed by system	A1.1 System display "inputted username and password is wrong" message A1.3 System return to the flow number 2

3.2.3.2 Activity Diagram: Login to the User Account



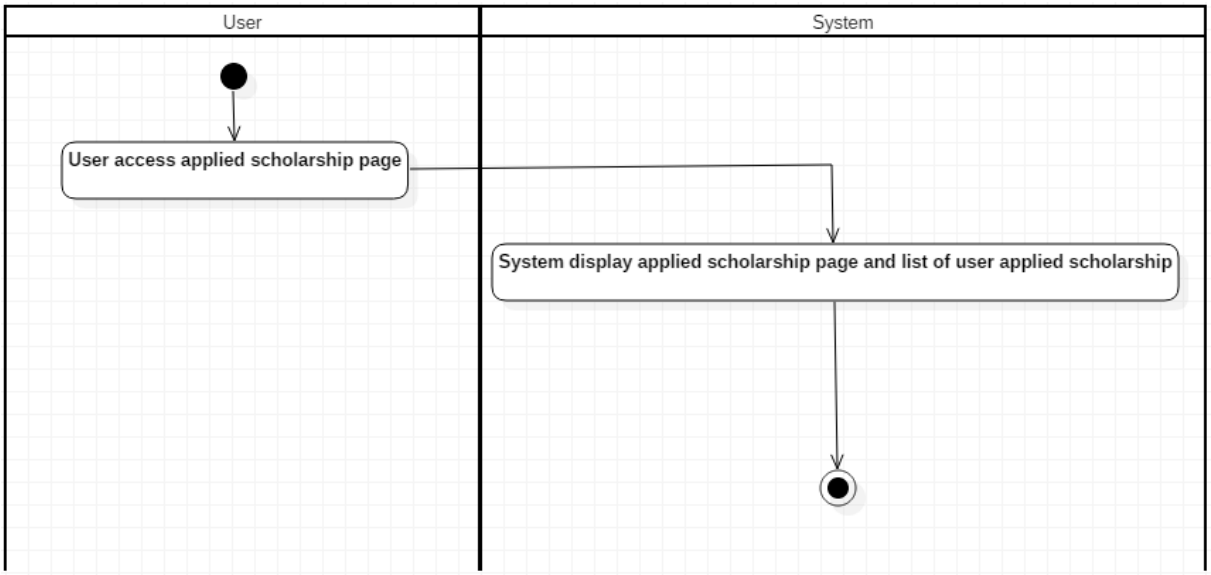
Figures 3. Activity Diagram "Login to the User Account"

3.2.4 Function 3: See Scholarship Data

3.2.4.1 Scenario: See Scholarship Data

Use Case Code	UC 003
Use Case Name	See scholarship data
Actor	User
Description	This Use Case descripted how user could see the list of all available scholarship registered in the system database
Relation	-
Initial State	There is registered scholarship in the system
Final State	User see the list of available scholarship
Normal Flow of Event	
Actor	System
1.User access scholarship list page	2.System display scholarship list page 3. Finished

3.2.4.2 Activity Diagram: See Scholarship Data



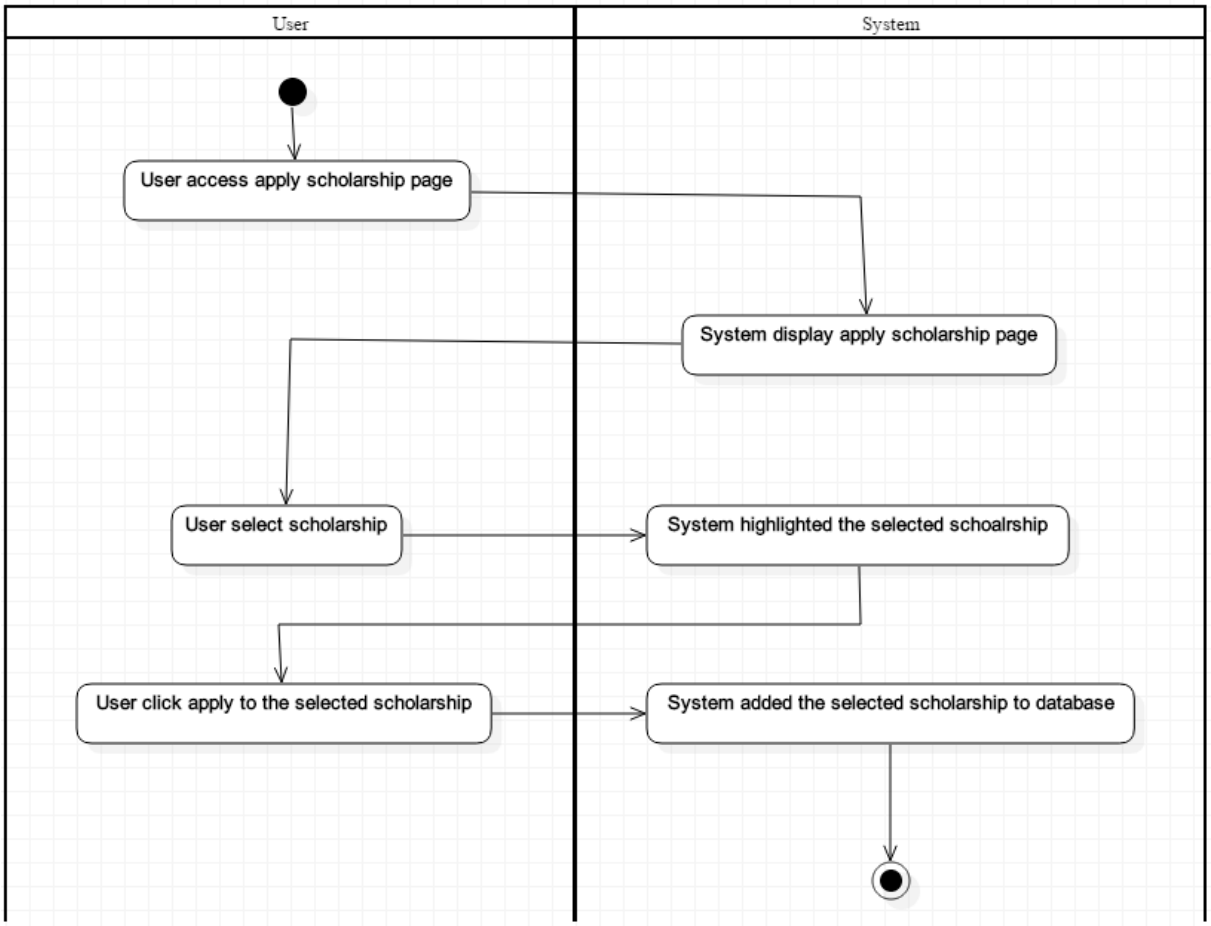
Figures 4. Activity Diagram "Melihat Daftar Beasiswa"

3.2.5 Function 4: Apply Scholarship Page

3.2.5.1 Scenario: Apply Scholarship Page

Use Case Code	UC 004
Use Case Name	Apply scholarship page
Actor	User
Description	This Use Case descripted how user could apply scholarship from the list of available scholarship in the system
Relation	-
Initial State	There is registered scholarship in the system database
Final State	User is registered in to the system as the applicant of the selected scholarship
Normal Flow of Event	
Actor	System
1.User access apply to the scholarship page . 3.User select the desired scholarship 5.User click the apply button	2.System display apply to the scholarship page 4.System highlighted selected scholarship 6.System register user as one of the applicant of the scholarship 7.Finished

3.2.5.2 Activity Diagram: Apply Scholarship Page



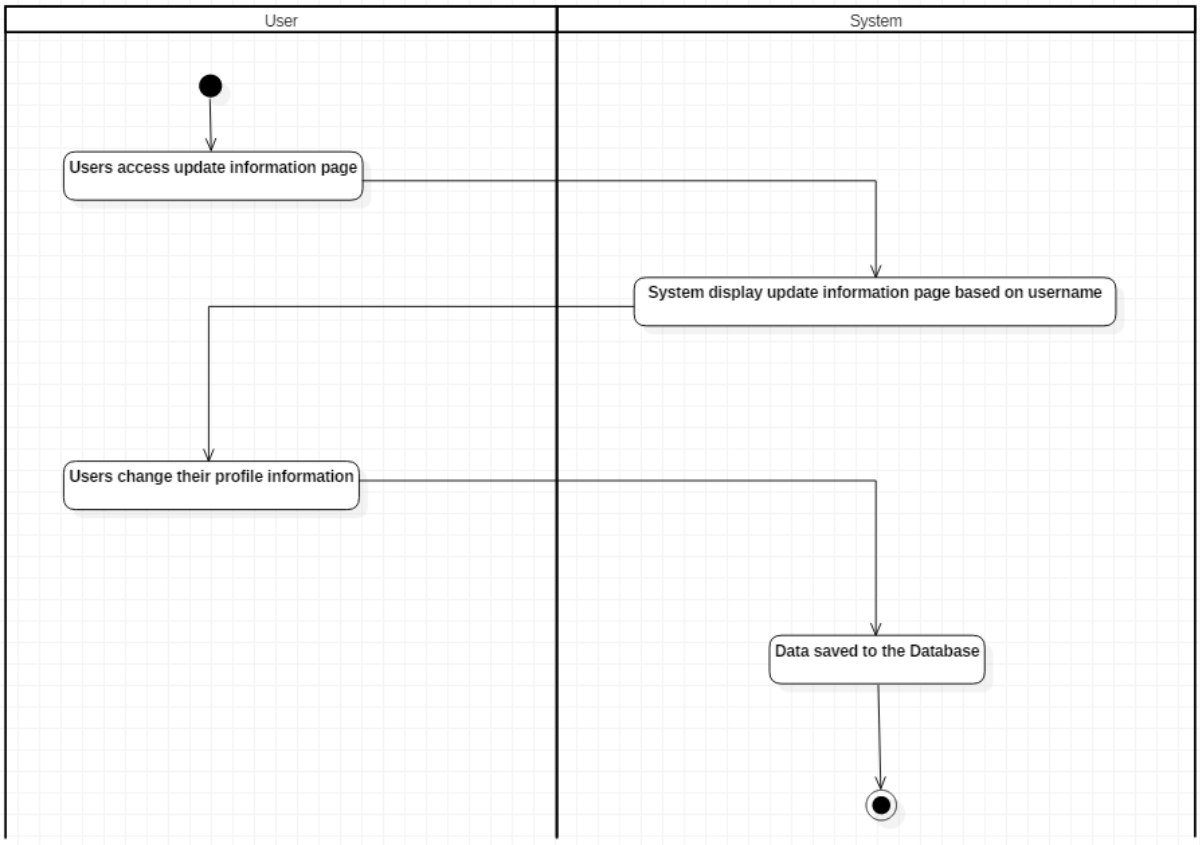
Figures 5. Activity Diagram "Apply Scholarship Page"

3.2.6 Function 5: Update User Information Page

3.2.6.1 Scenario: Update User Information Page

Use Case Code	UC 005
Use Case Name	Update User information page
Actor	User
Description	This Use Case descripted how user could update personal information in their account
Relation	-
Initial State	There is user account existing in the system database
Final State	User's account is updated with new information
Normal Flow of Event	
Actor	System
1.User access change account information page . 3.User input new information that they wished to change	2.System display change account information page 4. System saved the changed information back to the database 5. Finished

3.2.6.2 Activity Diagram: Update User Information Page



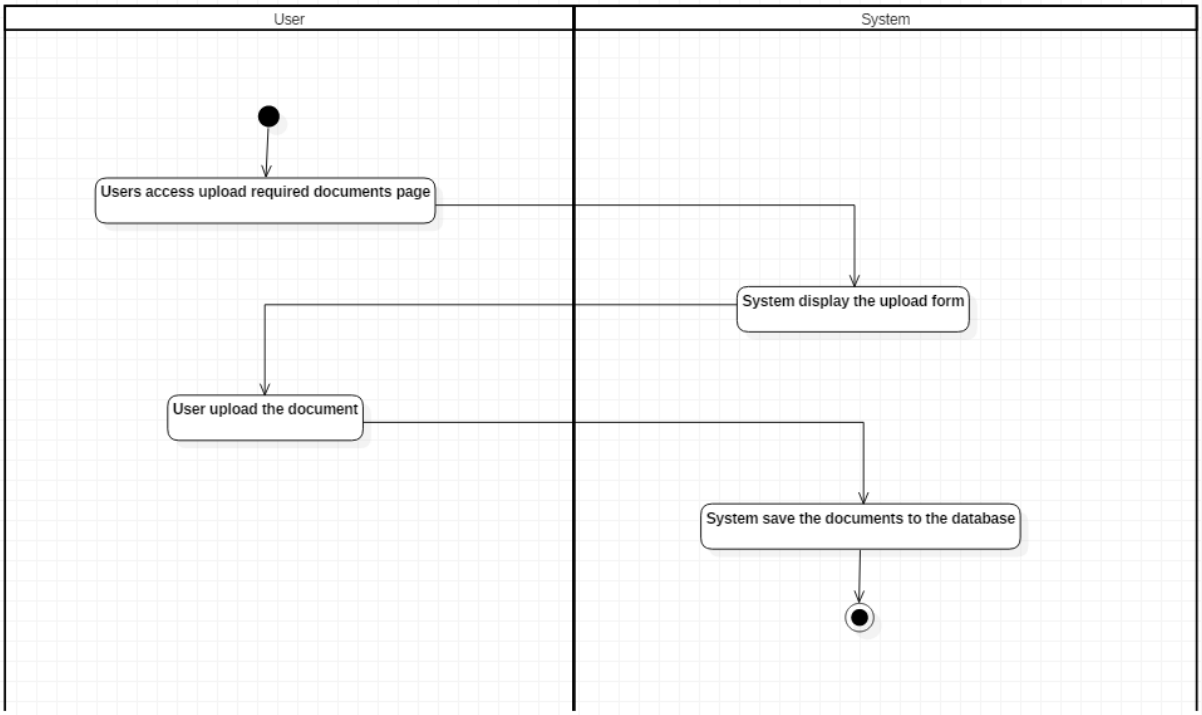
Figures 6. Activity Diagram “Update User Information Page”

3.2.7 Function 6: Upload Scholarship Document

3.2.7.1 Scenario: Upload Scholarship Document

Use Case Code	UC 006
Use Case Name	Upload Scholarship Document
Actor	User
Description	This Use Case descripted how user could upload document needed for their applied scholarship
Relation	-
Initial State	There is applied scholarship registered to the user account
Final State	User is able to upload required document to the system database
Normal Flow of Event	
Actor	System
1.User access upload scholarship document page . 3.User select the document that they wished to upload and click the upload button	2.System display change account information page 4. System saved the uploaded document back to the database 5. Finished

3.2.7.2 Activity Diagram: Upload Scholarship Document



Figures 7. Activity Diagram “Upload Scholarship Document”

3.2.8 Function 7: Change Uploaded Scholarship Document

3.2.8.1 Scenario: Change Uploaded Scholarship Document

Use Case Code	UC 007
Use Case Name	Change uploaded scholarship document
Actor	User
Description	This Use Case descripted how user could change or delete their uploaded scholarship document
Relation	-
Initial State	There is already uploaded scholarship document
Final State	User has uploaded their latest document
Normal Flow of Event	
Actor	System
1.User access change uploaded document page . 3.User choose which document is going to be updated or deleted and finally upload the document	2.System display change uploaded document page 4.A. System delete the old document registered in the database 4.B. System change the registered old document to the new uploaded document A1.User wish to upload or change another document 5. Finished
Alternative Flow of Event	
A1. User wish to change or delete new document	
Actor	System
A1.2 User see the message and click the "YES" button that is showed by system	A1.1 System display "does the user wish to change or delete new document" message A1.3 System return to the flow number 2

3.2.8.2 Activity Diagram: Change Uploaded Scholarship Document

Use Case Code	UC 007
Use Case Name	Change uploaded scholarship document
Actor	User
Description	This Use Case descripted how user could change or delete their uploaded scholarship document
Relation	-
Initial State	There is already uploaded scholarship document
Final State	User has uploaded their latest document
Normal Flow of Event	
Actor	System
1.User access change uploaded document page . 3.User choose which document is going to be updated or deleted and finally upload the document	2.System display change uploaded document page 4.A. System delete the old document registered in the database 4.B. System change the registered old document to the new uploaded document A1.User wish to upload or change another document 5. Finished
Alternative Flow of Event	
A1. User wish to change or delete new document	
Actor	System
A1.2 User see the message and click the “YES” button that is showed by system	A1.1 System display “does the user wish to change or delete new document” message A1.3 System return to the flow number 2

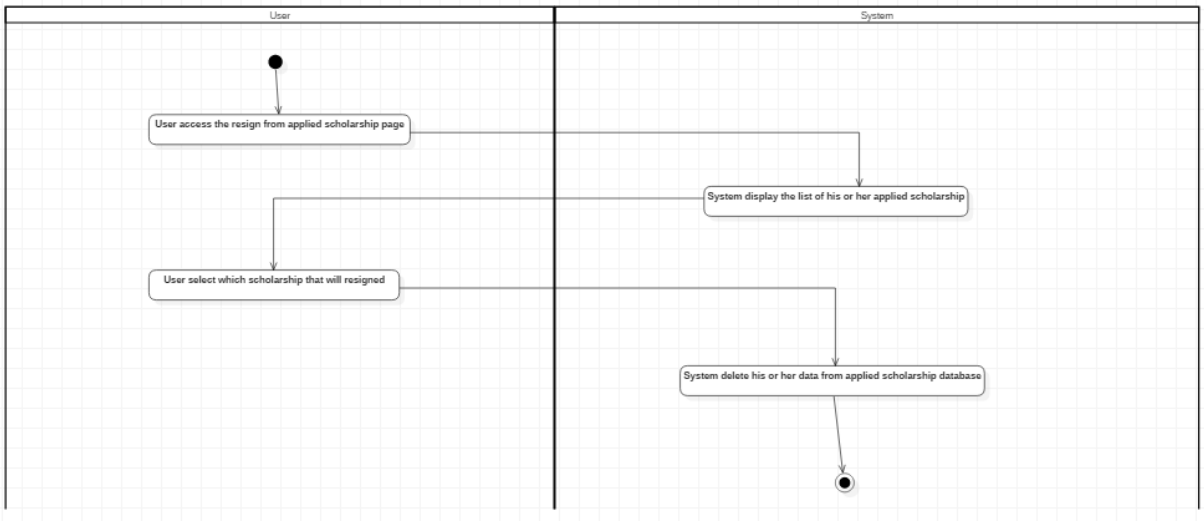
Figures 8. Activity Diagram “Change Uploaded Scholarship Document”

3.2.9 Function 8: Resign from Applied Scholarship

3.2.9.1 Scenario: Resign from Applied Scholarship

Use Case Code	UC 008
Use Case Name	Resign from applied scholarship
Actor	User
Description	This Use Case descripted how user could resign from the applied scholarship
Relation	-
Initial State	There is applied scholarship registered to the user account
Final State	User is able to resign from the previous registered scholarship
Normal Flow of Event	
Actor	System
1.User access resign from scholarship page . 3.User select which scholarship that he/she wished to resign from	2.System display resign from scholarship page 4. System delete the registered scholarship info on the user's account information in the database 5. Finished

3.2.9.2 Activity Diagram: Resign from Applied Scholarship



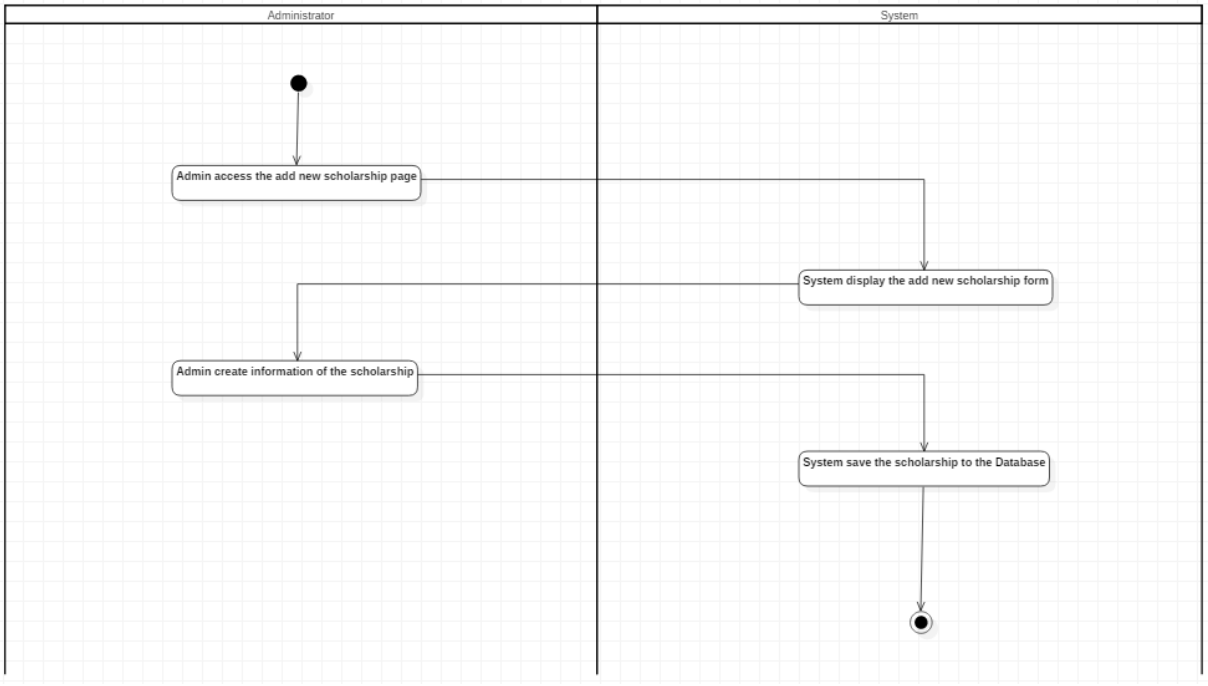
Figures 9. Activity Diagram "Resign from Applied Scholarship"

3.2.10 Function 9: Add New Scholarship

3.2.10.1 Scenario: Add New Scholarship

Use Case Code	UC 009
Use Case Name	Add New Scholarship
Actor	Administrator
Description	This Use Case descripted how admin could add new scholarship to the database
Relation	-
Initial State	There is database that could contain the scholarship data
Final State	Admin could add new scholarship information to the system
Normal Flow of Event	
Actor	System
1.Admin access the add new scholarship page 3.Admin add new information for the scholarship	2.System display add new scholarship page 4.Scholarship is added to the system database 5. Finished

3.2.10.2 Activity Diagram: Add New Scholarship



Figures 10. Activity Diagram "Add New Scholarship"

3.2.11 Function 10: Assessing Scholarship

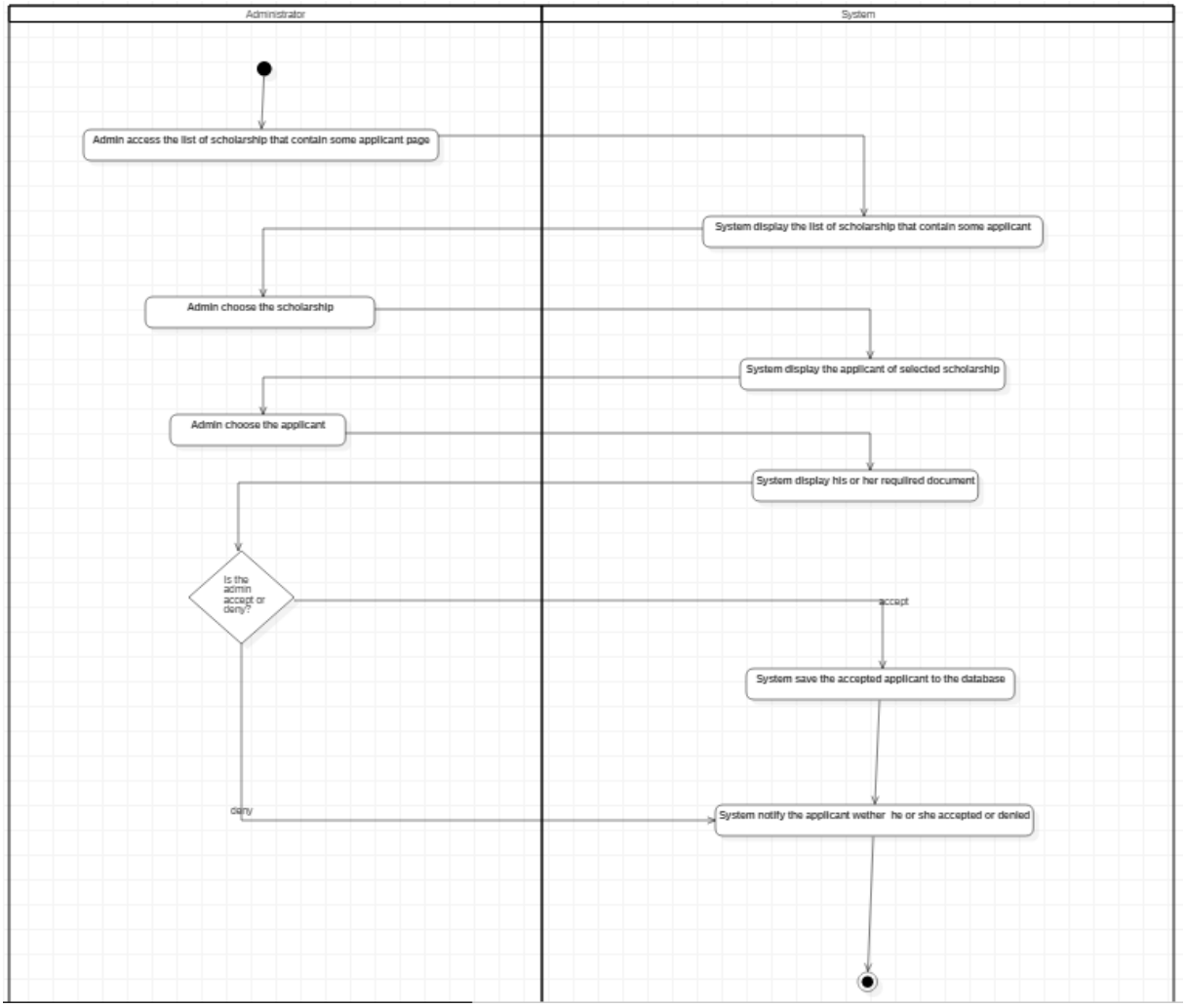
3.2.11.1 Scenario: Assessing Scholarship

Use Case Code	UC 010
Use Case Name	Assessing Scholarship
Actor	Administrator
Description	This Use Case descripted how admin could select which user is denied or accepted to scholarship
Relation	-
Initial State	There is already applier for scholarship with complete document
Final State	Admin notify user if they have been accepted or denied from the scholarship

Normal Flow of Event	
Actor	System
1.Admin access accept or deny scholarship page . 3.Admin choose the scholarship 5.Admin choose applicant A1.Admin denied the applicant for the scholarship	2.System display accept or deny scholarship page 4.System display the applicant of the selected scholarship 6.System display the selected applicant uploaded document 7.System saved the applicant as accepted applicant for the scholarship 8.Syatem notify the applicant whether he/she accepted or denied to the scholarship 9.Finished
Alternative Flow of Event	
A1. User wish to change or delete new document	
Actor	System
A1.1 Admin denied user from the scholarship	A1.3 System return to the flow number 8

Activity Diagram Mengases Beasiswa yang telah Didaftar

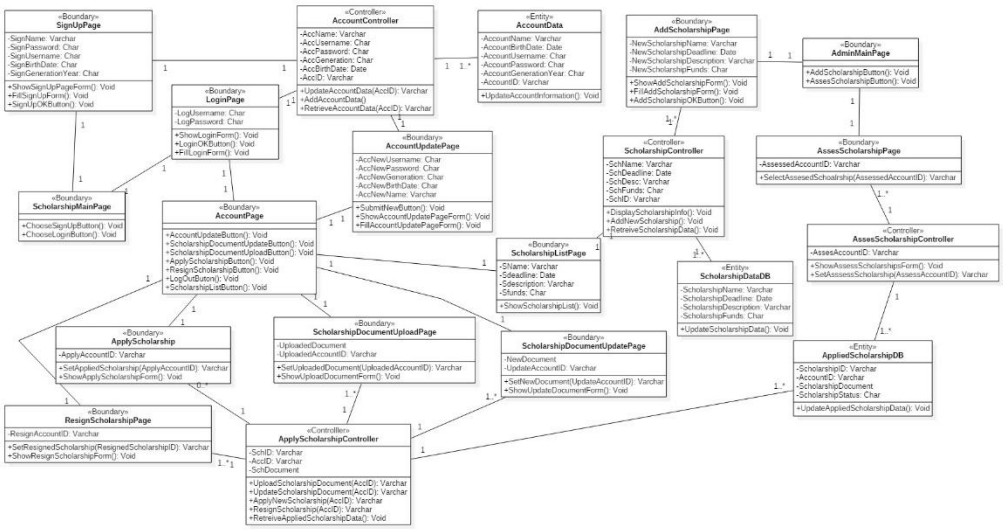
3.2.11.2 Activity Diagram: Assessing Scholarship



Figures 11. Activity Diagram "Assessing Scholarship"

3.3 Classes Description

3.3.1 Class Diagram



Figures 12. Class Diagram

3.3.2 Description of the Class Controller

Table 3 Description of the Class Controller

No.	Nama	Metode	Atribut	Tugas
1.	Account Controller	UpdateAccountData(),AddAccountData(),RetrieveAccountData()		Controlling data management and operation related to account information
2.	ApplyScholarshipController	UploadScholarshipDocument(AccID),UpdateScholarshipDocument(AccID),ApplyNewScholarship(AccID), ResignScholarship(AccID),RetreiveAppliedScholarshipData()		Controlling all operation and data management related to applied scholarship
3.	ScholarshipController	DisplayScholarshipInfo().AddNewScholarship(),RetrieveScholarshipData()		Controlling all operation and data management related to available scholarship

4.	AssessScholarshipController	ShowAssessScholarshipsForm(),SetAssessScholarship(AssessAccountID)		Mencari data

3.3.3 Description of the *Entity Class (Persistent)*

Table 4 Description of the Entity Class

No.	Nama	Atribut	Metode	Tugas
1.	AccountDataDB	AccountName : Varchar AccountBirthDate : Date AccountUsername : Char AccountPassword : Char AccountGenerationYear : Char AccountID : Varchar	UpdateAccountInformation()	Database for scholarship applicant account information
2.	ScholarshipDataDB	ScholarshipName : Varchar ScholarshipDeadline : date ScholarshipDescription : varchar ScholarschipFunds : varchar	UpdateScholarshipData()	Database for available scholarship information
3.	AppliedScholarshipDB	ScholarshipID : Varchar AccountID : Varchar ScholarshipDocument ScholarshipStatus: Char	UpdateAppliedScholarshipData()	Database for applied scholarship information

3.3.4 Description of the *Boundary Class*

Table 5 Description of the Boundary Class

No.	Nama	Atribut	Metode	Tugas
1.	SignUpPage		ShowSignUpPageForm(): Void FillSignUpForm(): Void SignUpOKButton(): Void	Display Sign Up Form
2.	ScholarshipMainPage		ChooseSignUpButton() ChooseLoginBuuton()	Display Main Page
3.	LoginPage		ShowLoginForm() LoginOKButton() FillLoginForm	Display Login Form
4.	AccountPage		AccountUpdateButton(): Void ScholarshipDocumentUpdateButton(): Void ScholarshipDocumentUploadButton(): Void ApplyScholarshipButton(): Void ResignScholarshipButton(): Void LogOutButon(): Void ScholarshipListButton(): Void	Display Account Main Page
5.	ResignScholarshipPage		SetResignedScholarship(in ResignedScholarshipID): Varchar ShowResignScholarshipForm(): Void	Display the Resign From Scholarship Form
6.	ApplyScholarship		SetAppliedScholarship(in ApplyAccountID): Varchar ShowApplyScholarshipForm(): Void	Display the Apply to Scholarship Page
7.	ScholarshipDocumentUploadPage		SetUploadedDocument(in UploadedAccountID): Varchar ShowUploadDocumentForm(): Void	Display the Document Upload Page

8.	ScholarshipDocumentUpdatePage		SetNewDocument(in UpdateAccountID): Varchar ShowUpdateDocumentForm(): Void	Display the Document Update Page
9.	AddScholarshipPage		ShowAddScholarshipForm(): Void FillAddScholarshipForm(): Void AddScholarshipOKButton(): Void	Display the Adding New Scholarship Page
10.	AdminMainPage		AddScholarshipButton(): Void AssesScholarshipButton(): Void	Display Admin Main Page
11.	AssessScholarshipPage		SelectAssesedSchoalrship(in AssessedAccountID): Varchar	Display Assess Scholarship Main Page
12.	AccountUpdatePage		SubmitNewButton(): Void ShowAccountUpdatePageForm(): Void FillAccountUpdatePageForm(): Void	Display the Account Update Page
13.	ScholarshipListPage		ShowScholarshipList(): Void	Display the Available Scholarship Page