POLYTECHNIC UNIVERSITY OF THE PHILIPPINES (PUP) SCHOLARSHIP AND FINANCIAL ASSISTANCE SERVICES MANAGEMENT INFORMATION SYSTEM

A System Proposal presented to the

Faculty of the College of Computer and Information Sciences,

Polytechnic University of the Philippines, Sta. Mesa, Manila

In partial fulfillment for the degree

Bachelor of Science in Information Technology

INTE 4213 – Capstone Project

Alcobendas, Winsley P.

Margallo, John Gabriel A.

Pinga, Pauline Mariz R.

Torriña, Kim C.
Proponents

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PROJECT CONTEXT

Scholarships open many doors to different students in the university. As a result, this makes the students take the impact of growth as an individual inside the campus. By giving scholarships to students they are given vast amazing opportunities. It reflects a student's determination that takes on excellent education, and character with an air of confidence.

Polytechnic University of the Philippines offers numerous kinds of scholarships that are being handled by the Polytechnic University of the Philippines (PUP) – Scholarship and Financial Assistance Services. The office gives scholarship opportunities to students that are in likely to break from financial matter with the case of school expenses. The office's mission is to aim in building Polytechnic University of the Philippines (PUP) students' lives, who are in need of resources, virtues achieving academic careers. The organization brings off to harmonize, layout and professionalize the administration for the unprofitable yet talented and worthy students in the University System.

CHAPTER 3 – METHODOLOGY

3.1. REQUIREMENTS ANALYSIS
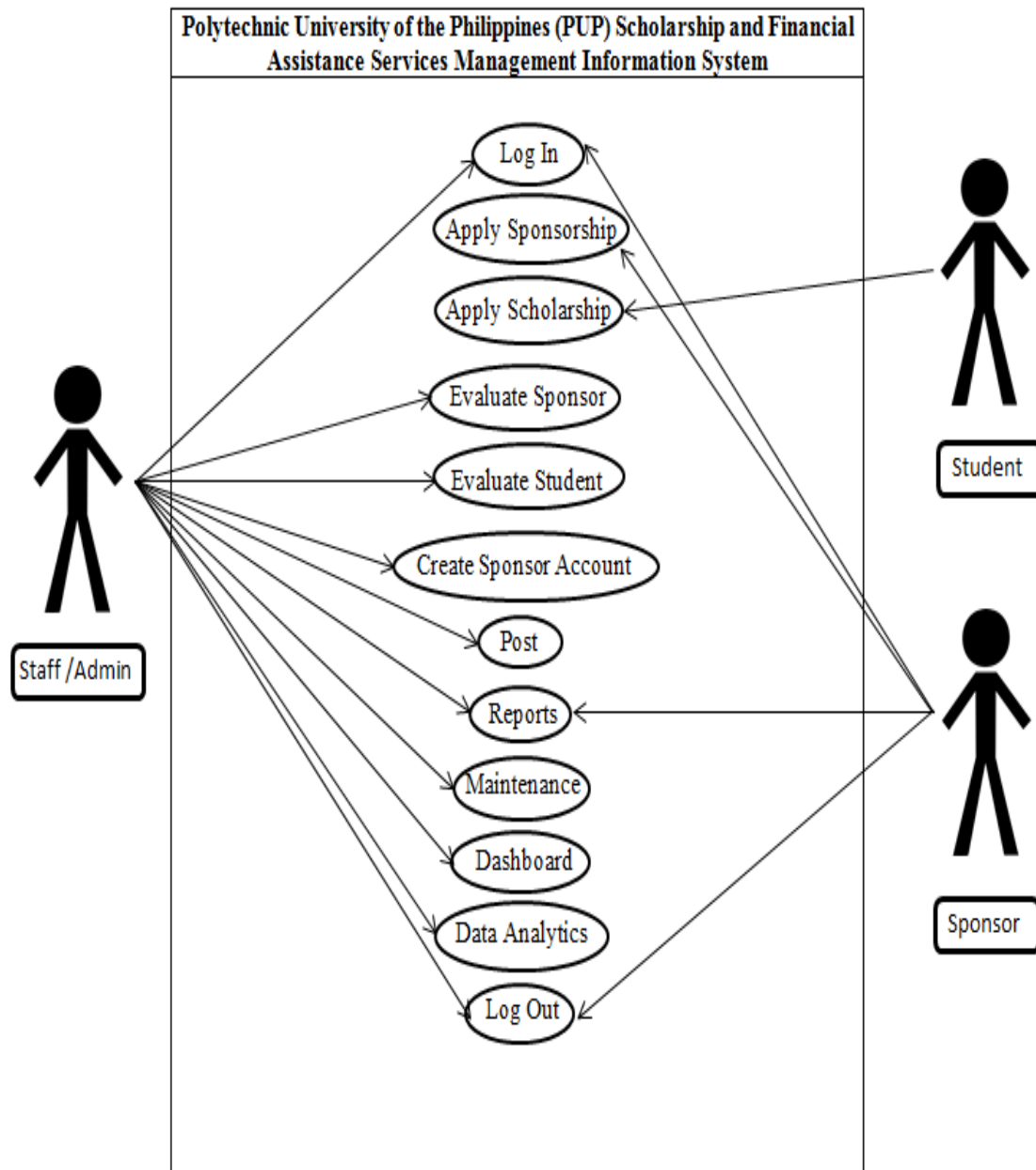
3.1.1.   Requirements – Features Matrix

Features \ Requirements	Provide Back-Up Storage of Documents	Computerized Storage	Online Personal Data Sheet	Online Viewing of Announcements and Requirements	Ease	Time Management
Log In (SFAS Staff)					✓	
Log In (Sponsor)					✓	
Create Report	✓					✓
Manage Data	✓	✓				
Save Data Information	✓	✓	✓		✓	
Post / Update / View Announcement				✓		✓
Post / Update / View Requirement				✓		✓
Fill Up Personal Data Sheet (PDS)			✓		✓	✓

Table 1: 3.1.1 - Requirements - Features Matrix

3.1.2. Use Case Diagram

Figure 1: 3.1.2 - Use Case Diagram

3.1.3. Use Case Report

Use Case	UC1 (Log In)
Brief Description	Allow the Actors to log in on their respective accounts
Actor	SFAS Admin, Sponsor
Pre-Condition	Actors should fill username and its corresponding password in order to log in
Post Condition	System will notify actors if the username or password is wrong or doesn't exist
Basic Flow	• Click log in button on SFAS Website • System displays the LOG-IN page • Actors will fill the username and password • Actors need to tap the button "LOGIN" to continue • System will direct you in admin page
Alternate Flow	

Table 2: 3.1.3 - Use Case Report (UC1 Log In)

Use Case	UC2 (Apply Sponsorship)
Brief Description	Allows the Actor to apply sponsorship, and steps on how to become a sponsor.
Actor	Sponsor
Pre-Condition	Actor should pick one of the categories (company or individual)
Post Condition	System requires to have a soft copy of Letter of Intent and Memorandum of Agreement (MOA)
Basic Flow	• Fill all the required fields • Actor should upload Letter of Intent and Memorandum of Agreement (MOA) in order to continue
Alternate Flow	

Table 3: 3.1.3 - Use Case Report (UC2 Apply Scholarship)

Use Case	UC3 (Apply Scholarship)
Brief Description	Allows the Actor to apply for scholarship programs
Actor	Student
Pre-Condition	Actor should pick one of the scholarship programs
Post Condition	System will notify the Actor if the required fields are not filled completely
Basic Flow	• Choose one scholarship program and click "Apply Scholarship" • Fill all the required fields • It will display all the requirements (hardcopy) that are needed

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	to be pass • It will notify the Actor if the application is successful
Alternate Flow	

Table 4: 3.1.3 - Use Case Report (UC3 Apply Scholarship)

Use Case	UC4 (Evaluate Sponsor)
Brief Description	Allows evaluating all the requirements and documents Actor (Sponsor) have filled and passed.
Actor	SFAS Admin
Pre-Condition	Actor can review all (even the accepted forms) documents
Post Condition	Identify who is approved and disapproved for sponsorship
Basic Flow	• Must be log-in in Admin page • Click Pending Sponsor • Click any sponsor you want to evaluate • It will display personal information and MOA (Memorandum of Agreement) of the sponsor • Click "Accept" Button if the sponsor is approved • Sponsor status will be "Accepted"
Alternate Flow	• Must be log-in in Admin page • Click Pending Sponsor • Click any sponsor you want to evaluate • It will display personal information and MOA (Memorandum of Agreement) of the sponsor • Click "Decline" Button if the sponsor is declined • Sponsor status will be "Declined"

Table 5: 3.1.3 - Use Case Report (UC4 Evaluate Sponsor)

Use Case	UC5 (Evaluate Student)
Brief Description	Allows evaluating all the requirements and documents Actor (Student) have filled and passed.
Actor	SFAS Admin
Pre-Condition	Actor can review all (even the accepted forms) documents
Post Condition	Identify who is approved and disapproved for scholarship grantee
Basic Flow	• Must be log-in in Admin page • Click Students • Click any students you want to evaluate • It will display personal information and scholarship they want to apply • Click "Accept" Button if the sponsor is approved • Student status will be "Accepted"

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Alternate Flow	- Must be log-in in Admin page - Click Students - Click any students you want to evaluate - It will display personal information and scholarship they want to apply - Click "Decline" Button if the sponsor is declined Student status will be "Declined"

Table 6: 3.1.3 - Use Case Report (UC5 Evaluate Student)

Use Case	UC6 (Create Account Sponsor)
Brief Description	Allow creating an account for approved Actor (Sponsor)
Actor	SFAS Admin
Pre-Condition	Actor (SFAS Admin) should fill the required fields that shown here based on the Actor (Sponsor) description
Post Condition	It will notify the Actor (SFAS Admin) if the Actor (Sponsor) account exist
Basic Flow	- Fill up all the required fields - Specific fields must be unique - Password must be unique
Alternative Flow	

Table 7: 3.1.3 - Use Case Report (UC6 Create Account Sponsor)

Use Case	UC7 (Post)
Brief Description	Allows the Actor (SFAS Admin) to publish all announcements both for Actor (Sponsor) and Actor (Student)
Actor	SFAS Admin
Pre-Condition	Actor (SFAS Admin) should fill all the required details to publish announcement
Post Condition	
Basic Flow	- Must be log-in in Admin page - Click Students - Click any students you want to evaluate - It will display personal information and scholarship they want to apply - Click "Decline" Button if the sponsor is declined - Student status will be "Declined"
Alternative Flow	

Table 8: 3.1.3 - Use Case Report (UC7 Post)

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Use Case	UC8 (Report)
Brief Description	Allows the admin to create reports of Actor (Sponsor) and Actor (Student), and allows the Actor (Sponsor) to receive report from the Actor (SFAS Admin)
Actors	SFAS Admin, Sponsor
Pre-Condition	Actor (SFAS Admin) needs to analyze and finalize all the data for creating reports
Post Condition	
Basic Flow	
Alternative Flow	

Table 9: 3.1.3 - Use Case Report (UC8 Report)

Use Case	UC9 (Maintenance)
Brief Description	Allows SFAS Admin to maintain the application to reflect changes in the organization's business or to adapt to new operating environments.
Actor	SFAS Admin
Pre-Condition	
Post Condition	
Basic Flow	
Alternative Flow	

Table 10: 3.1.3 - Use Case Report (UC9 Maintenance)

Use Case	UC10 (Dashboard)
Brief Description	This use case is a user friendly. It is an organized and presents information easily
Actor	SFAS Admin
Pre-Condition	SFAS Admin must be logged in
Post Condition	
Basic Flow	• Actor must be logged in • After page, it will redirect you on Dashboard
Alternative Flow	• Click Dashboard located left side of the Admin page

Table 11: 3.1.3 - Use Case Report (UC10 Dashboard)

Use Case	UC11 (Data Analytics)
Brief	Allows the actor to view how many student and sponsor applied and

| Description	how many of them is accepted or declined
Actor	SFAS Admin
Pre-Condition	SFAS Admin must be logged in
Post Condition	
Basic Flow	• Actor must be logged in • Click "Data analytics" located left side of the Admin page
Alternative Flow	

Table 12: 3.1.3 - Use Case Report (UC11 Analytics)

Use Case	UC12 (Log out)
Brief Description	Allows the Actors (SFAS Admin, Sponsor) to log out their accounts
Actor	SFAS Admin, Sponsor
Pre-Condition	Actor (SFAS Admin, Sponsor) should click the logout button
Post Condition	After logout, the page will redirect to "Log-In" page
Basic Flow	• Click "Account" button for more options • Click "Logout" button to logout the current account
Alternative Flow	• Quit the application (it will automatically logout your account)

Table 13: 3.1.3 - Use Case Report (UC12 Log Out)

3.2. DESIGN SPECIFICATIONS

3.2.1. Activity Diagram
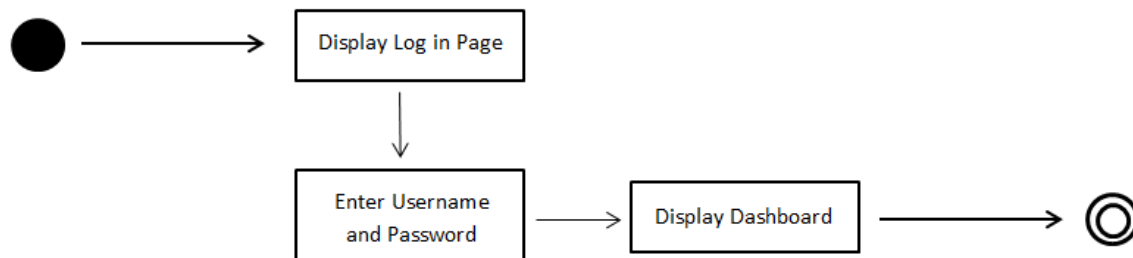
Figure 2: 3.2.1 - Activity Diagram (Log In)
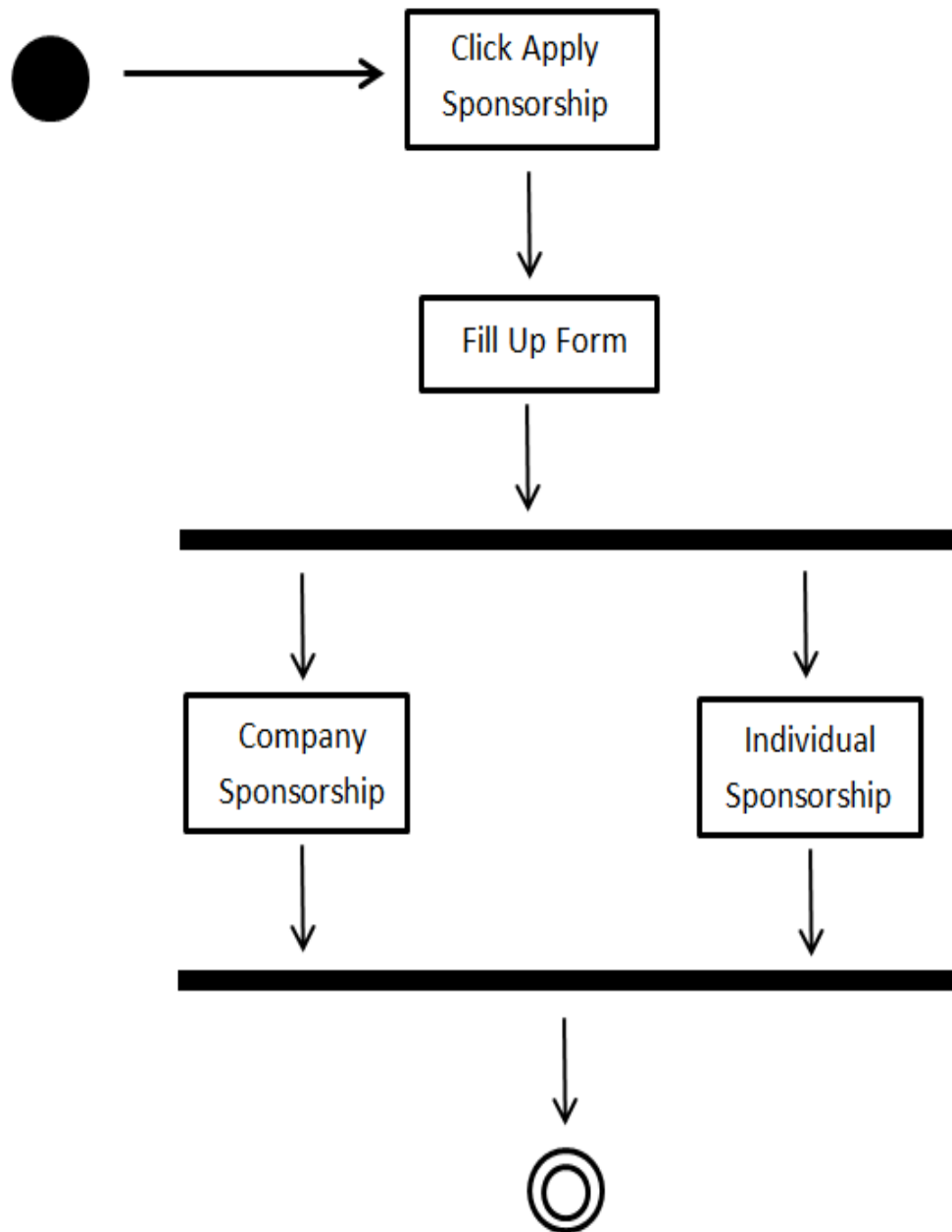
Figure 3: 3.2.1 - Activity Diagram (Apply Sponsorship)
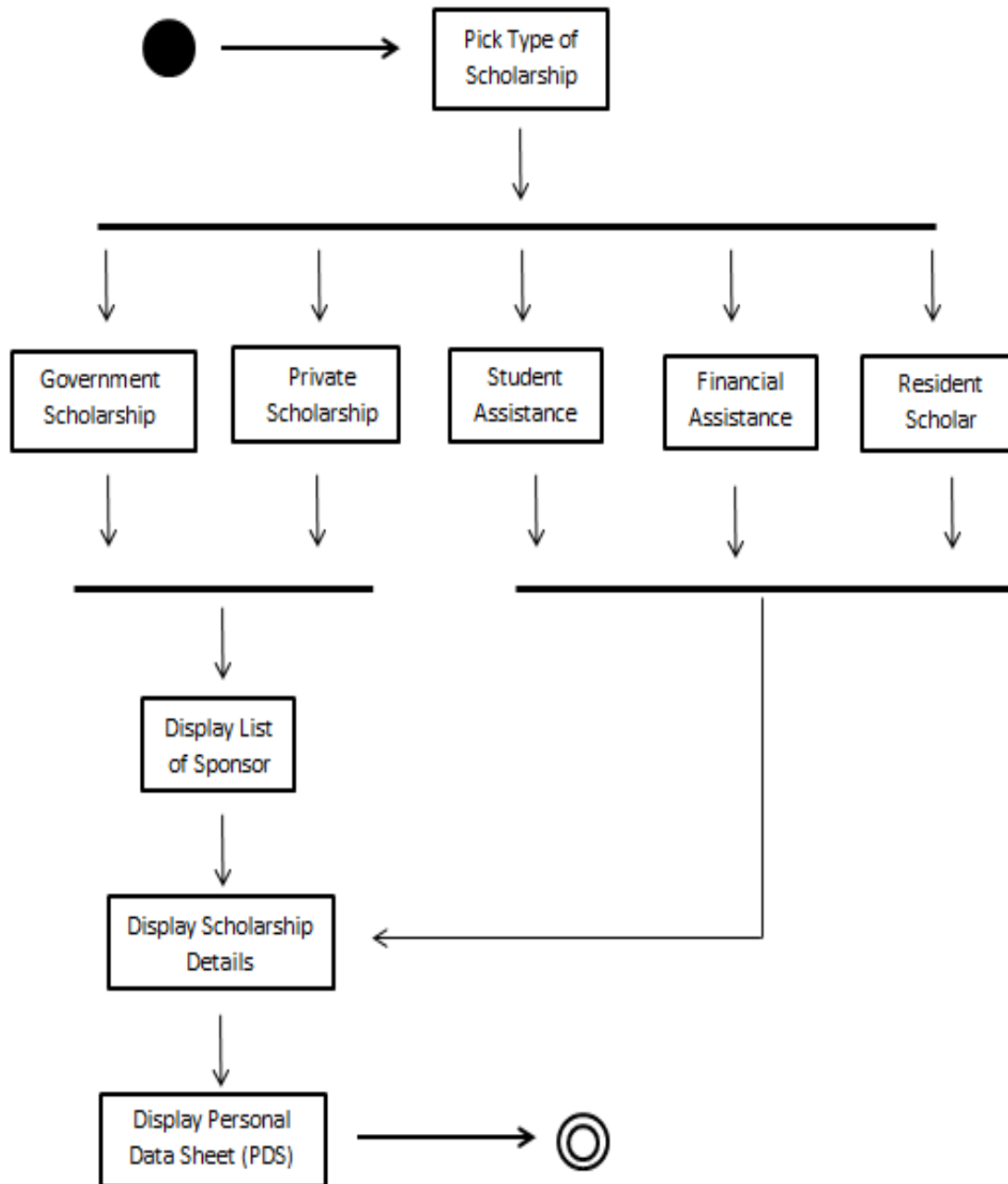
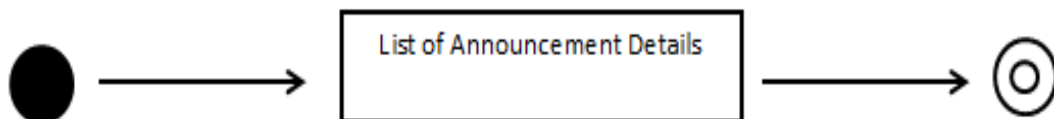*Figure 4: 3.2.1 – Activity Diagram (Apply Scholarship)*
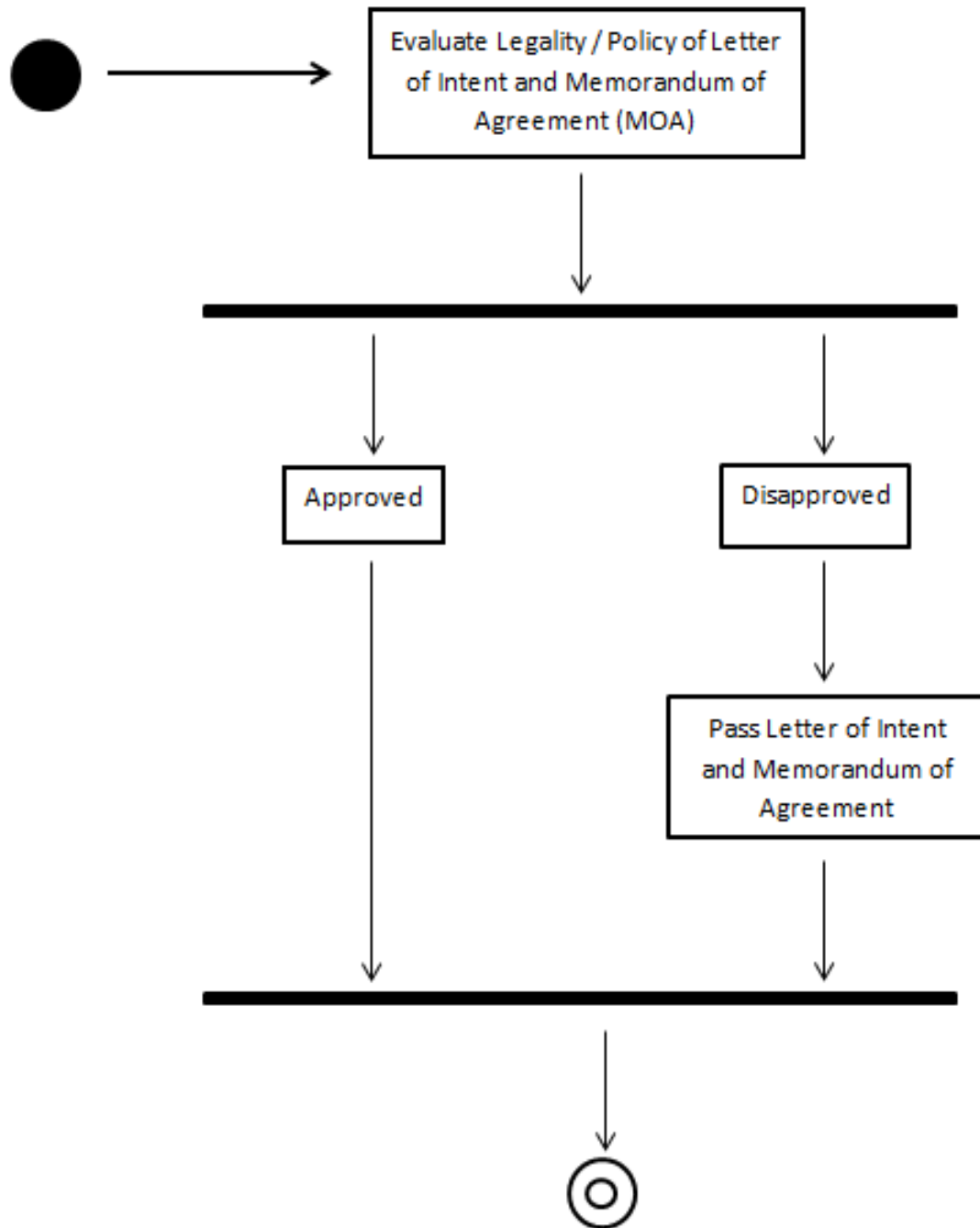
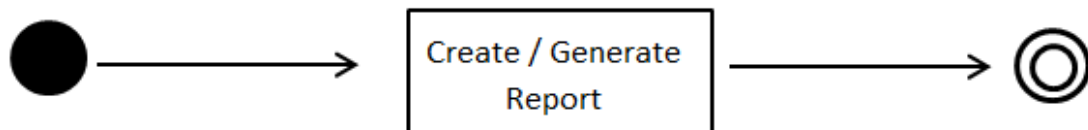*Figure 5: 3.2.1 - Activity Diagram (Evaluate Sponsor)*
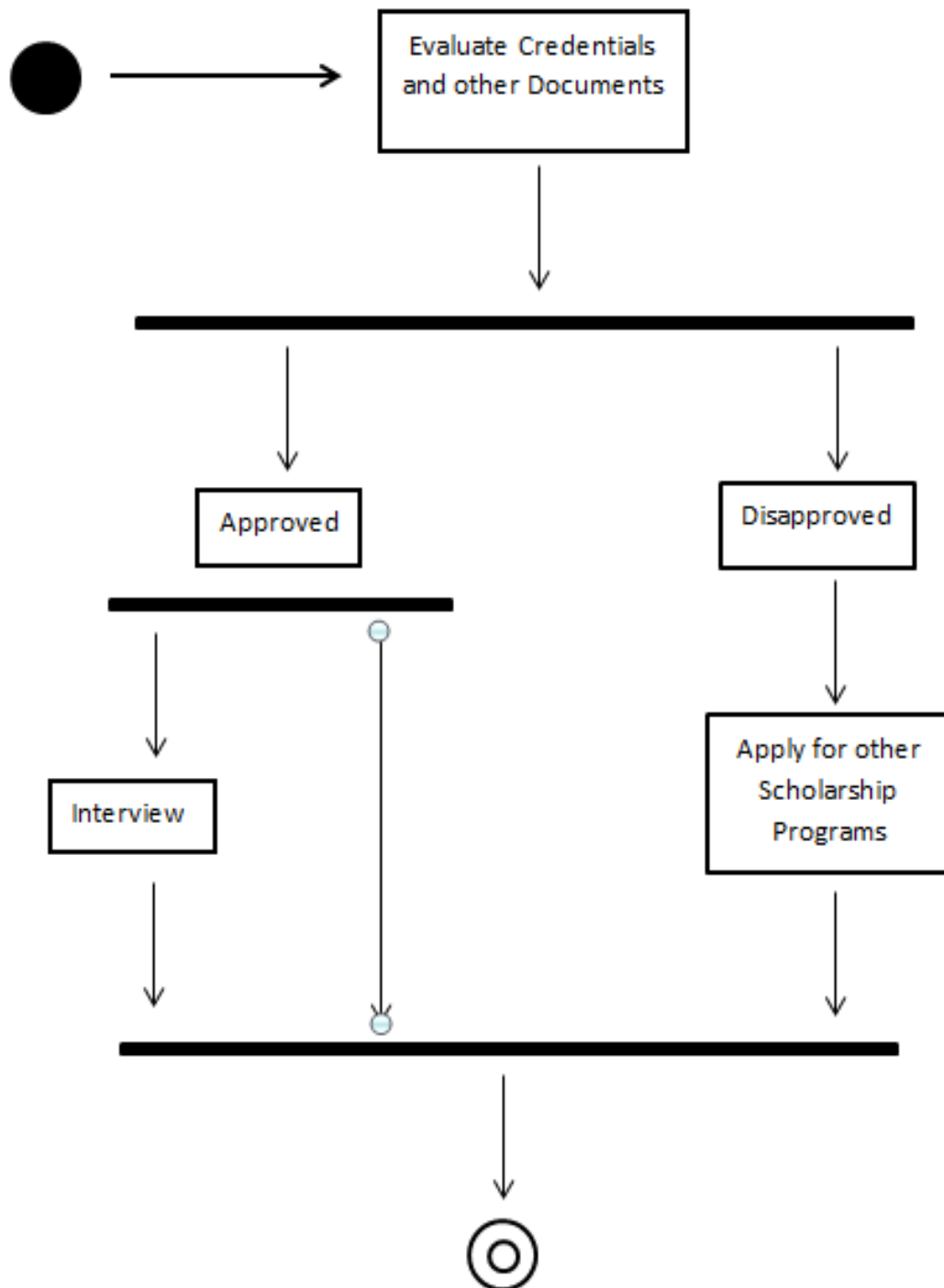
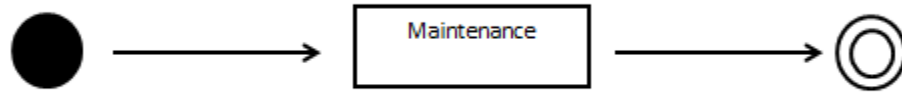*Figure 6: 3.2.1 - Activity Diagram (Evaluate Student)*
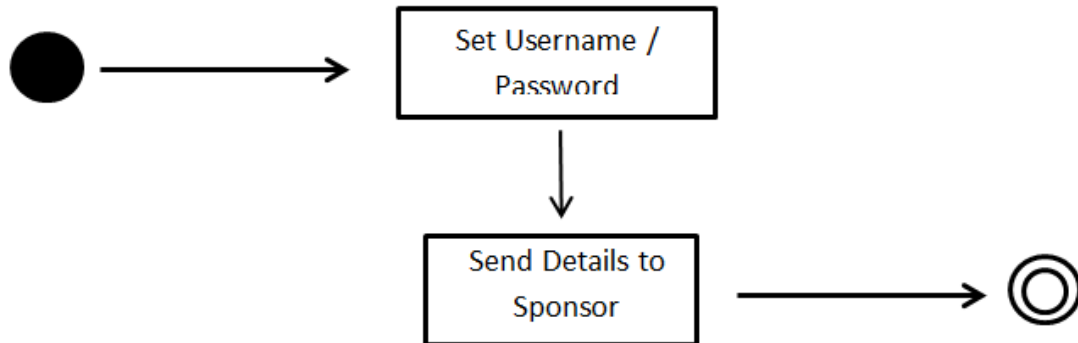
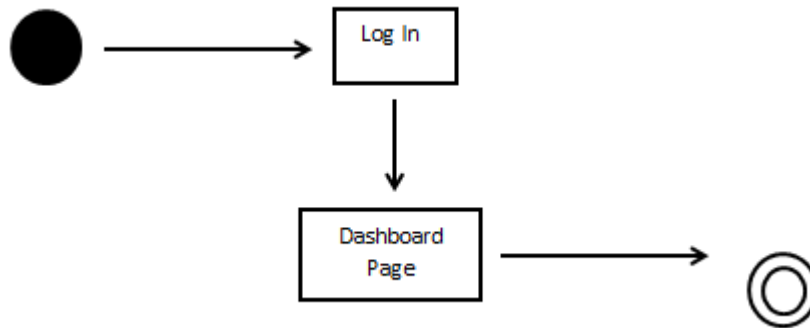*Figure 7: 3.2.1 - Activity Diagram (Create Sponsor Account)*
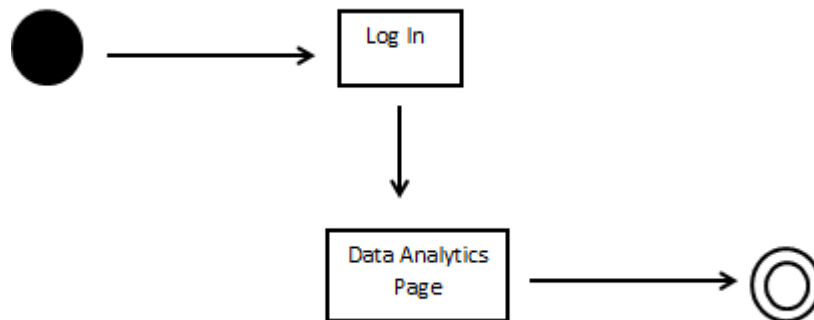

Figure 8: 3.2.1 - Activity Diagram (Post)

Figure 9: 3.2.1 - Activity Diagram (Reports)
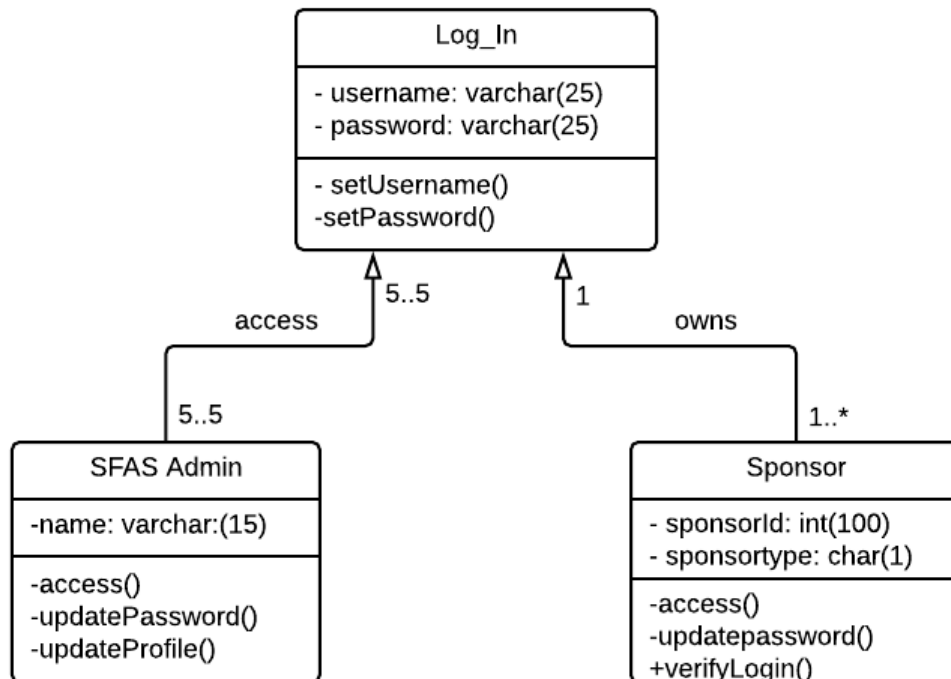
Figure 10: 3.2.1 - Activity Diagram (Maintenance)

Figure 11: 3.2.1 - Activity Diagram (Dashboard)

Figure 12: 3.2.1 - Activity Diagram (Data Analytics)

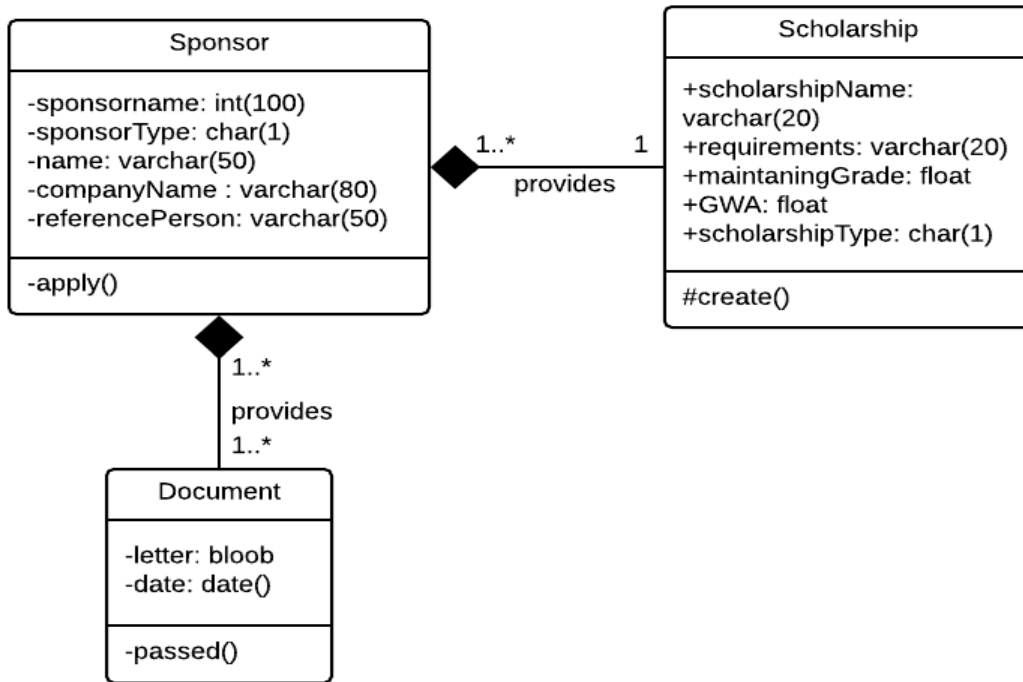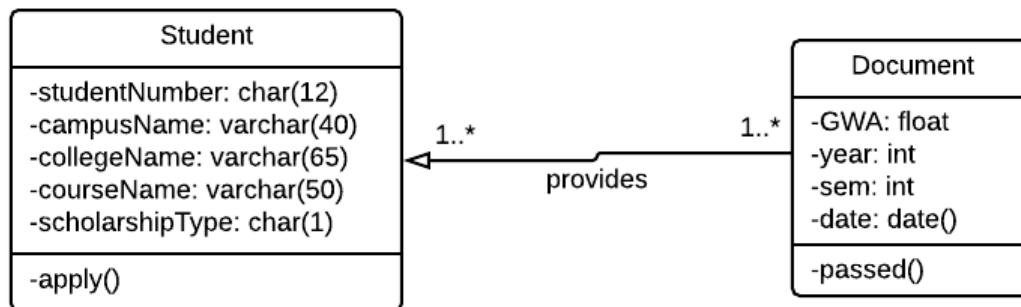*Figure 13: 3.1.2 - Activity Diagram (Log Out)*

3.2.2. Class Diagram

Figure 14: 3.2.2 - Class Diagram (Log In)

Figure 15: 3.2.2 - Class Diagram (Apply Sponsorship)

Figure 16: 3.2.2 - Class Diagram (Apply Scholarship)
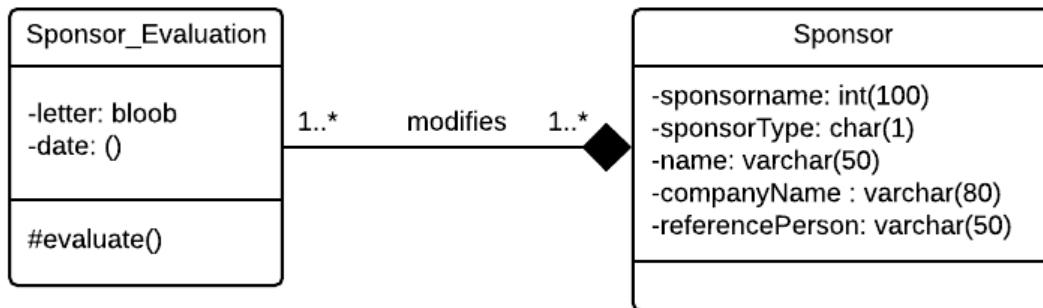
Figure 17: 3.2.2 - Class Diagram (Evaluate Sponsor)
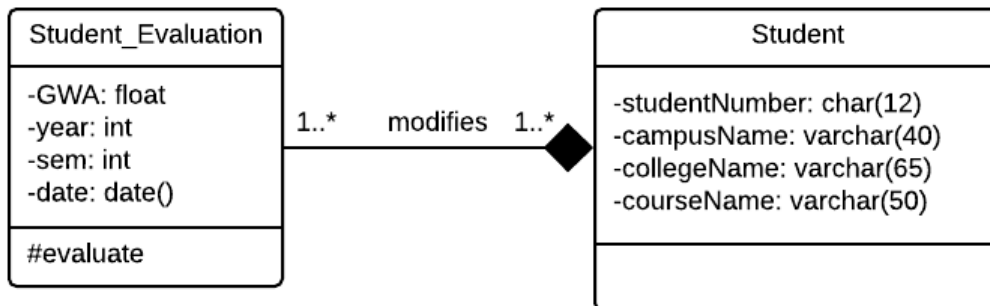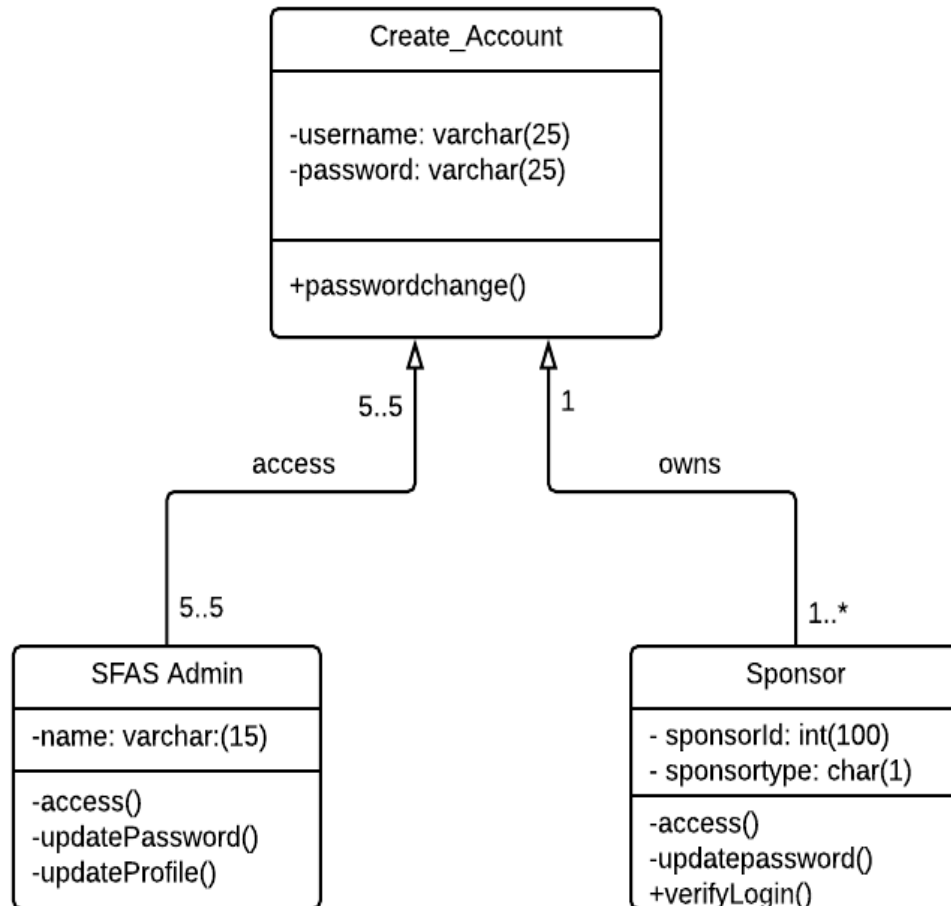

Figure 18: 3.2.2 - Class Diagram (Evaluate Student)
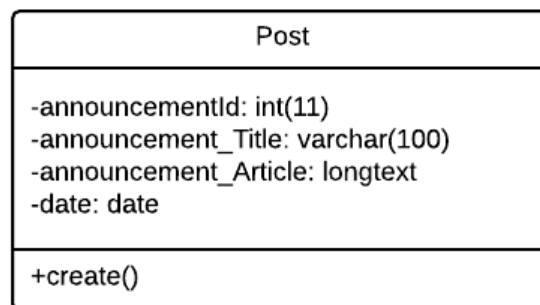
Figure 19: 3.2.2 - Class Diagram (Post)

Figure 20: 3.2.2 - Class Diagram (Create Sponsor Account)
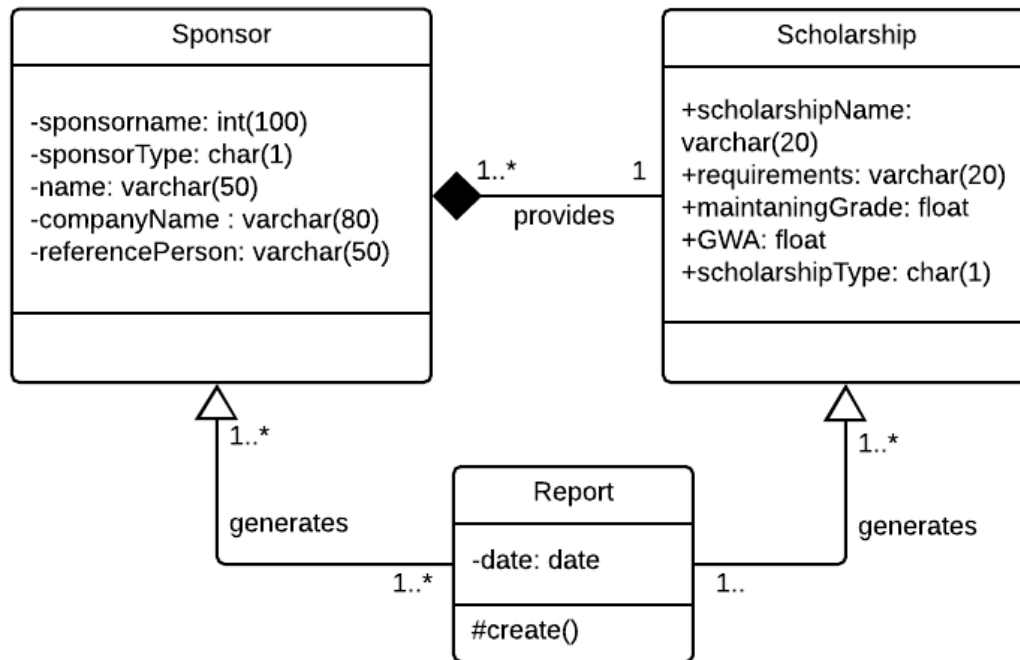
Figure 21: *3.2.2 - Class Diagram (Report)*
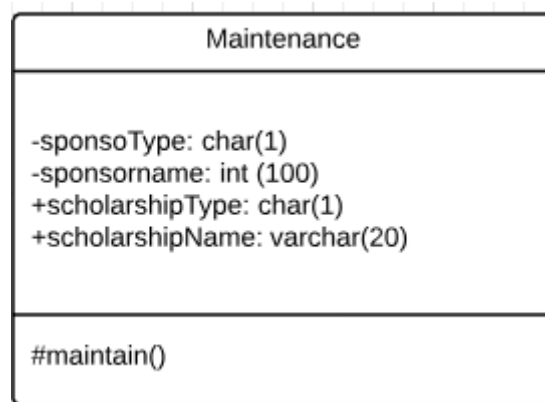
Figure 22: *3.2.2 - Class Diagram (Maintenance)*
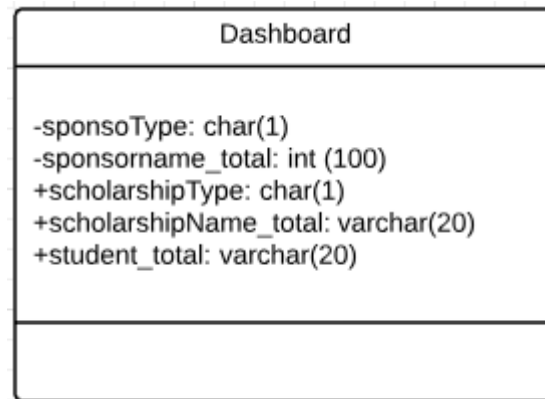
Figure 23: 3.2.2 - Class Diagram (Dashboard)
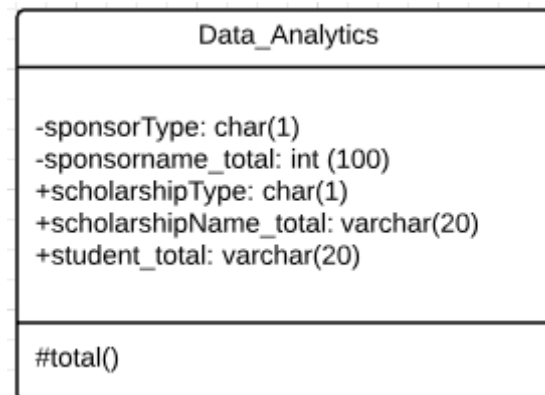
Figure 24: 3.2.2 - Class Diagram (Data Analytics)
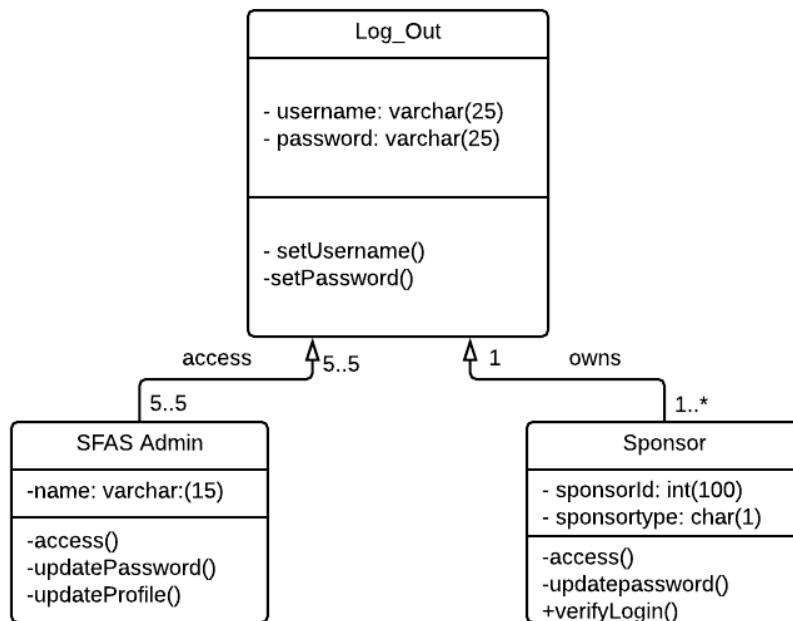
Figure 25: 3.2.2 - Class Diagram (Log Out)

3.2.3. GUI Design
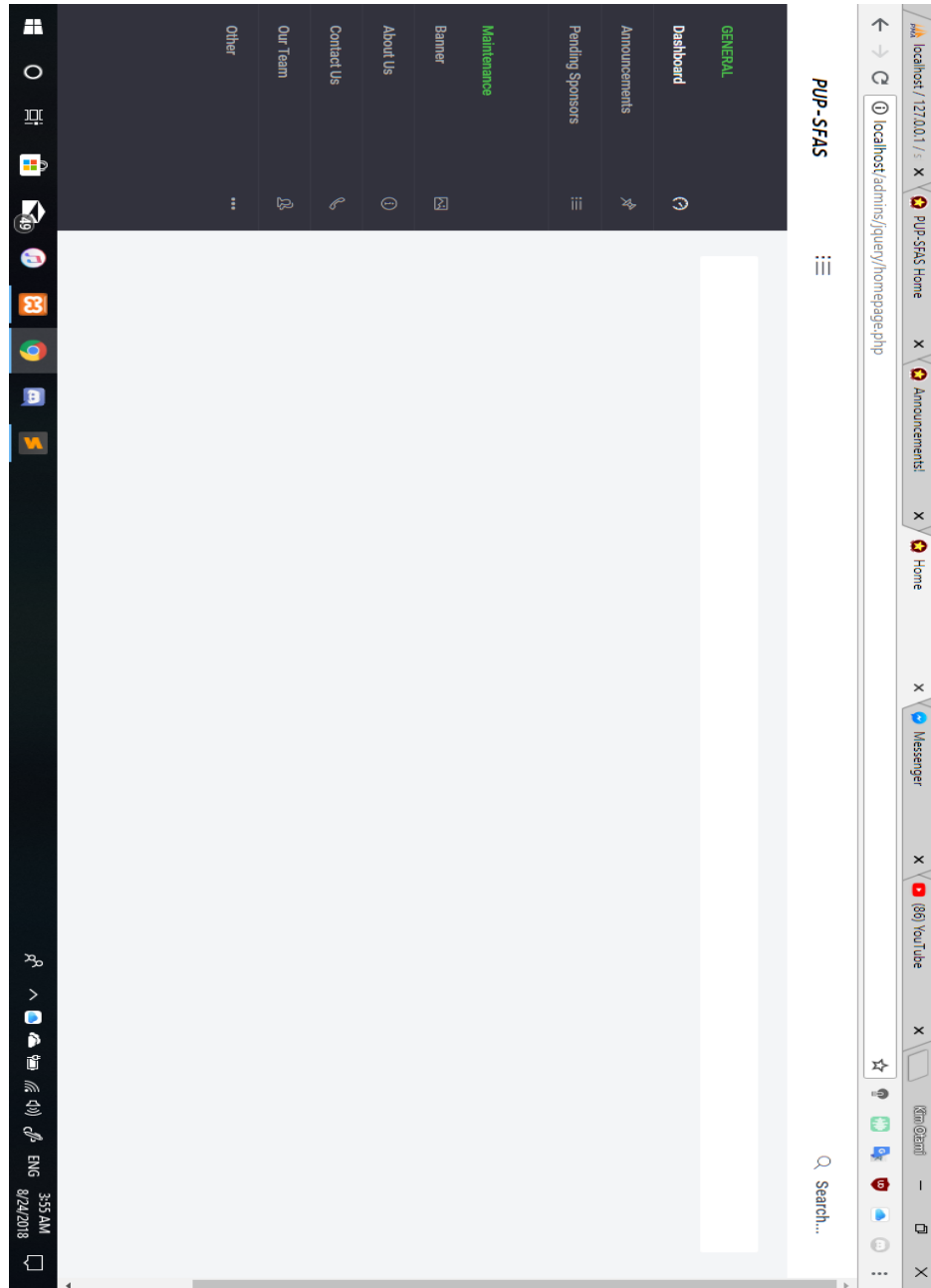
Figure 26: 3.2.3 - GUI Design (Dashboard)
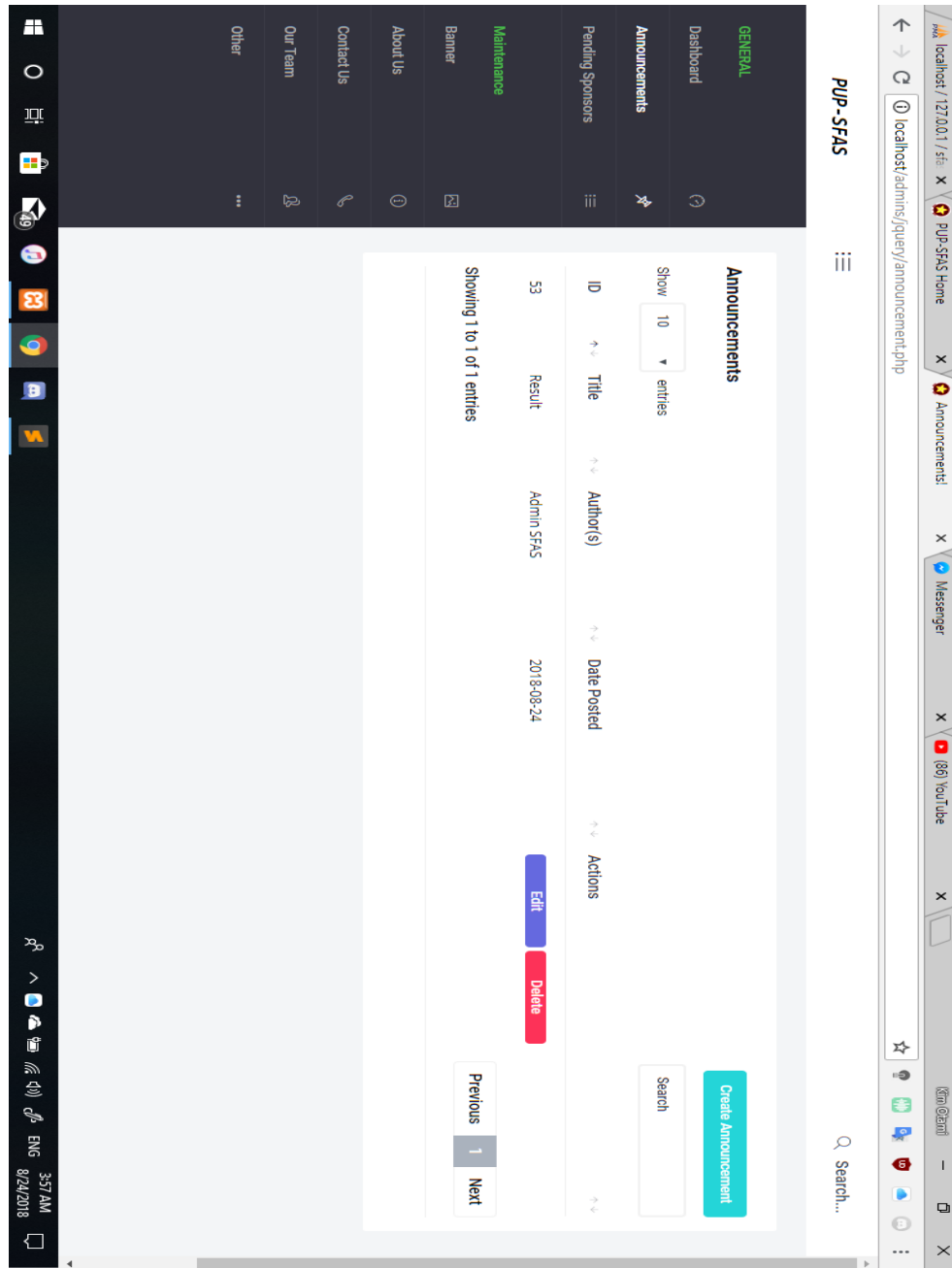
Figure 27: 3.2.3 - GUI Design (Announcement)
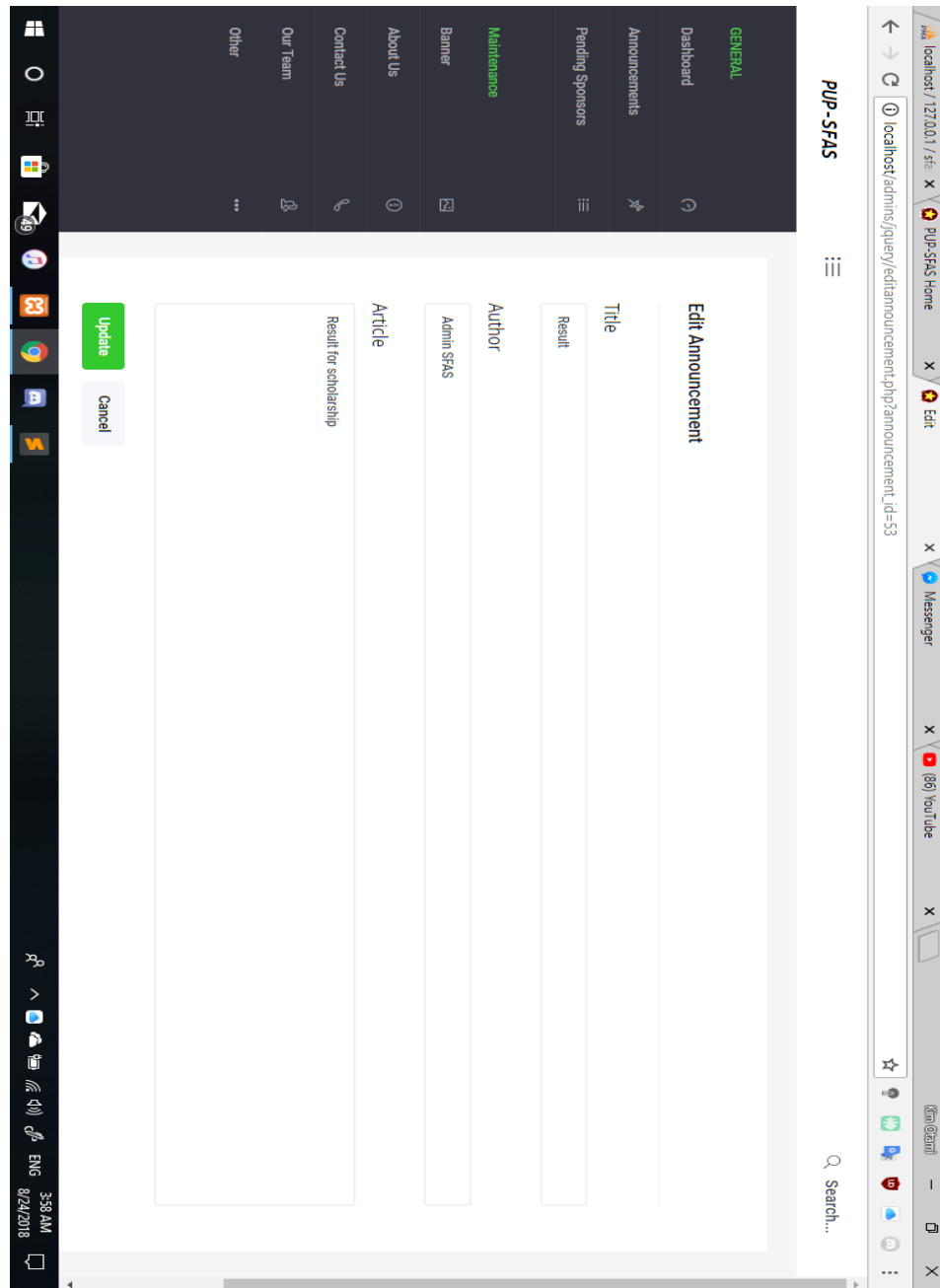
Figure 28: 3.2.3- GUI Design (Edit Announcement)
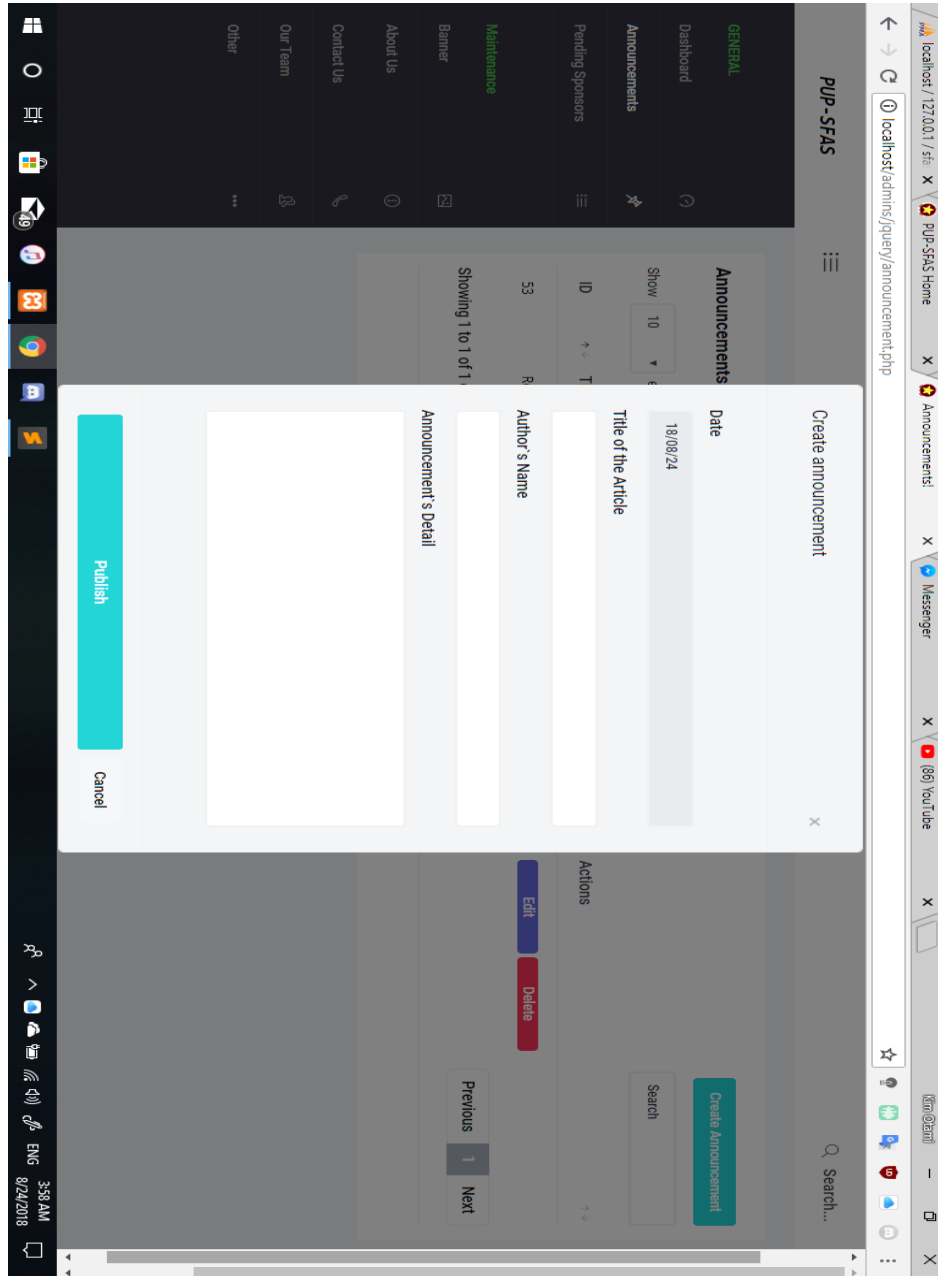
Figure 29: 3.2.3 - GUI Design (Create Announcement)
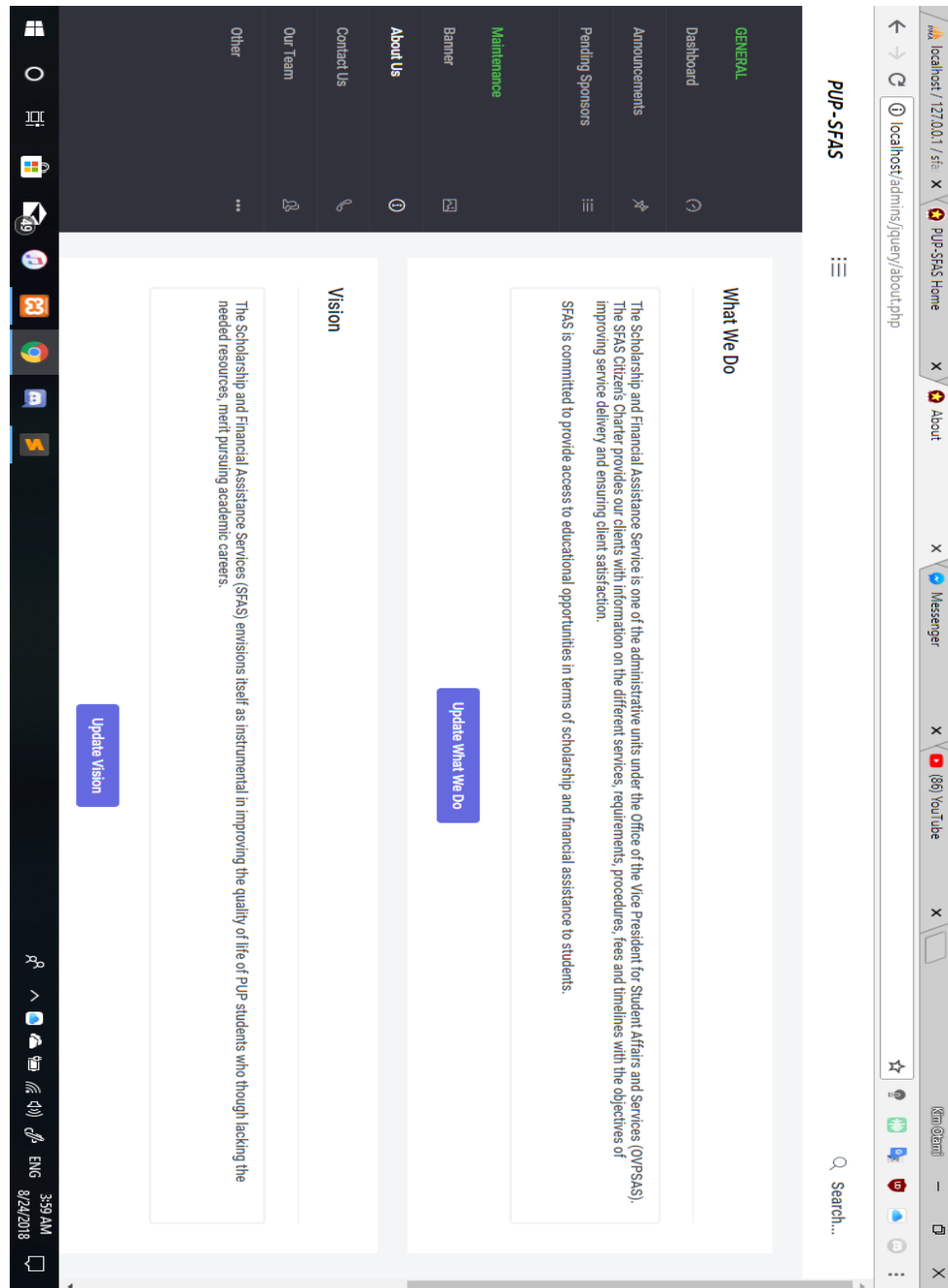
Figure 30: 3.2.3 - GUI Design (Announcement Post)

Figure 31: 3.2.3 - GUI Design (Contact Information)
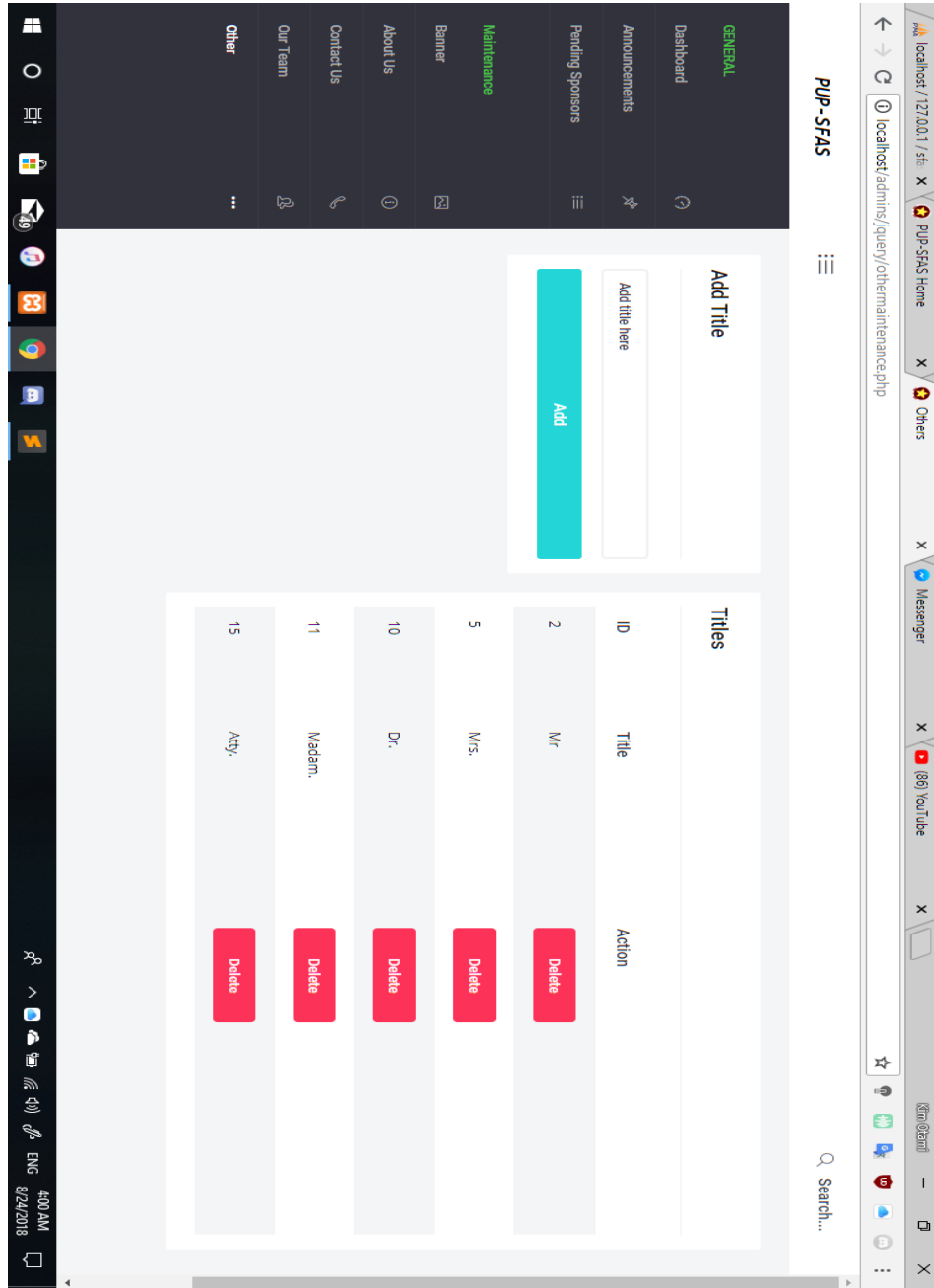
Figure 32: 3.2.3 - GUI Design (Titles)
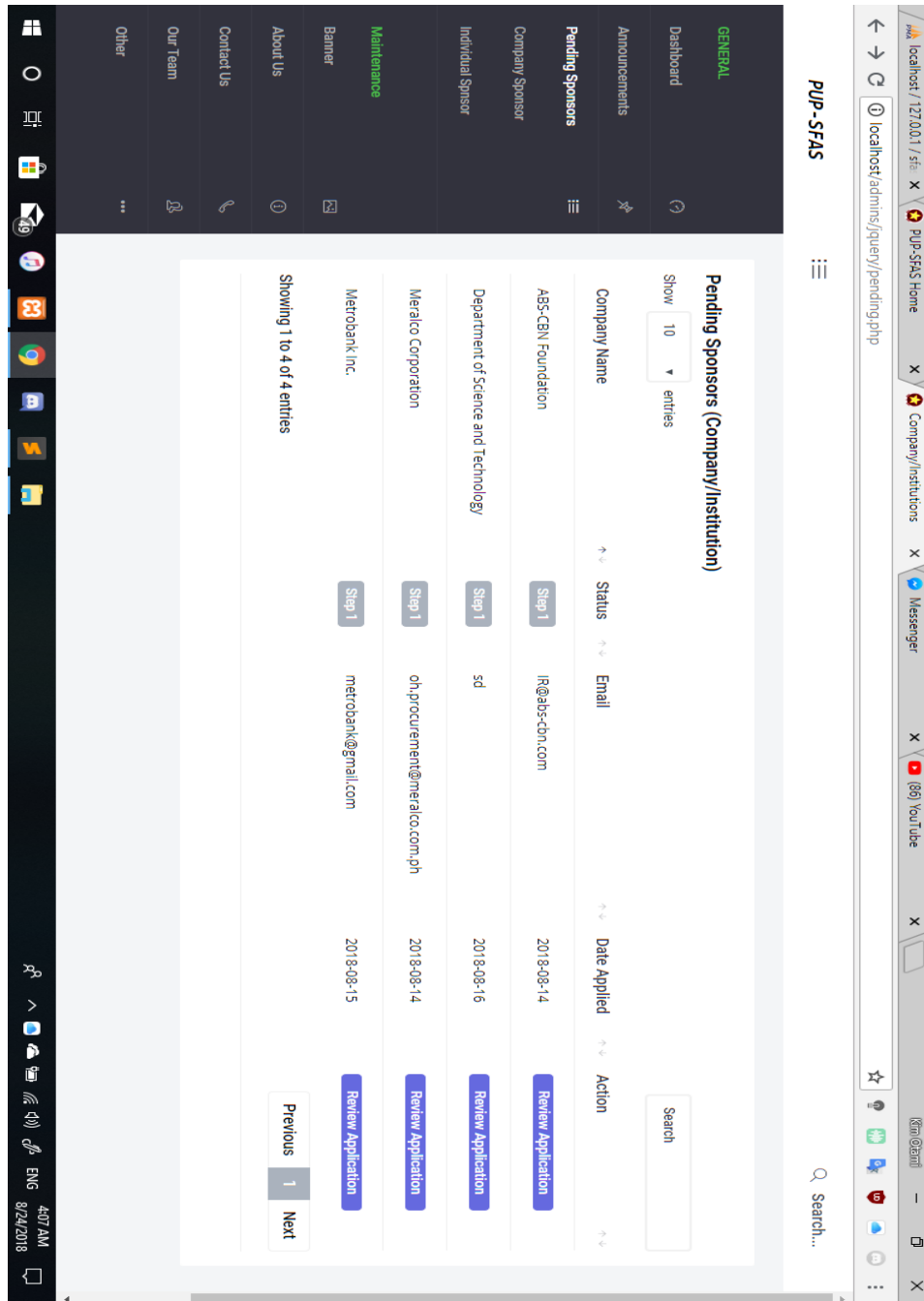
Figure 33: 3.2.3 - GUI Design (Pending Sponsors)

Figure 34: 3.2.3 - GUI Design (Personal Information)
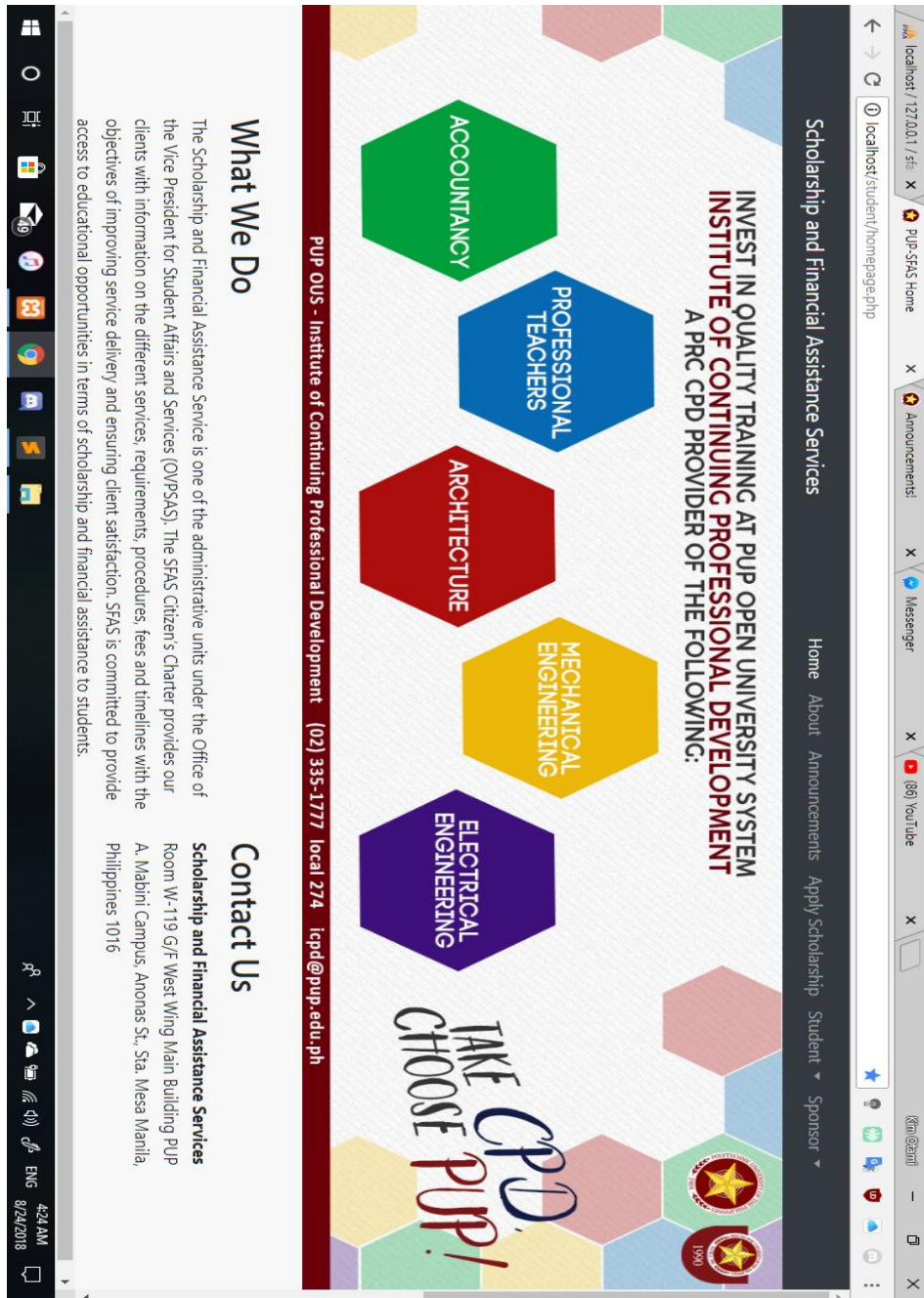
Figure 35: 3.2.3 - GUI Design (Homepage)
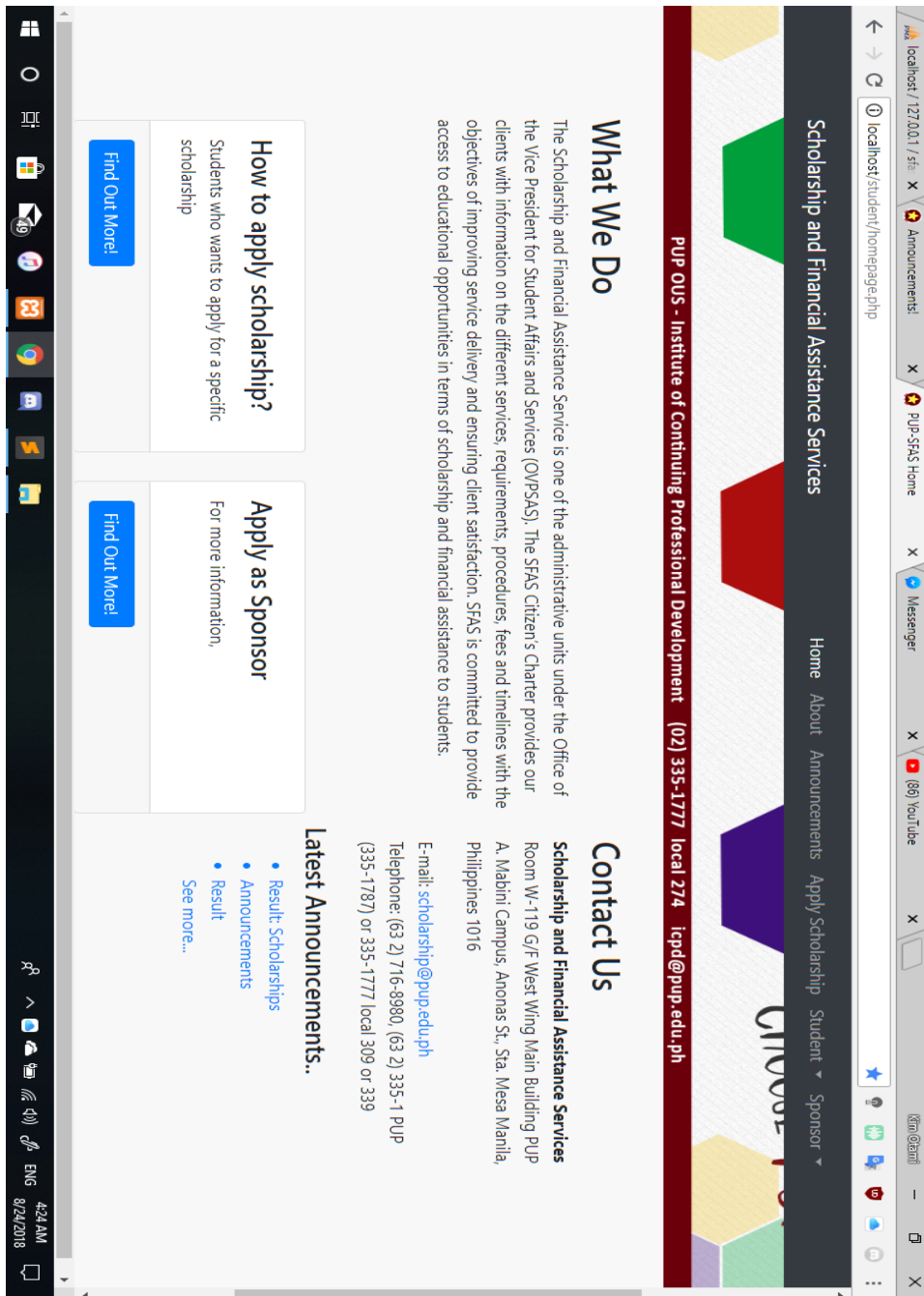
Figure 36: 3.2.3 - GUI Design (Homepage)
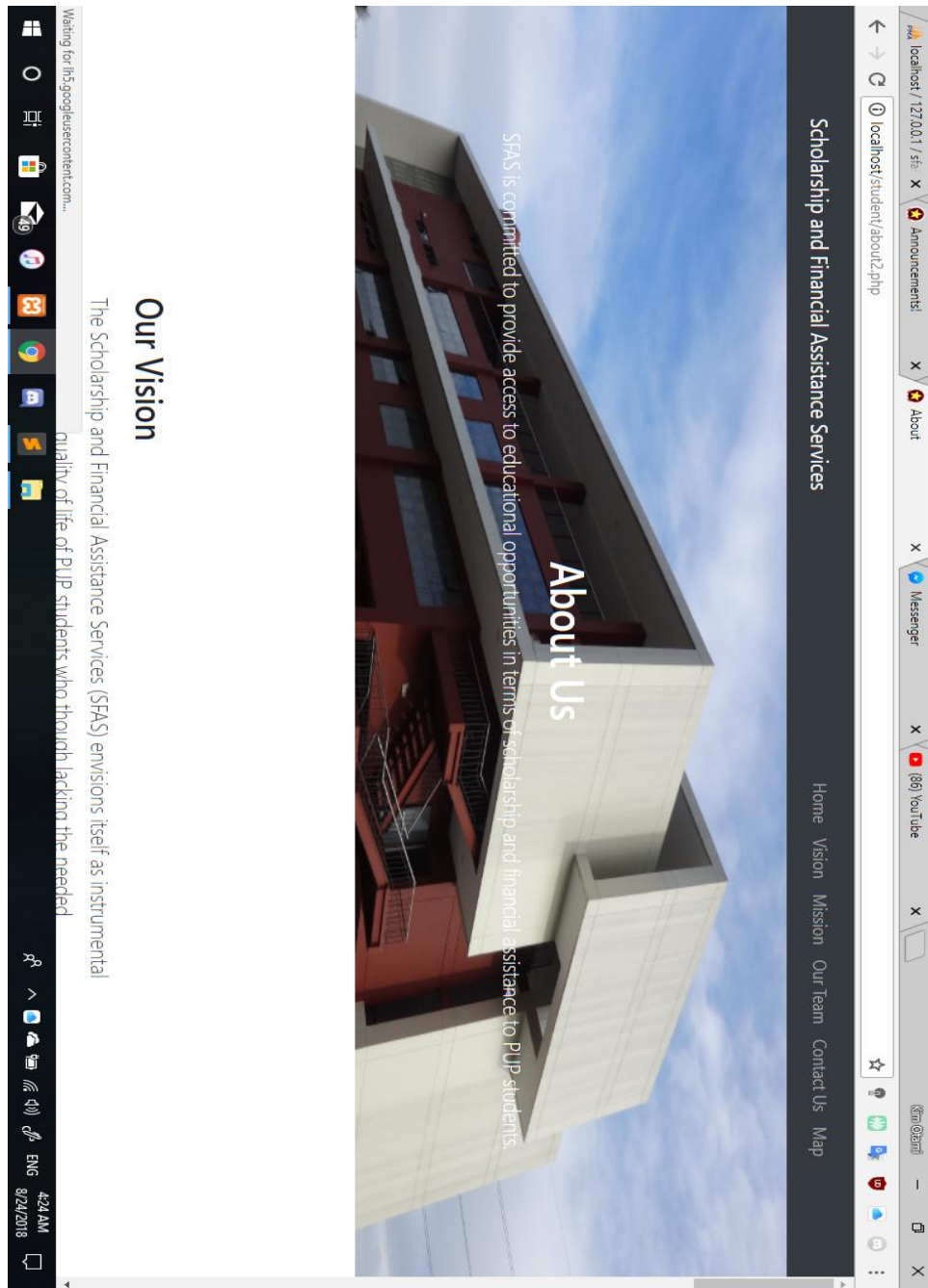
Figure 37: 3.2.3 - GUI Design (Homepage)
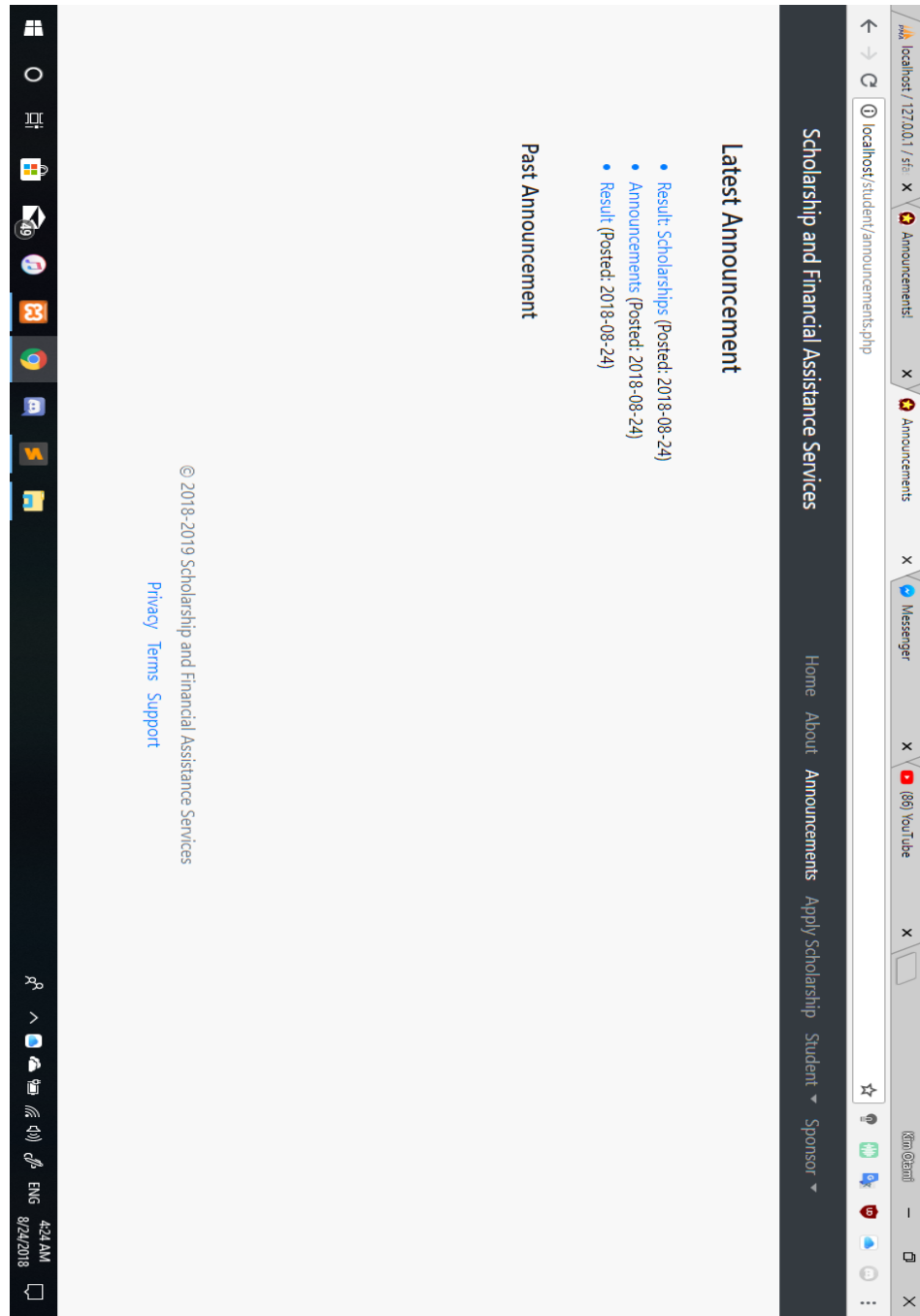
Figure 38: 3.2.3 - GUI Design (Homepage Announcement)
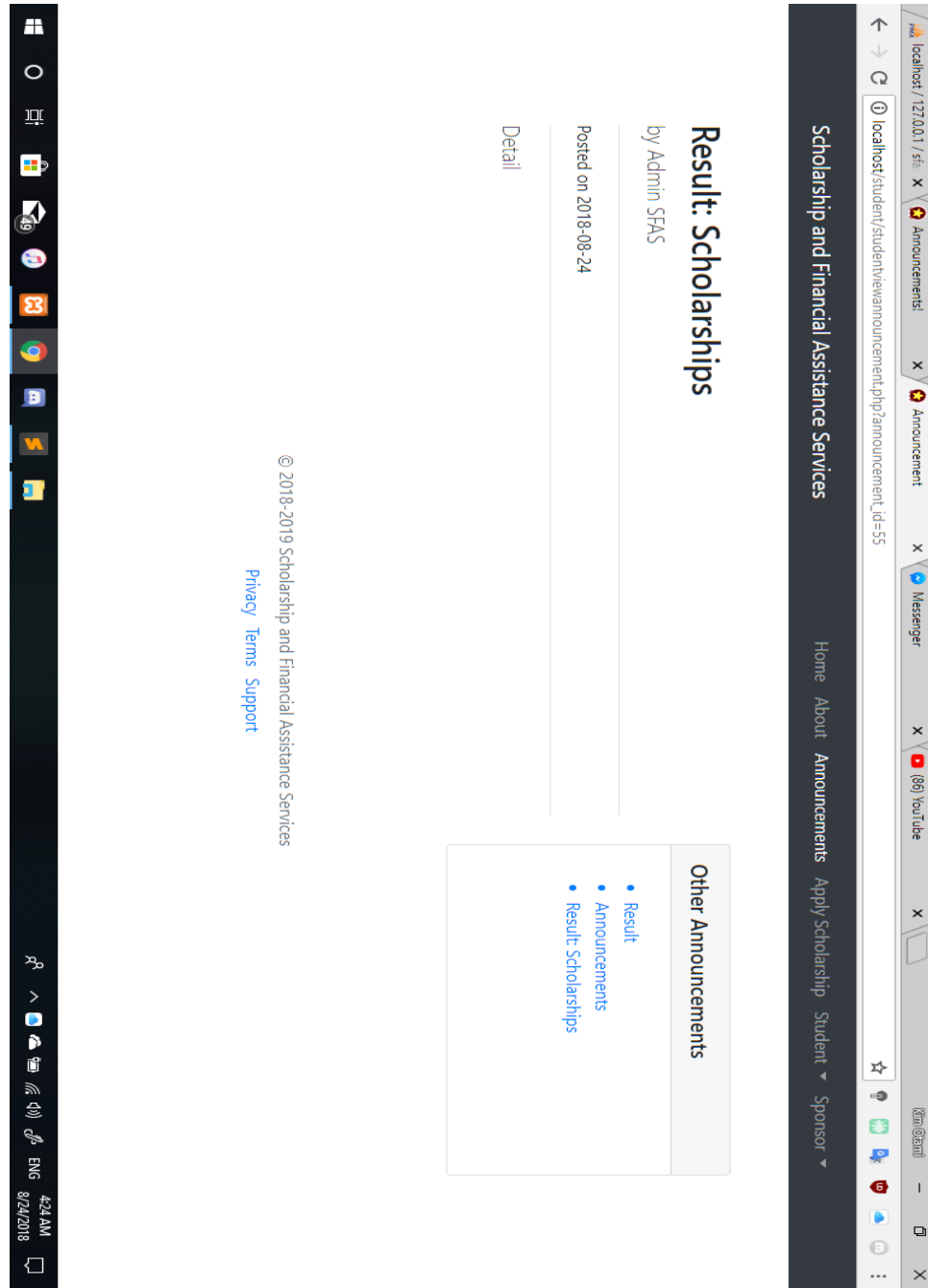
Figure 39: 3.2.3 - GUI Design (Homepage Announcement)
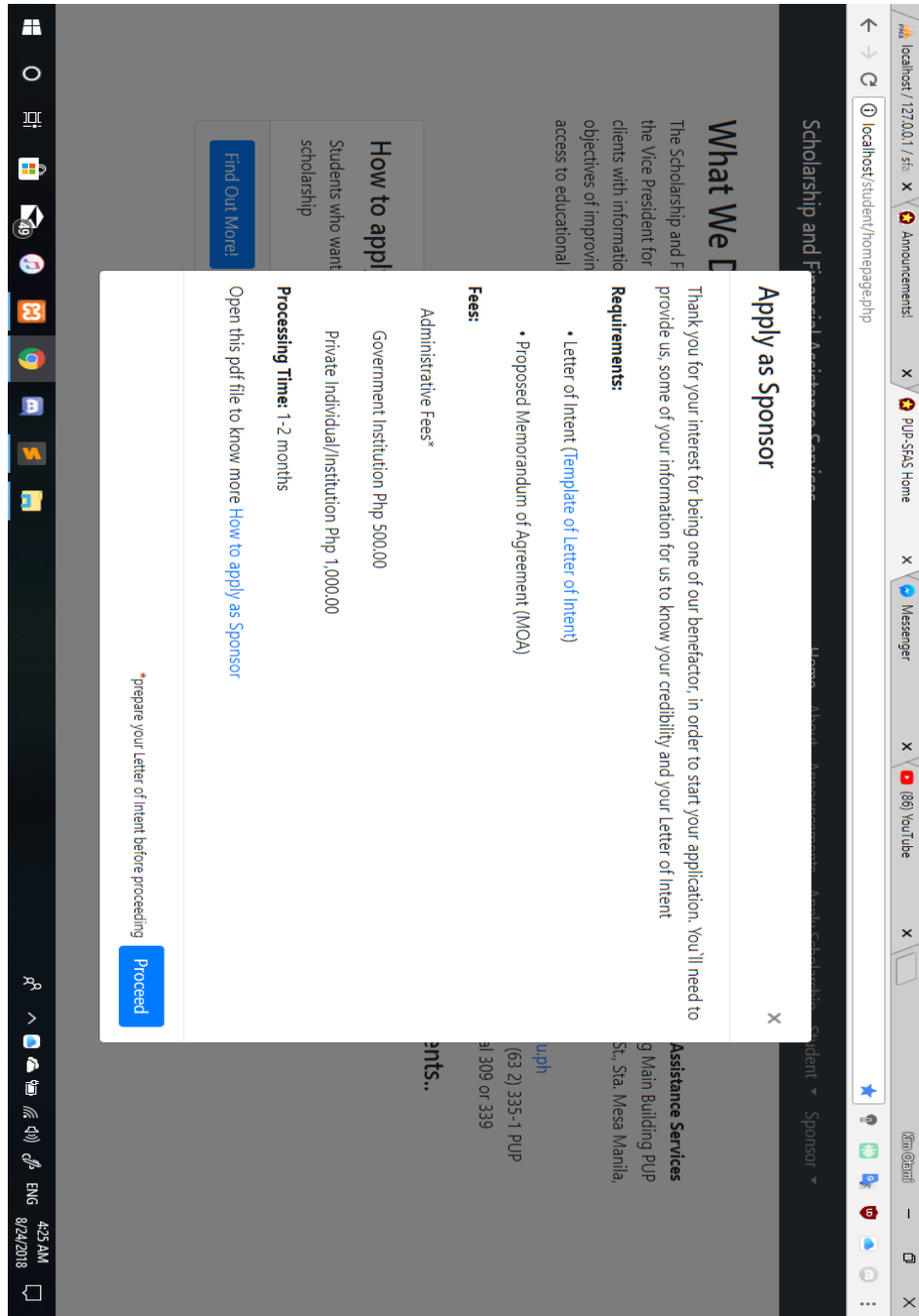
Figure 40: 3.2.3 - GUI Design (Homepage Apply Sponsor)

Figure 41: 3.2.3 - GUI Design (Homepage Apply Sponsor)

Figure 42: 3.2.3 - GUI Design (Homepage Apply Sponsor)

Figure 43: 3.2.3 - GUI Design (Sign In)

3.2.4. Database Schema
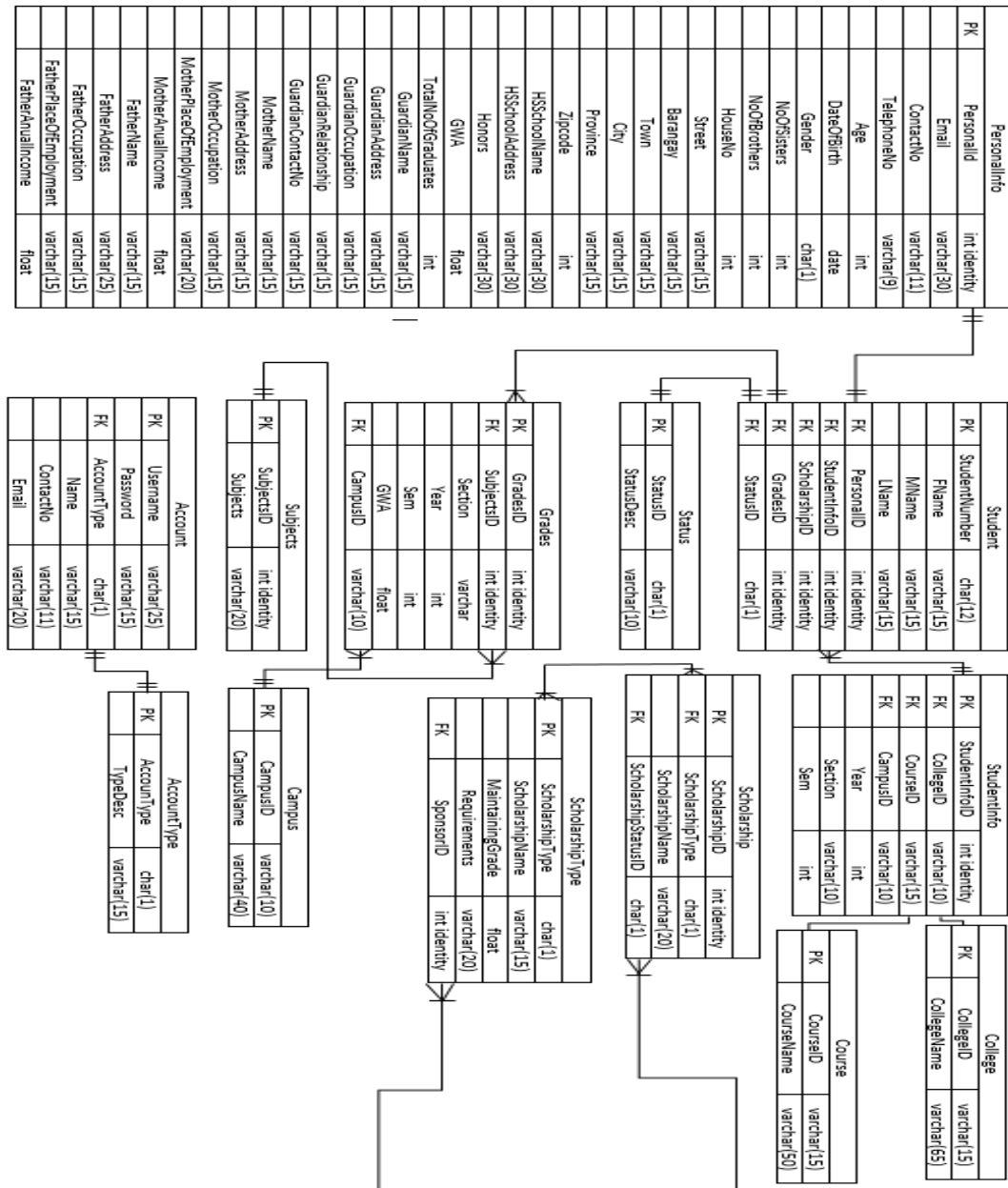
Figure 44: 3.2.4 - Database Schema (Part I)

SCStatus

Key	PK	ScholarshipStatusID	char(1)
		StatusDesc	varchar(15)

SponsorType

PK	SponsorType
	Sponsortype
	Sponsortypedesc

Sponsor

PK	SponsorId	int(100)
FK	SponsorType	char(1)
	FName	varchar(50)
	MName	varchar(50)
	LName	varchar(50)
	Company	varchar(75)
	CompanyName	varchar(80)
	Address	varchar(80)
	City	varchar(30)
	Province	varchar(30)
	Zip	varchar(10)
	Country	varchar(30)
	Telnumber	varchar(10)
	Phonenumber	varchar(11)
	Email	varchar(50)
	ReferencePerson	varchar(50)
	Occupation	varchar(50)
	RefContact	varchar(20)
	Relationship	varchar(30)
	Date	date
	Letter	blob
	Status	tinyint(4)

AnnouncementTbl

PK	Announcement_Id	int(11)
	Announcement_Title	varchar(100)
	Announcement_Author	varchar(50)
	Announcement_Article	longtext
	Date	date

Titles

PK	ID
	Title

Figure 45: 3.2.4 - Database Schema (Part II)

3.2.5.   Data Dictionary

Fieldname	Type	Key	Size	Value
PersonalId	int identity	primary	1,1	1
Email	varchar		30	johnnybravo@gmail.com
ContactNo	varchar		11	0912 245 6789
TelephoneNo	varchar		9	(02)765 9758
Age	int		3	17
DateOfBirth	date			09/07/2001
Gender	char		1	M
NoOfSisters	int		5	0
NoOfBrothers			5	3
HouseNo	int		5	76
Street	varchar		15	Baliwag St.
Barangay	varchar		15	98
Town	varchar		15	Maygawa
City	varchar		15	Navotas City
Province	varchar		15	NCR
Zipcode	int		5	1765
HSSchoolName	varchar		30	Maygawa National High School
HSSchoolAddress	varchar		30	Navotas City
Honors	varchar		30	Valedictorian
GWA	float			97.36
TotalNoOfGraduates	int		10	6575
GuardianName	varchar		15	Mark Burgos
GuardianAddress	varchar		15	Navotas City
GuardianOccupation	varchar		15	Driver
GuardianRelationship	varchar		15	Uncle
GuardianContactNo	varchar		15	0998 765 4321
MotherName	varchar		15	Maria Ganza
MotherAddress	varchar		15	Navotas City
MotherOccupation	varchar		15	Housewife
MotherPlaceOfEmployment	varchar		20	
MotherAnualIncome	float			5000
FatherName	varchar		15	Manalo Ganza
FatherAddress	varchar		25	Navotas City
FatherOccupation	varchar		15	Security Guard
FatherPlaceOfEmployment	varchar		15	Manila City
FatherAnualIncome	float			10,000

Table 14: 3.2.5 - Data Dictionary (PersonalInfo Table)

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Field Name	Type	Key	Size	Value
Student Number	char	primary	12	201504992MN0
FName	varchar		15	Marco
LName	varchar		15	Ganza
PersonalID	int identity	foreign		
StudentInfoID	int identity	foreign		
ScholarshipID	int identity	foreign		
GradesID	int identity	foreign		
StatusID	char	foreign	1	F

Table 15: 3.2.5 - Data Dictionary (Student Table)

Field Name	Type	Key	Size	Value
StatusID	char	primary	1	F
StatusDesc	varchar		10	Freshmen

Table 16: 3.2.5 - Data Dictionary (Status Table)

Field Name	Type	Key	Size	Value
GradesID	int identity	primary		
SubjectID	int identity	foreign		7649
Section	varchar		5	1N
Year	int		5	2018
Sem	int		5	Second
GWA	float		5	1.78
CampusID	varchar	foreign	10	MN

Table 17: 3.2.5 - Data Dictionary (Grades Table)

Field Name	Type	Key	Size	Value
SubjectID	int identity	primary		7649
Subjects	varchar		20	Logic

Table 18: 3.2.5 - Data Dictionary (Subject Table)

Field Name	Type	Key	Size	Value
Username	varchar	primary	25	Admin2
Password	varchar		15	nevergiveup
AccountType	char	foreign	1	Admin
Name	varchar		15	Melchor Diaz
ContactNo	varchar		11	0976 273 2863
Email	varchar		20	mdiaz@gmail.com

Table 19: 3.2.5 - Data Dictionary (Account Table)

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Field Name	Type	Key	Size	Value
StudentInfoID	int identity	primary		
CollegeID	varchar	foreign	10	CBA
CourseID	varchar	foreign	15	BSBA-MM
Campus	varchar	foreign	10	MN
Year	int			2018
Section	varchar		10	1N
Sem	int			2nd

Table 20: 3.2.5 - Data Dictionary (StudentInfo Table)

Field Name	Type	Key	Size	Value
ScholarshipID	int identity	primary		0087
ScholarshipType	char	foreign	1	P
ScholarshipName	varchar		20	Meralco Corp.
ScholarshipStatusID	char	foreign	1	

Table 21: 3.2.5 - Data Dictionary (Scholarship Table)

Field Name	Type	Key	Size	Value
ScholarshipType	char	primary	1	P
ScholarshipName	varchar		15	Meralco Corp.
Maintaining Grade	float		5	2.00
Requirements	varchar		200	Registration Card, Form 138
SponsorID	int identity	foreign		0076

Table 22: 3.2.5 - Data Dictionary (ScholarshipType Table)

Field Name	Type	Key	Size	Value
CampusID	varchar	primary	10	MN
CampusName	varchar		40	PUP Manila

Table 23: 3.2.5 - Data Dictionary (Campus Table)

Field Name	Type	Key	Size	Value
AccountType	char	primary	1	
TypeDesc	varchar		15	

Table 24: 3.2.5 - Data Dictionary (AccountType Table)

CAPSTONE PROJECT

Field Name	Type	Key	Size	Value
CollegeID	varchar	primary	15	CBA
CollegeName	varchar		65	College of Business Administration

Table 25: 3.2.5 - Data Dictionary (College Table)

Field Name	Type	Key	Size	Value
CourseID	varchar	primary	15	002
CourseName	varchar		20	BSBA-MN

Table 26: 3.2.5 - Data Dictionary (Course Table)

Field Name	Type	Key	Size	Value
SponsorType	char	primary	1	P
SponsorDesc	varchar		10	Private

Table 27: 3.2.5 - Data Dictionary (SponsorType Table)

Field Name	Type	Key	Size	Value
ScholarshipStatusID	char	primary	1	
StatusDesc	varchar		15	

Table 28: 3.2.5 - Data Dictionary (SCStatus Table)

Field Name	Type	Key	Size	Value
SponsorID	int	primary	100	0876
SponsorType	char	foreign	1	P
FName	varchar		50	Manny
MName	varchar		50	Perez
LName	varchar		50	Pander
Company	varchar		75	Private
CompanyName	varchar		80	Meralco Corp.
Address	varchar		80	Ortigas
City	varchar		30	Pasig City
Province	varchar		30	NCR
Zip	varchar		10	0017
Country	varchar		30	Philippines
TelNumber	varchar		10	875 1871
PhoneNumber	varchar		11	0982 338 7282
Email	varchar		50	meralcocorp@gmail.com
ReferencePerson	varchar		50	Trisha Torme
Occupation	varchar		20	Secretary

Field Name	Type	Key	Size	Value
RefContact	varchar		20	0917 657 9980
Relationship	varchar		30	Employee
Date	date			09/07/2018
Letter	blob			
Status	tinyint		4	

Table 29: 3.2.5 - Data Dictionary (Sponsor Table)

Field Name	Type	Key	Size	Value
Announcement_ID	int	primary	11	0079
Announcement_Title	varchar		10	Sponsorship Availability
Announcement_Author	varchar		15	SFAS Admin
Announcement_Article	longtext			
Date	date			23/08/2018

Table 30: 3.2.5 - Data Dictionary (Announcement Table)

Field Name	Type	Key	Size	Value
TitleID	int	primary	10	0091
Title	varchar		20	Happy Graduation

Table 31: 3.2.5 - Data Dictionary (Title Table)

CAPSTONE PROJECT

3.3. DEVELOPMENT METHODOLOGY

3.3.1. Process Model
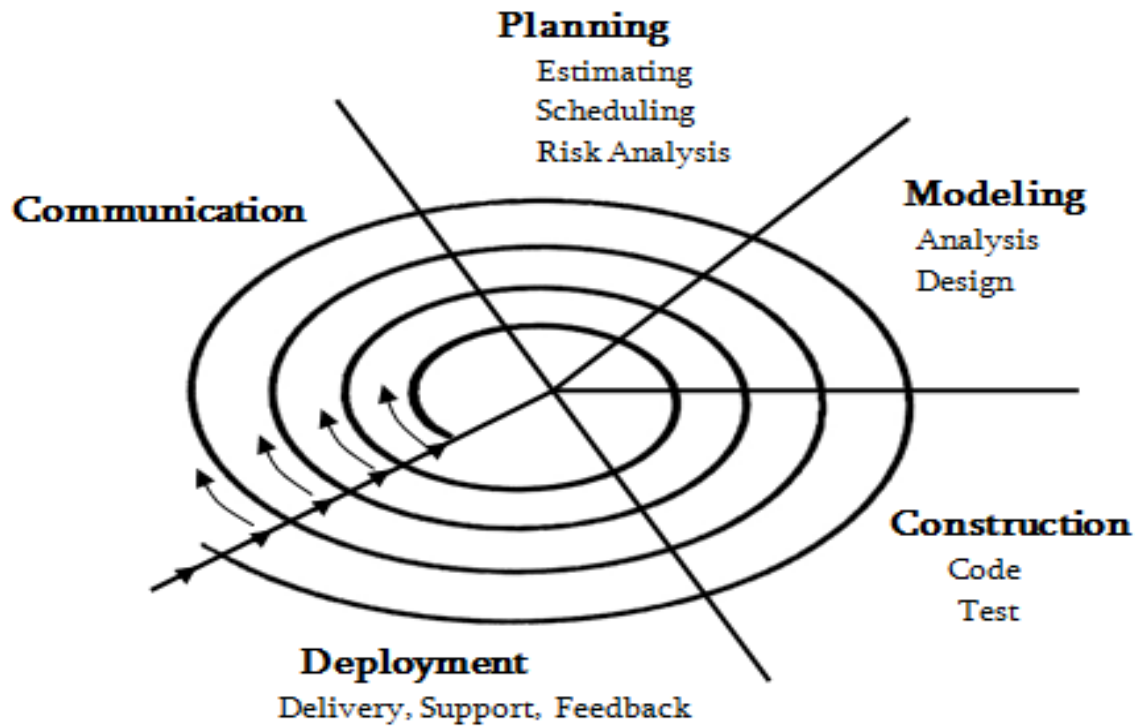
Figure 46: 3.3.1- Process Model (Spiral Model)

Spiral Process Model represents the processes with a spiral image than in the sequence of activities. This is designed to produce well features of a system.

Every loop of the spiral represents phases that are concerned with the feasibility of the system. Its aspiration is to define the objectives and risks that may fall the system. Detailed analysis must be conducted within the progress of system. Project must be reviewed and carefully planned to continue with the further loop of the process. This will help the developers to take care of any risk problems that can arise between the times they are developing the project.

3.3.2. Development Tools

Development Tools	Name
Programming Language	• HTML (Hypertext Markup Language) • CSS (Cascading Style Sheets) • PHP: Hypertext Preprocessor • JS (JavaScript) • JQuery
Framework	• Bootstrap
Database	• MariaDB, MySQL, PHP (XAMPP)

Table 32: 3.3.2 - Development Tools

Polytechnic University of the Philippines
College of Computer and Information Sciences

POLYTECHNIC UNIVERSITY OF THE PHILLIPINES (PUP)
SCHOLARSHIP AND FINANCIAL ASSISTANCE SERVICES
MANAGEMENT INFORMATION SYSTEM

ALCOBENDAS, Winsley P.
MARGALLO, John Gabriel A.
PINGA, Pauline Mariz R.
TORRIÑA, Kim C.

BSIT 4-1N
Group 6