



Enterprise Web Development

Comp 1640

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INTRODUCTION

This was a group effort assignment and the Agile Scrum Methodology was used to deliver the sought product. The assignment in particular was to develop a web-based secure role-based system for enhancing E-learning and E-Tutorship. The group had five (5) team members.

The idea behind the system is to enable students and tutors interact to attain a conducive learning environment via internet. The students will basically be assigned to a tutor and from this association, the two can communicate on topics, arrange for meetings and record them. This means that any form of communication that happens, it is saved on the system and further be reported on for management and tracking of the learning process.

The key users of the system will include the system administrator, students, tutors and other staff members.

ASSUMPTIONS/INITIATIVES

1. The name of the university is SWACK university.
2. The university already has a separate system for student registration and for other resources related.
3. The members of staff will include both the tutors and others who handle activities on for example student administration. This is ideal to control on the assignment of tutors to students.
4. The university has a system administration who manages the IT systems and related activities.

BUSINESS RULES

1. The website will only be accessed using a username and a password.
2. A student can only belong to one tutor.
3. System users can only be added by users given the administrator user group.
4. Only users with a staff or administrator user group can assign tutors to students.
5. Only users with a student user group can submit topics.
6. Interactive dashboards for other users can only be viewed by the users with a staff or administrator user group, the rest, will only view what was submitted by them.
7. There key entities in the database as:
 - User table, Assigntutor table, Roles table,Topics table, Messaging table

USER ROLES

User Role	Description	Functions	Reports
Administrator	Overall user management and system maintenance (backups, security and usage statistics for audit trail).	<ul style="list-style-type: none">- Will add, view, delete, edit a user- Will add and delete a category.- Will add, edit, delete a department.- Will view, add and download topics in a ZIP filed together with comments- Will upload and download a document.- Will add and re-assign tutor to student.- Will capture meetings.	<ul style="list-style-type: none">- Number of messages sent in the last seven days- Number of messages sent by tutors- Number of topics made by each Department.- Number of contributors within each Department.- Number of students without a tutor in Excel.- Number of students not active in last 7 days and 28 days respectively in Excel.
Staff	Manages the association of tutors to students.	<ul style="list-style-type: none">- Will add and re-assign tutor to student.	<ul style="list-style-type: none">- Overall number of interactions on messages, topics,

		<ul style="list-style-type: none">- Will view and comment on a topic.- Will download a document.- Will edit their profile details.	students, tutors and meetings.
Tutor	Overall interaction with the students (view topics, send messages and set meetings)	<ul style="list-style-type: none">- Will view and comment on a topic.- Will download a document.- Will edit their profile details.- Will view student details assigned them only	No Reports

		only.	
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		- Will capture meetings.	
Students	Add ideas to website	- Will add, view and comment on a topic. - Will download a document. - Will edit their profile details.	No Reports

Fig.1 shows user role coverage

EVALUATION OF PRODUCT AND PROCESSES

SYSTEM DEVELOPMENT METHODOLOGY

The team adopted an Agile Scrum approach in developing this website. This methodology enabled the team to work in sprints and with every member given specific tasks. This was helpful to get feedback on progress made, the need to make requirements clear and allow an iterative development approach as a whole.

The team consisted of the following:

- Programmer
- Tester
- Scrum master
- Web designer

- Database designer

SYSTEM DEVELOPMENT TOOLS

The following tools were used to develop the front end (client side), back end (database) and communication between the two (web scripting):

- Hypertext markup language (HTML) – client side/front end display of web pages.
- PHP - web scripting.
- Cascading Style Sheet (CSS) – Styling the display of content.
- Dreamweaver - Text editor.
- Wamp server
- MySQL database
- Microsoft word

PRODUCT BACKLOG

As part of the sprint approach, the product backlog lists tasks and features which need to be closed down. This list is a whole one, which when broken down, form areas of concentration within a given period i.e. sprint.

- Sharing of roles and title association for every group member.
- Development tool identification and resources therein.
- Database creation and definition of tables.
- Association of table relationships and cardinalities.
- Development of the entity relationship diagram (ERD).
- Development of a site map.
- Development of system design artefacts and actual coding (layout).

- Development of a landing page i.e. login page.
- Writing database queries and views and database connections to webpages.
- Development of administration user group features (as guided under user roles).
- Development of student user group features (as guided under user roles).
- Development of staff user group features (as guided under user roles).
- Development of tutor user group features (as guided under user roles).
- Create email notification once tutor and student associations are done.
- Database connections to the Webpages.
- Development of reports (dashboards and export to excel).

- Product documentation.

PRODUCT BACKLOG TABLE

Priority	Task Name	Period (days)	Status	Team Members
Very High	Roles sharing	1	Done	All Members
	Decide tools and software	1	Done	All Members
	Produce Database tables	1	Done	CK/SP/AM
	Produce table relationships	1	Done	All Members
	Produce ERD	2	Done	CK/AM/ MM
	Produce site map	1	Done	AM/SP/MM
	Product documentation	Throughout	Done	All Members
High	Designs & site layout	4	Done	CK/AM/ MM
	Produce landing page	2	Done	WM/CK
	Produce queries & views	3	Done	All Members
	Form validation	1	Done	WM/MM
	Produce user managCKent	2	Done	WM/CK

	Produce Topic managCKent	2	Done	CK/SP
	Produce messaging model	1		WM /CK
	Produce meetings model	1		WM /CK
	Develop PHP Functions	2	Done	All MCKbers
	Develop CKail notification	1	Done	AM/CK
Medium	Develop systCK reports	1	Done	CK
	Develop test plan	1	Done	MM/AM/MM
	Like & Dislike function	1	Done	MM
	Testing Data integrity	1	Done	MM/WM/SP

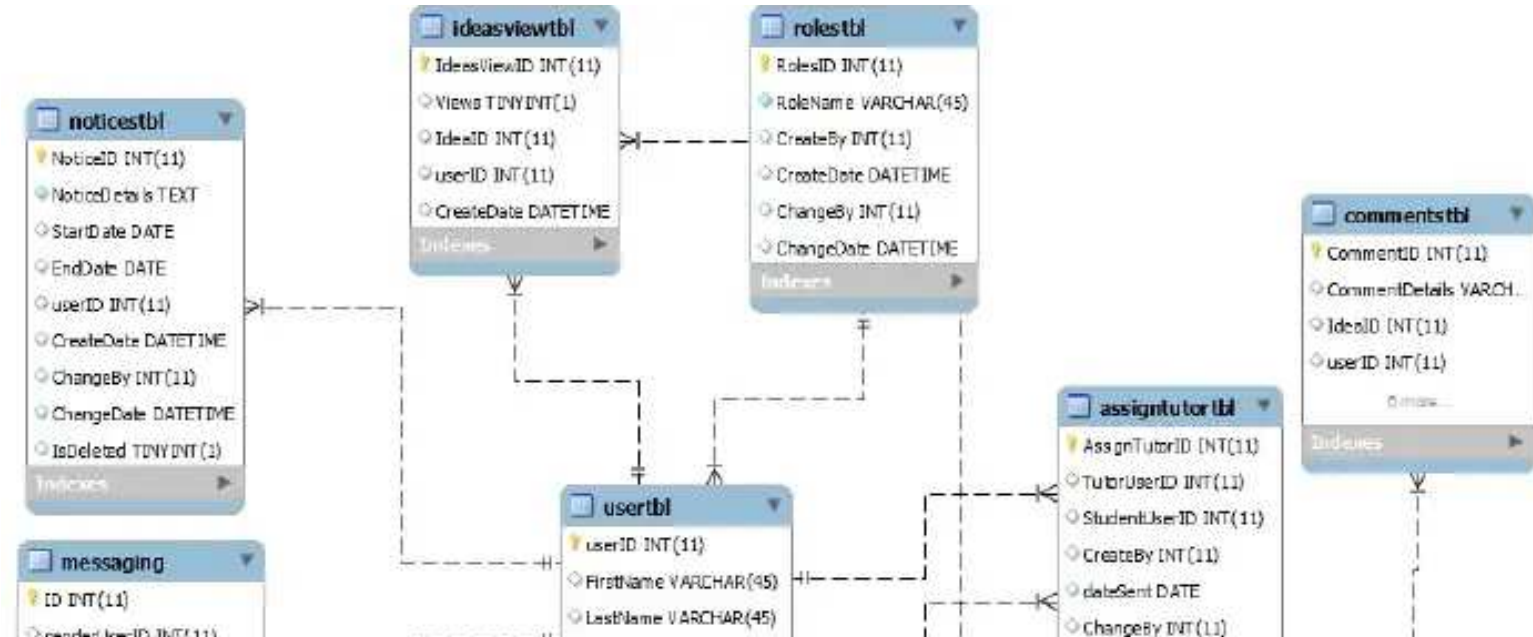
	Total Days	28 days		

Fig.2 Product backlog table

Key

Team Member	Initial
Synod Phiri	SP
Chrispine Kaluba	CK
Wongani Msika	WM
Audrey Mubambasu	AM
Makungu Kelvin Mwansa	MM

ENTITY RELATIONSHIP DIAGRAM



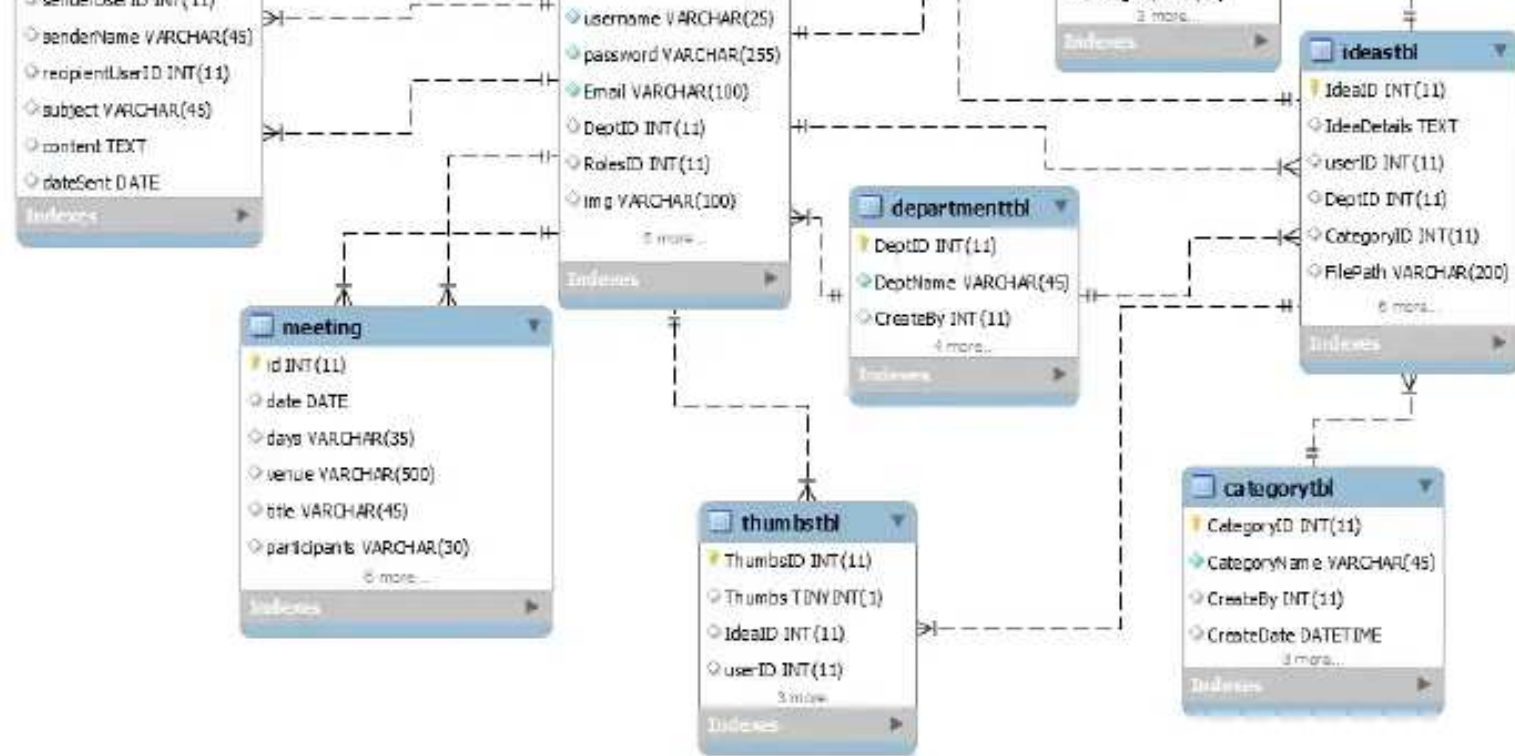


Fig.3 Entity Relationship Diagram

LOGICAL DATABASE DESIGN

1. **USER** (userID, FirstName, SurName, username, password, Email, DeptID, RolesID)
2. **ASSIGN TUTOR** (AssignTutorID, TutorUserID, StudentUserID, CreateBy, Date)
3. **MEETING** (MeetingID, Date, Days, Venue, Title, Participants, Objectives, Expected_Outcomes ,Achieved_Outcomes ,Attachments ,Studentuserid)
4. **MESSAGING** (MeetingID, Senderuserid, Sendername,Recipientuserid, Subject , Content, Date)
5. **IDEAS** (IdeasID, IdeasDetails, UserID, DeptID)
6. **DEPARTMENT** (DeptID, DeptName, UserID, Date)
7. **ROLES** (RoleID, RoleName, UserID)

- 7. **ROLES** (RoleID,RoleName, UserID,)
- 8. **CATEGORIES** (CategoryID, CategoryName, CreateBy, CreateDate,ChangeDate, isDeleted)
- 9. **COMMENT** (CommentID, CommentDate, IdeaID, userID, HideName,CreateDate, ChangeBy, ChangeDate StaffEnabled)
- 10. **LIKES** (LikesID, LikeCount, IdeaID, userID)
- 11. **IDEASVIEW** (IdeasviewID, Views, IdeaID, userID, Date)
- 12. **NOTICES** (NoticeID, NoticeDetails)

DATA DICTIONARY

assigntutortbl

Column	Type	Null	Default	Comments
AssignTutorID	int(11)	No		
(Primary)				
TutorUserID	int(11)	Yes	NULL	
StudentUserID	int(11)	Yes	NULL	
CreateBy	int(11)	Yes	NULL	
dateSent	date	Yes	NULL	
ChangeBy	int(11)	Yes	NULL	

ChangeDate	datetime	Yes	NULL	
IsDeleted	tinyint(1)	Yes	0	
dateSentNow	datetime	Yes	NULL	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	AssignTutorID	11	A	No	
userIDFK_idx	BTREE	No	No	StudentUserI	4	A	Yes	

userIDFKB_id	BTREE	No	No	TutorUserID	1	A	Yes	
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categorytbl

Table comments: Essential for classifying submitted ideas in sets of categories/classes.

Column	Type	Null	Default	Comments
CategoryID <i>(Primary)</i>	int(11)	No		
CategoryName	varchar(45)	No		
CreateBy	int(11)	Yes	NULL	
CreateDate	datetime	Yes	NULL	
ChangeBy	int(11)	Yes	NULL	
ChangeDate	datetime	Yes	NULL	
IsDeleted	tinyint(1)	Yes	0	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	CategoryID	3	A	No	

commentstbl

Table comments: Keeping a log of all comments submitted on every idea.

Column	Type	Null	Default	Comments
CommentID <i>(Primary)</i>	int(11)	No		
CommentDetails	varchar(100)	Yes	NULL	
IdeaID	int(11)	Yes	NULL	
userID	int(11)	Yes	NULL	
HideName	tinyint(1)	Yes	NULL	
CreateDate	datetime	Yes	NULL	

CreateDate	datetime	Yes	<i>NULL</i>	
ChangeBy	int(11)	Yes	<i>NULL</i>	
ChangeDate	datetime	Yes	<i>NULL</i>	
StaffEnabled	tinyint(1)	Yes	0	
IsDeleted	tinyint(1)	Yes	0	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	CommentID	4	A	No	
ideasidfk_idx	BTREE	No	No	IdeaID	1	A	Yes	

departmenttbl

Table comments: identifying the univervisity's departments to classify the students and quality assurance managers.

Column	Type	Null	Default	Comments
DeptID <i>(Primary)</i>	int(11)	No		
DeptName	varchar(45)	No		
CreateBy	int(11)	Yes	<i>NULL</i>	

CreateDate	datetime	Yes	<i>NULL</i>	
ChangeBy	int(11)	Yes	<i>NULL</i>	
ChangeDate	datetime	Yes	<i>NULL</i>	
IsDeleted	tinyint(1)	Yes	0	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	DeptID	5	A	No	

DeptName_UNIQUE	BTREE	Yes	No	DeptName	5	A	No	
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downloads

Column	Type	Null	Default	Comments
down_id	int(11)	No		
<i>(Primary)</i> title	text	No		
file	text	No		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	down_id	1	A	No	

ideasperiodtbl

Table comments: This will create a window period when ideas can be submitted or when not to by the Quality Assurance Manager.

Column	Type	Null	Default	Comments
IdeasPeriodID	int(11)	No		

<i>(Primary)</i>				
StartDate	date	Yes	<i>NULL</i>	
EndDate	date	Yes	<i>NULL</i>	
CommentsEndDate	date	Yes	<i>NULL</i>	
userID	int(11)	Yes	<i>NULL</i>	
CreateDate	datetime	Yes	<i>NULL</i>	
ChangeBy	int(11)	Yes	<i>NULL</i>	
ChangeDate	datetime	Yes	<i>NULL</i>	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	IdeasPeriodID	0	A	No	

ideastbl

Table comments: Main table for storing sumitted ideas.

Column	Type	Null	Default	Comments
IdeaID <i>(Primary)</i>	int(11)	No		
IdeaDetails	text	Yes	NULL	
userID	int(11)	Yes	NULL	
DeptID	int(11)	Yes	NULL	
CategoryID	int(11)	Yes	NULL	
FilePath	varchar(200)	Yes	NULL	
HideName	tinyint(1)	Yes	NULL	
CreateDate	datetime	Yes	NULL	
ChangeBy	int(11)	Yes	NULL	
ChangeDate	datetime	Yes	NULL	
IsDeleted	tinyint(1)	Yes	0	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	IdeaID	3	A	No	
userID_idx	BTREE	No	No	userID	1	A	Yes	
DeptID_idx	BTREE	No	No	DeptID	2	A	Yes	
CategoryID_idx	BTREE	No	No	CategoryID	2	A	Yes	

A	E		D				
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ideasviewtbl

Table comments: To keep a log, whenever an idea is viewed, this is essential for identifying most viewed ideas.

Column	Type	Null	Default	Comments
IdeasViewID <i>(Primary)</i>	int(11)	No		
Views	tinyint(1)	Yes	NULL	
IdeaID	int(11)	Yes	NULL	
userID	int(11)	Yes	NULL	
CreateDate	datetime	Yes	NULL	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	IdeasViewID	0	A	No	
ideasIDFK_idx	BTREE	No	No	IdeaID	0	A	Yes	
UserIDViewFK_idx	BTREE	No	No	userID	0	A	Yes	

meeting

Column	Type	Null	Default	Comments
id <i>(Primary)</i>	int(11)	No		
date	date	Yes	NULL	
days	varchar(35)	Yes	NULL	
venue	varchar(500)	Yes	NULL	
title	varchar(45)	Yes	NULL	
participants	varchar(30)	Yes	NULL	
objectives	varchar(500)	Yes	NULL	
1	1 (500)	Y	NULL	

expected_outcomes	varchar(500)	Yes	NULL	
achieved_outcomes	varchar(500)	Yes	NULL	
attachments	varchar(500)	Yes	NULL	
StudentUserID	int(11)	Yes	NULL	
CreateBy	int(11)	Yes	NULL	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	5	A	No	
CreatByFK_idx	BTREE	No	No	CreateBy	1	A	Yes	
FKUserID_idx	BTREE	No	No	StudentUserID	5	A	Yes	

messaging

Column	Type	Null	Default	Comments
ID <i>(Primary)</i>	int(11)	No		
senderUserID	int(11)	Yes	NULL	
senderName	varchar(45)	Yes	NULL	
recipientUserID	int(11)	Yes	NULL	

subject	varchar(45)	Yes	NULL	
content	text	Yes	NULL	
dateSent	date	Yes	NULL	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	ID	8	A	No	
UserIDFKM id	BTREE	No	No	1. UserID	2	A	Yes	

x	E	No	No	senderUserID	2	A	Yes	
FKUserIDM_id x	BTREE	No	No	recipientUserI D	4	A	Yes	

noticestbl

Table comments: This will enable the Quality Assurance Manager to encourage students to give ideas or on any other contributions.

Column	Type	Null	Default	Comments
NoticeID (Primary)	int(11)	No		
NoticeDetails	text	No		
StartDate	date	Yes	NULL	
EndDate	date	Yes	NULL	
userID	int(11)	Yes	NULL	
CreateDate	datetime	Yes	NULL	
ChangeBy ChangeDate	int(11) datetime	Yes Yes	NULL NULL	
IsDeleted	tinyint(1)	Yes	0	

Indexes

Keyname	Type	Uniqu e	Pack ed	Column	Cardinalit y	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	NoticeID	5	A	No	
NUserIDFK_id x	BTREE	No	No	userID	1	A	Yes	

rolestbl

Table comments: Essential for classifying users of the system to control privileges. THE
VALUES IN THIS TABLE SHOULD NOT BE EDITED NOR DELETED

Column	Type	Null	Default	Comments

RolesID <i>(Primary)</i>	int(11)	No		
RoleName	varchar(45)	No		
CreateBy	int(11)	Yes	NULL	
CreateDate	datetime	Yes	NULL	
ChangeBy	int(11)	Yes	NULL	
ChangeDate	datetime	Yes	NULL	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	RolesID	4	A	No	
RoleName_UNIQUE	BTREE	Yes	No	RoleName	4	A	No	

thumbstbl

Table comments: keeping a log of thumbs (likes or dislikes) on every idea submitted.

Column	Type	Null	Default	Comments
ThumbsID <i>(Primary)</i>	int(11)	No		

Thumbs	tinyint(1)	Yes	NULL	
IdeaID	int(11)	Yes	NULL	
userID	int(11)	Yes	NULL	
CreateDate	datetime	Yes	NULL	
ChangeDate	datetime	Yes	NULL	
IsDeleted	tinyint(1)	Yes	0	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
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PRIMARY	BTREE	Yes	No	ThumbsID	0	A	No	
IdeaFK_idx	BTREE	No	No	IdeaID	0	A	Yes	
UserIDStudent_idx	BTREE	No	No	userID	0	A	Yes	

usertbl

Table comments: Main table for all participants (users) of the system.

Column	Type	Null	Default	Comments
userID <i>(Primary)</i>	int(11)	No		
FirstName	varchar(45)	Yes	<i>NULL</i>	
LastName	varchar(45)	Yes	<i>NULL</i>	
username	varchar(25)	No		
password	varchar(255)	No		
Email	varchar(100)	No		
DeptID	int(11)	Yes	<i>NULL</i>	
RolesID	int(11)	Yes	<i>NULL</i>	
img	varchar(100)	Yes	../profilepictures/no_pic.jpg	
CreateBy	int(11)	Yes	<i>NULL</i>	

CreateDate	datetime	Yes	<i>NULL</i>	
ChangeBy	int(11)	Yes	<i>NULL</i>	
ChangeDate	datetime	Yes	<i>NULL</i>	
IsDeleted	tinyint(1)	Yes	0	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	userID	9	A	No	

username_UNIQUE	BTREE	Yes	No	username	9	A	No	
RolesIDFK_idx	BTREE	No	No	RolesID	4	A	Yes	
FKDeptID_idx	BTREE	No	No	DeptID	1	A	Yes	

SITE DIAGRAM

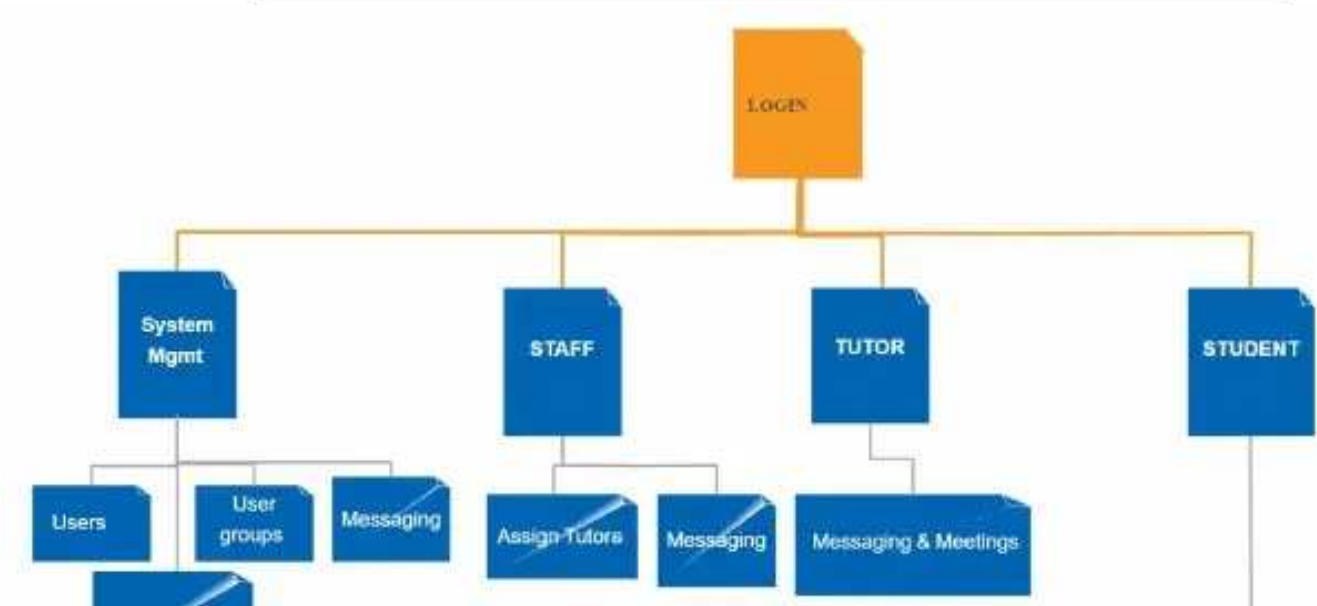




Fig.4. Site Map Diagram.

SCRUM MINUTES

The sprint meetings that were held are as follows:

SPRINT 1

DATE	SPRINT GOAL	SPRINT BACKLOG	SPRINT REVIEW/ CHALLENGES
4 th Oct, 2019	- To analyse and redefine the features and functions of the system.	- Roles sharing - Decide tools	- Goals were accomplished.

	- To assigning roles.	and software - Identifying the requirements and prioritise them	
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SPRINT 2

DATE	SPRINT GOAL	SPRINT BACKLOG	SPRINT REVIEW/ CHALLENGES
11 th Oct, 2019	<ul style="list-style-type: none"> To briefly review previous tasks. To develop database 	1. Draw entities and the associative	- Goals were accomplished.

	<p>To develop database design artefacts (Conceptual & physical design, ERDs).</p> <ul style="list-style-type: none"> To develop the database tables. 	<p>associative relationships.</p> <ol style="list-style-type: none"> Defining the attributes. Drawing the Key attributes and actual ERD creation. Designing the database tables and referential integrity. 	
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SPRINT 3

DATE	SPRINT GOAL	SPRINT BACKLOG	SPRINT REVIEW/ CHALLENGES
18 th Oct, 2019	<ul style="list-style-type: none"> To briefly review previous tasks. To actualise the 	<ul style="list-style-type: none"> To develop the tables and handle data 	<ul style="list-style-type: none"> Goals were accomplished.

	<p>designed database using MySQL.</p>	<p>inputs to ensure integrity is working and all tables are present using MySQL.</p> <ul style="list-style-type: none"> Produce queries & views 	
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SPRINT 4

DATE	SPRINT GOAL	SPRINT BACKLOG	SPRINT REVIEW/ CHALLENGES
25 th Oct, 2019	<ul style="list-style-type: none"> To briefly review previous tasks. Website design 	<ul style="list-style-type: none"> Create the Login page. Form validation Produce user management Produce Topic management Produce messaging model Produce meetings model Develop PHP Functions 	- Goals were accomplished.

SPRINT 5

DATE	SPRINT GOAL	SPRINT BACKLOG	SPRINT REVIEW/ CHALLENGES
1 st	<ul style="list-style-type: none"> To briefly review 	<ul style="list-style-type: none"> Develop PHP 	- Goals were

25

November, 2019	<ul style="list-style-type: none"> previous tasks. To develop database and front-end communications. To develop system reports. 	<ul style="list-style-type: none"> Functions Develop email notification Develop system reports 	accomplished.
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SPRINT 6

DATE	SPRINT GOAL	SPRINT BACKLOG	SPRINT REVIEW/
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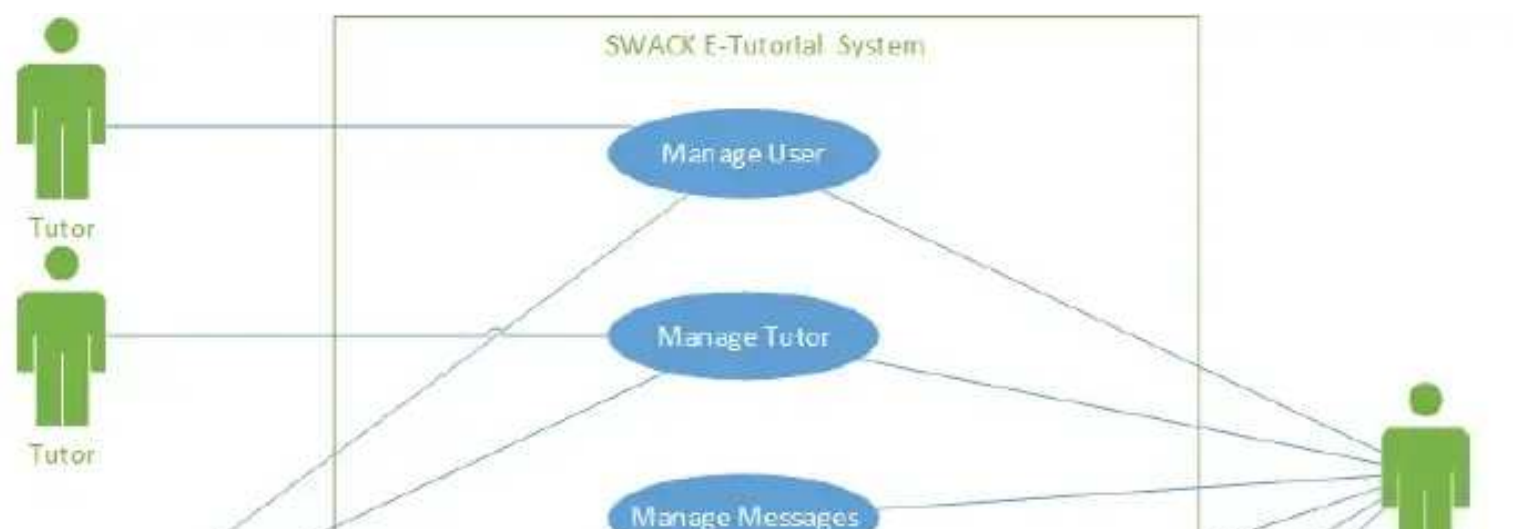
DATE	SPRINT GOAL	SPRINT BACKLOG	SPRINT REVIEW/ CHALLENGES
8 th November, 2019	<ul style="list-style-type: none"> To briefly review previous tasks. Testing the functionality of the website. 	<ul style="list-style-type: none"> Drawing up test plans and Testing all system functionality and ensure data consistency at the backend database. 	<ul style="list-style-type: none"> Goals were accomplished.

PROJECT BURN DOWN CHART





USE CASE



6	Testing whether Administrator can upload a document for download
7	Testing whether All users can download documents uploaded
8	Testing whether All users can exchange messages
9	Testing whether Administrator can add a broadcast message in form of a notice
10	Testing whether Administrator & Tutor can add meetings
11	Testing if students can submit topics and upload supporting documents
12	Testing whether all users can add comments and reactions to submitted topics
13	Testing whether Tutor can view student details assigned to them
14	Testing whether an email notification is sent once student is assigned a tutor.
15	Testing whether Staff can view overall number of interactions on messages, topics, students, tutors and meetings
16	<p>Testing overall system reports on:</p> <ul style="list-style-type: none"> ➤ Number of messages sent in the last seven days ➤ Number of messages sent by tutors ➤ Number of topics made by each Department. ➤ Number of contributors within each Department. ➤ Number of students without a tutor in Excel. ➤ Number of students not active in last 7 days and 28 days respectively in Excel.

TEST LOG

Test No	Description of test	Expected out come	Final out come	Status
1	<ul style="list-style-type: none"> - User login - Form Validation 	<ul style="list-style-type: none"> • To be able to log on to the system by checking the authenticity of the username & password • Once a required field isn't filled, a popup message should be given to user and data shouldn't be saved. 	<ul style="list-style-type: none"> - Users were able to log on to the system and under the user group registered under. - Validation was implemented 	Successful
2	<ul style="list-style-type: none"> - Adding users 	<ul style="list-style-type: none"> • To be able to create user accounts • To able to assign roles to a 	<ul style="list-style-type: none"> - the admin was able to create user accounts - the admin was able to assign 	Successful

	- Assign roles	To able to assign roles to a user group	the admin was able to assign roles to user groups	
3	- Control the uniqueness of a username	<ul style="list-style-type: none"> To avoid assigning one username to more than one user 	- The system was rejecting adding an already taken username to a another.	Successful
4	- Add, edit and delete categories & departments by Admin	<ul style="list-style-type: none"> Categories and Departments must be added and updated when need arises. 	- Categories and departments were added and further updated	Successful

5	- Administrator/Staff assigning tutors to students	<ul style="list-style-type: none"> The tutors should be assigned students 	<ul style="list-style-type: none"> The students were successfully added to only one tutor. Students were also allocated in bulk or as a batch on one action/form. 	Successful
6	<ul style="list-style-type: none"> Document upload Document download 	<ul style="list-style-type: none"> Admin should be able to upload documents for download All users should be able to download documents once uploaded 	<ul style="list-style-type: none"> The documents were added All users were able to download documents 	Successful
7	- Messages exchange among users	<ul style="list-style-type: none"> All users should be able to send and receive messages 	- All users were able to send and receive messages among each other.	Successful
8	<ul style="list-style-type: none"> Admin adding a broadcast message All users viewing the broadcast message 	<ul style="list-style-type: none"> Admin should be able to add notices All users once logged on, should be able to see the notices 	<ul style="list-style-type: none"> Notices were added All users were able to view the notices 	Successful

9	- Administrator/Tutor adding meetings	<ul style="list-style-type: none"> The meetings should be recorded and scheduled 	- The meetings were captured with all the participant and objectives recorded	Successful
10				

	- Students submitting topics & supporting documents	• The students should be able to submit topics	• The students were able to submit topics and uploading supporting documents to that topic	Successful
11	- All users adding comments and reactions to submitted topics	• All the users should be able to comment on topics	• All users were able to share comments and reactions to submitted topics	Successful
12	- Tutor viewing student details assigned to them	• Tutors should be able to view student details assigned to them and sort them accordingly	• Tutors were able to view students assigned to them, with a sorting feature	Successful
13	- Generating an email notification once student is assigned a tutor.	• An email should be sent to students and tutors once this association is done	• Students and tutors were able to receive email notifications once assigned.	Successful
14	- Staff viewing overall interactions on messages,	• Staff should be able to view overall interactions on messages, topics, students, tutors and meetings	• Staff were able to view overall interactions on messages, topics, students, tutors and meetings on a	Successful

	topics, students, tutors and meetings		dashboard	
15	- Generating reports and other dashboards (various)	• Admin should be able to generate reports as guided on the test plan.	• Admin was able to view some statistics on a dashboard and generate reports in Excel	Successful
16	- Viewing the website on various devices for responsiveness	• The website should correspond to the orientation of any device	• The site was perfect on computers and tablets but not very responsive on phones on some pages/views	Unsuccessful

SCREENSHOTS OF THE SYSTEM

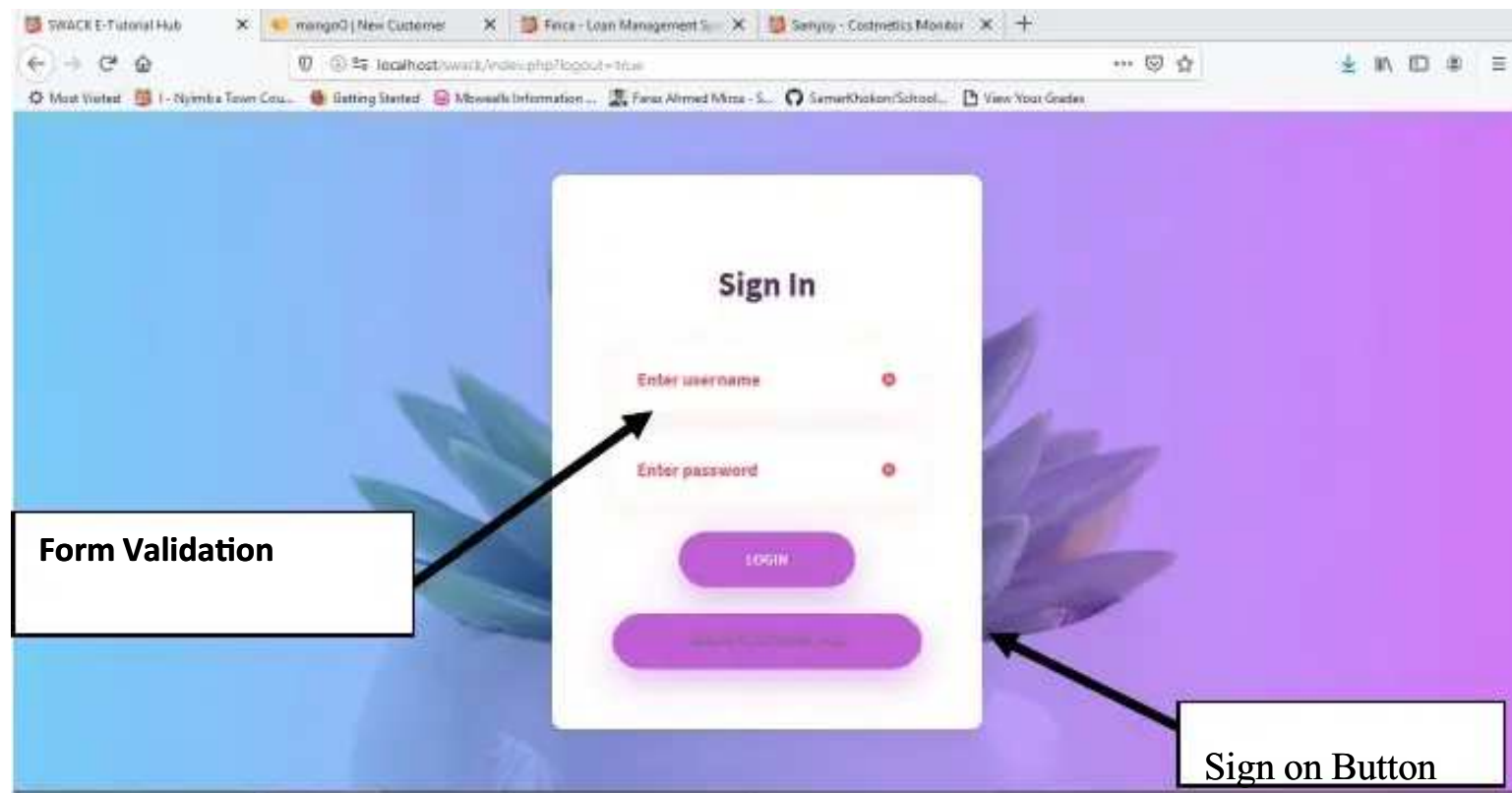


Figure 1. Validated Log in form for users.



Figure 2. Student home page once logged in

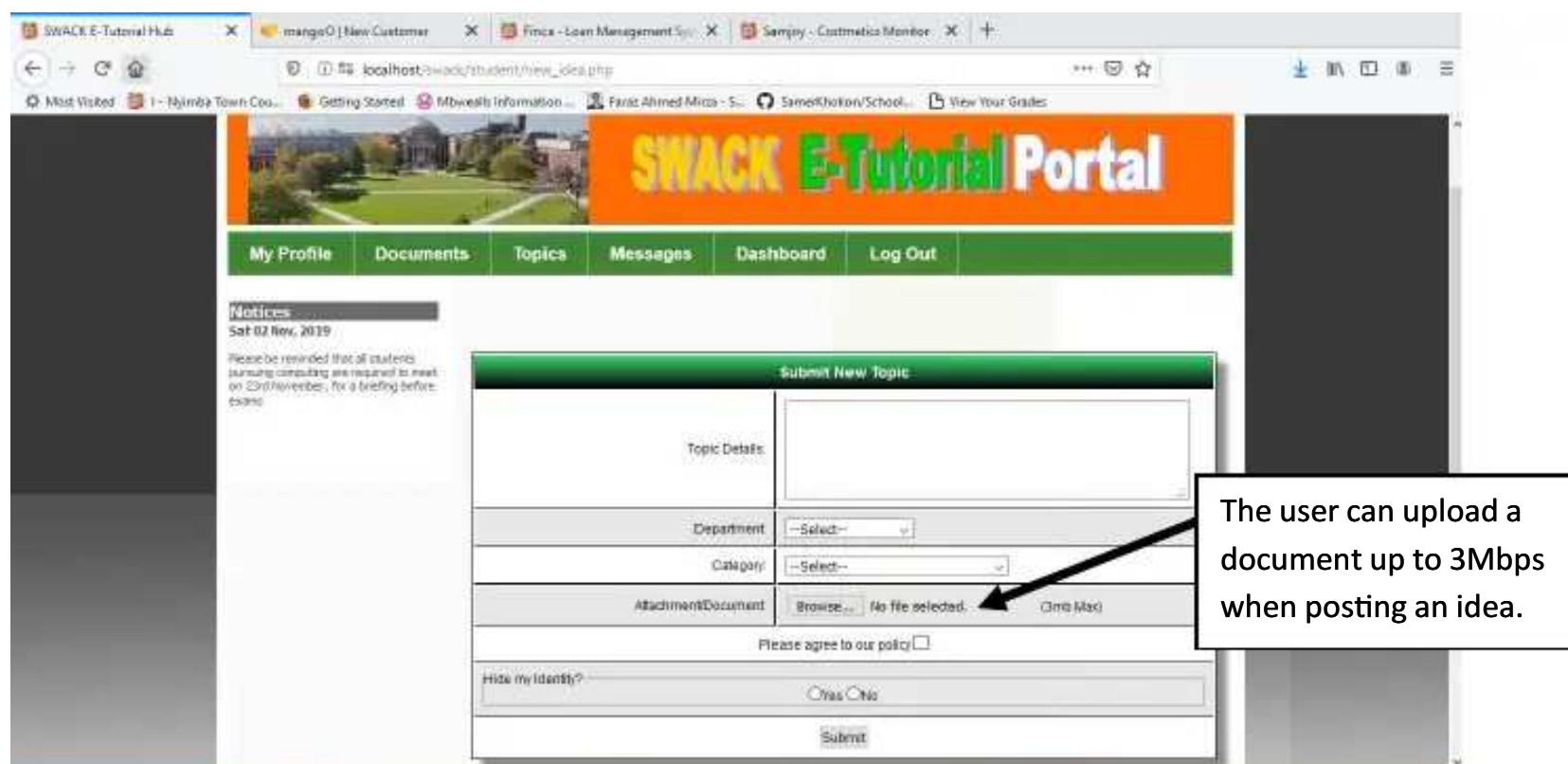


Figure 3. Submitting a topic form



Figure 4. On “view ideas” button click, all submitted views are shown.



Figure 5. More topic details for adding comments and reactions.

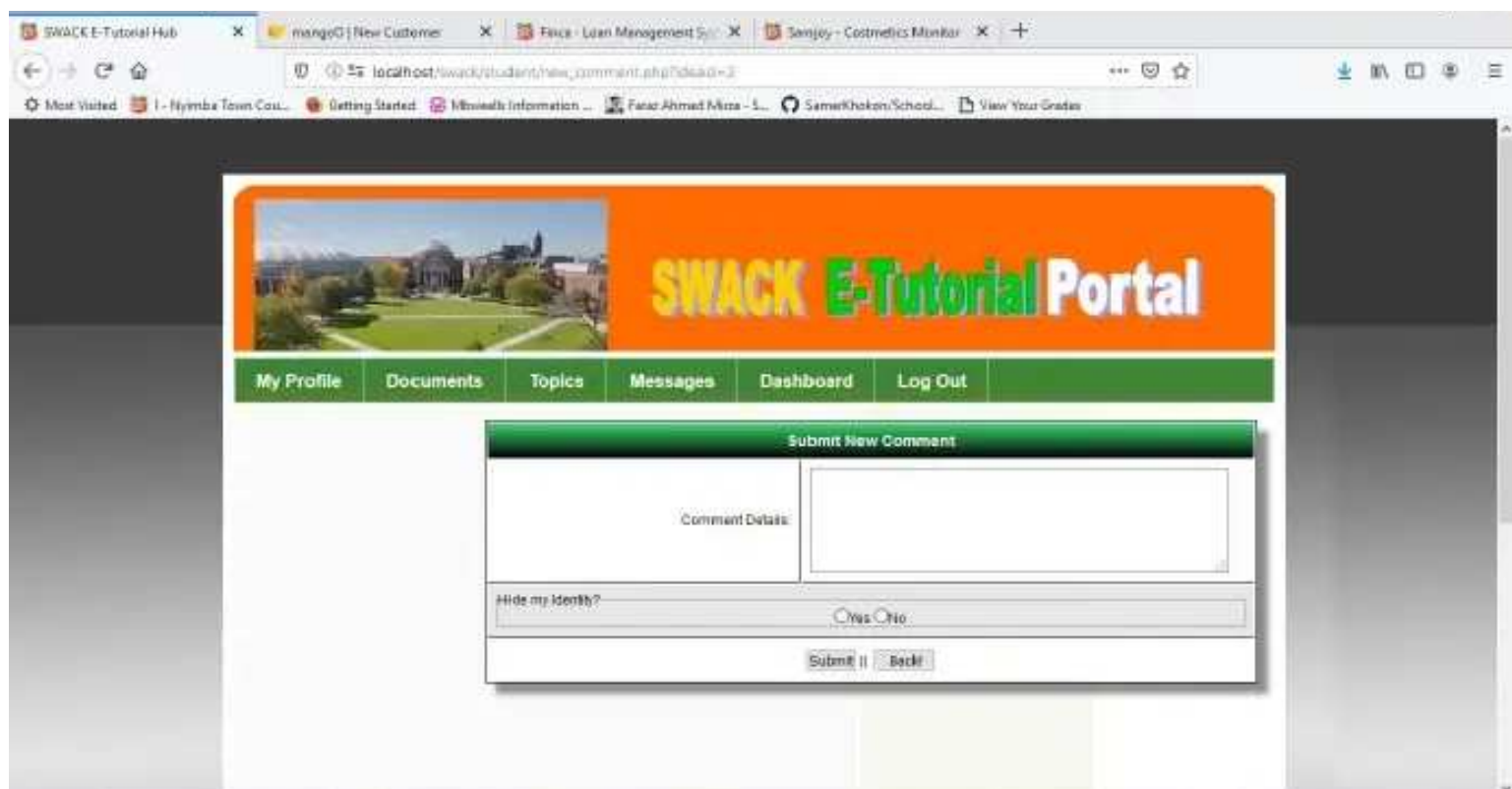


Figure 6. Adding a new comment once a topic is clicked.

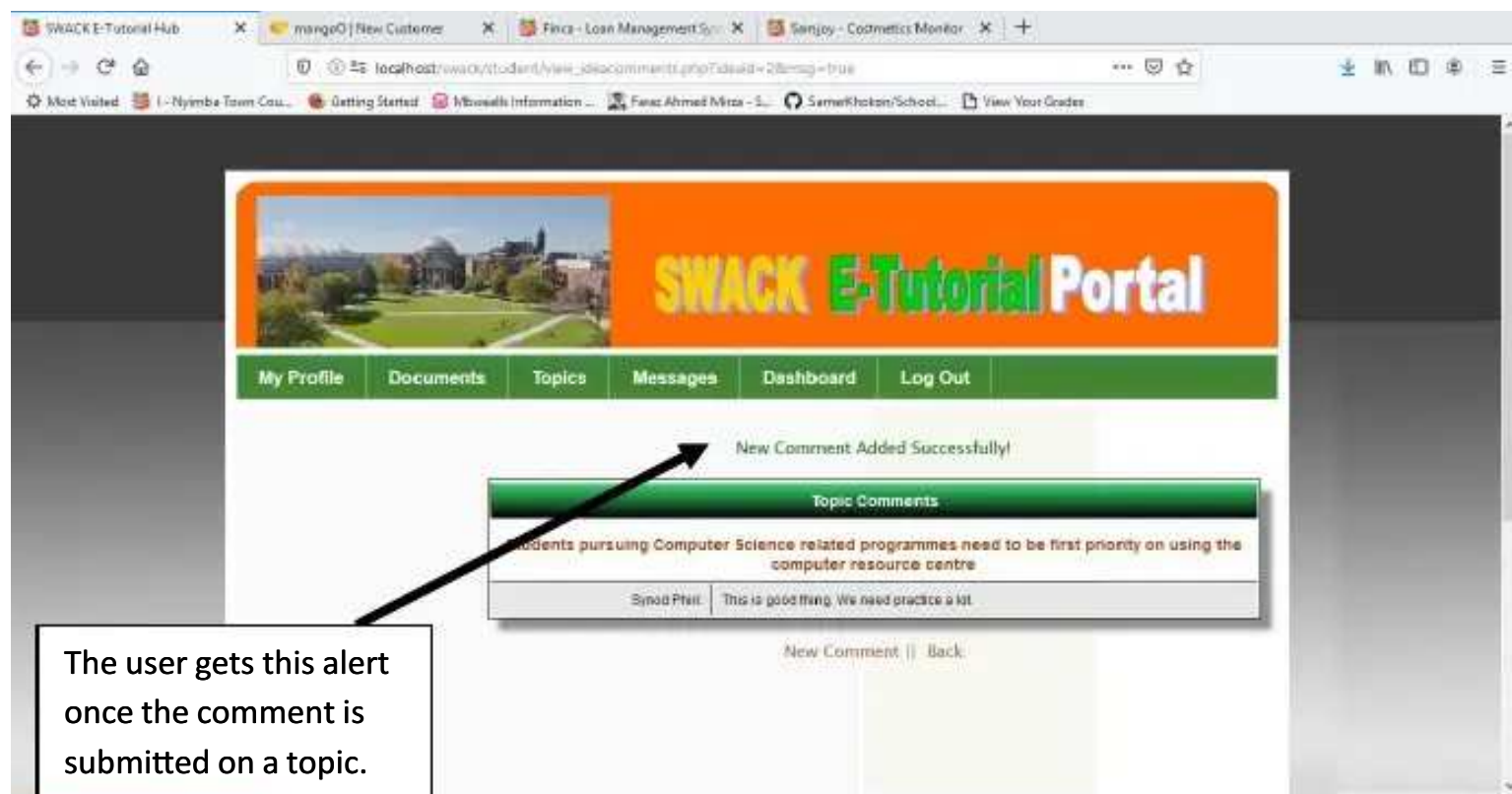


Figure 7. Once comment is submitted the comment shows and alert.

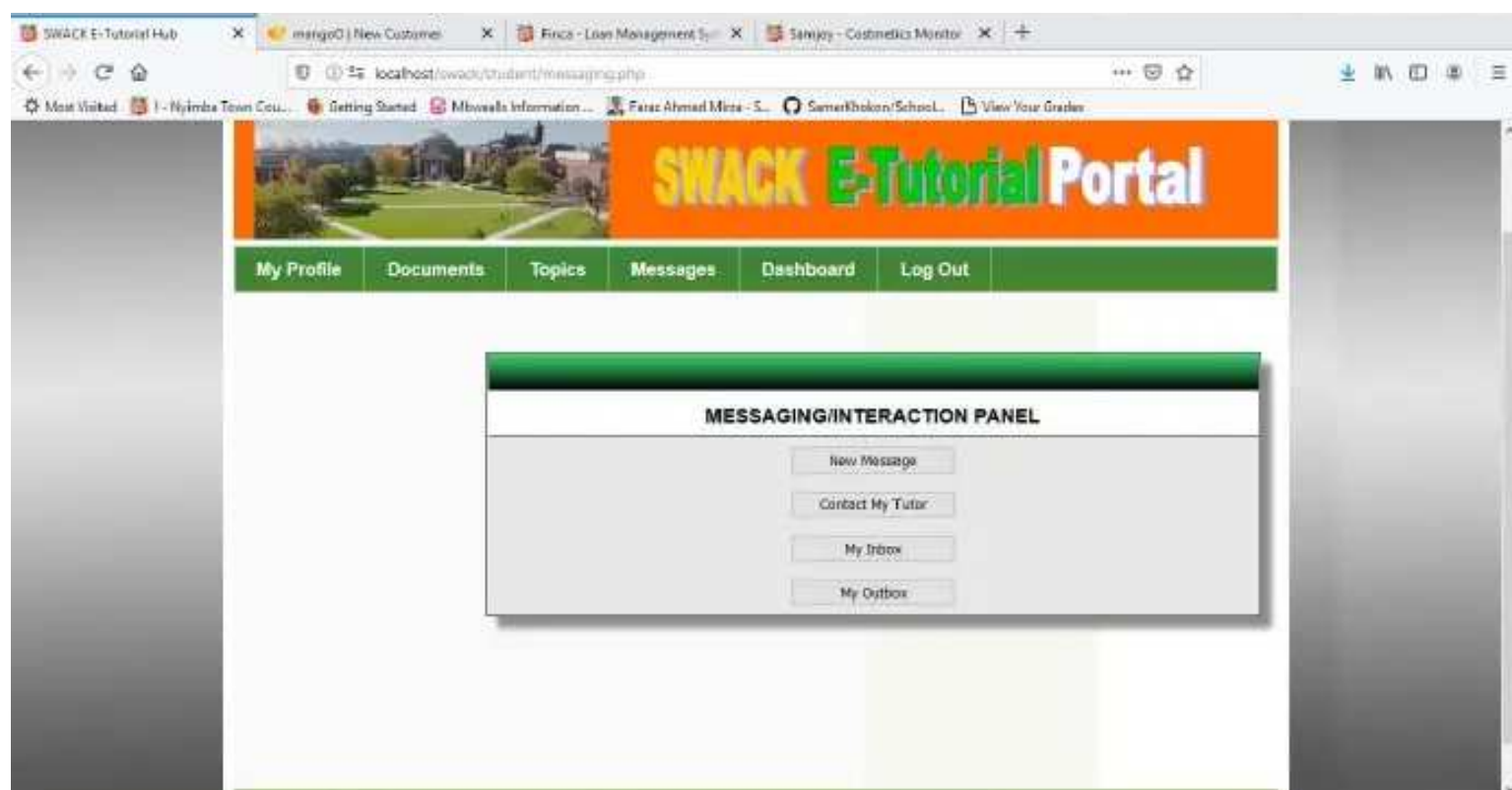


Figure 8. Showing all the message operation areas.

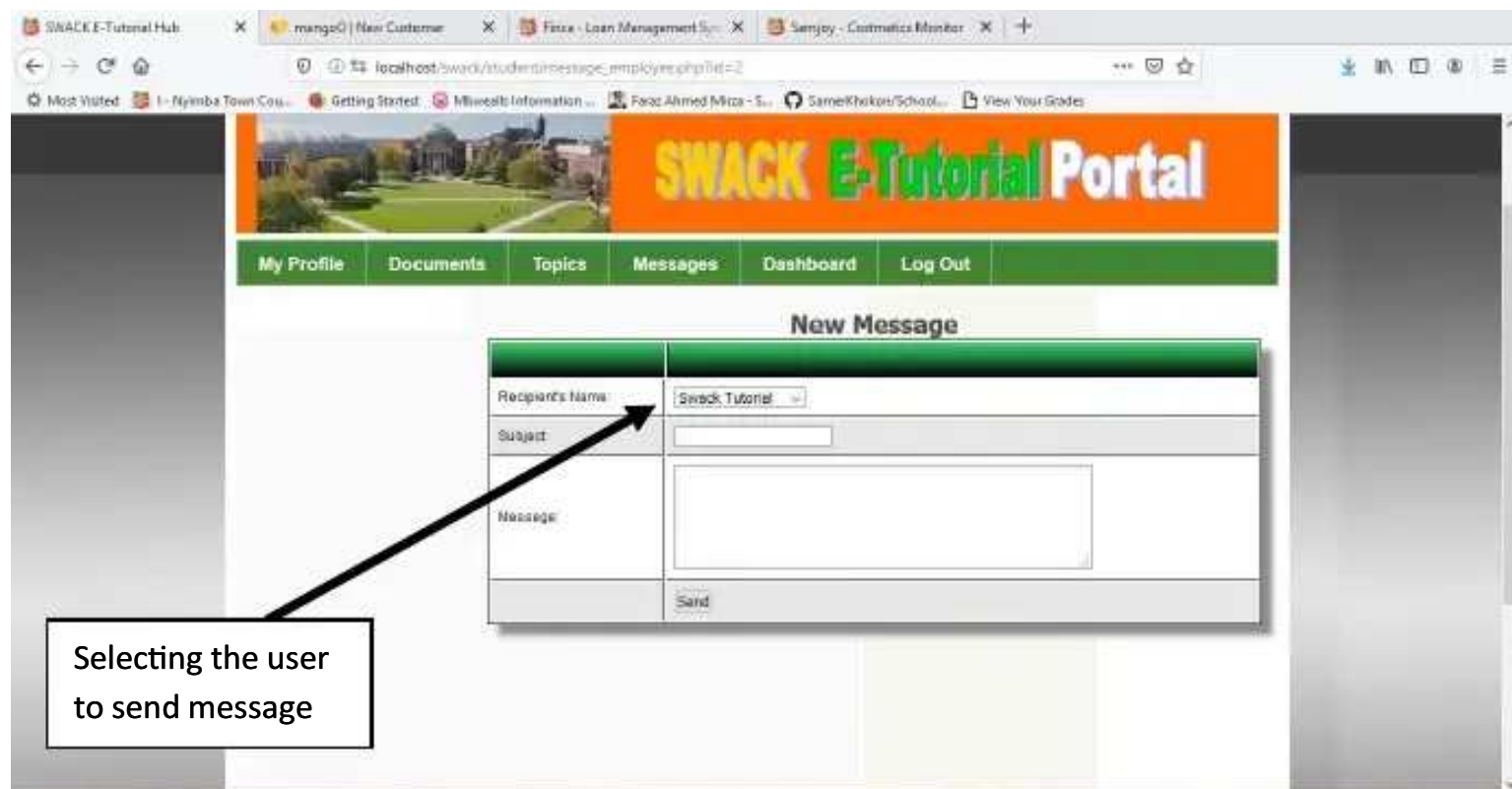


Figure 9. New message form.

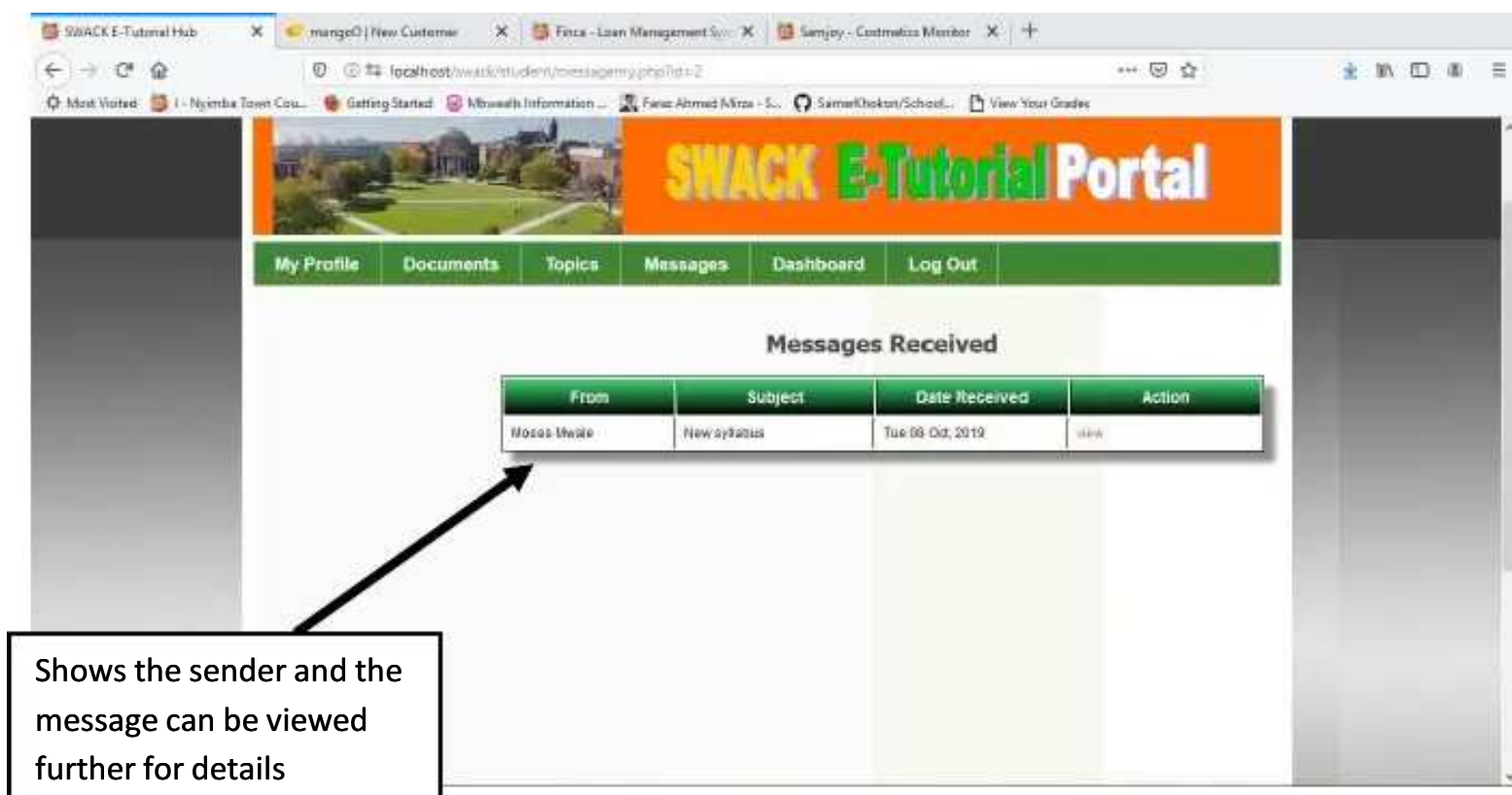


Figure 10. Message inbox, showing all messages received

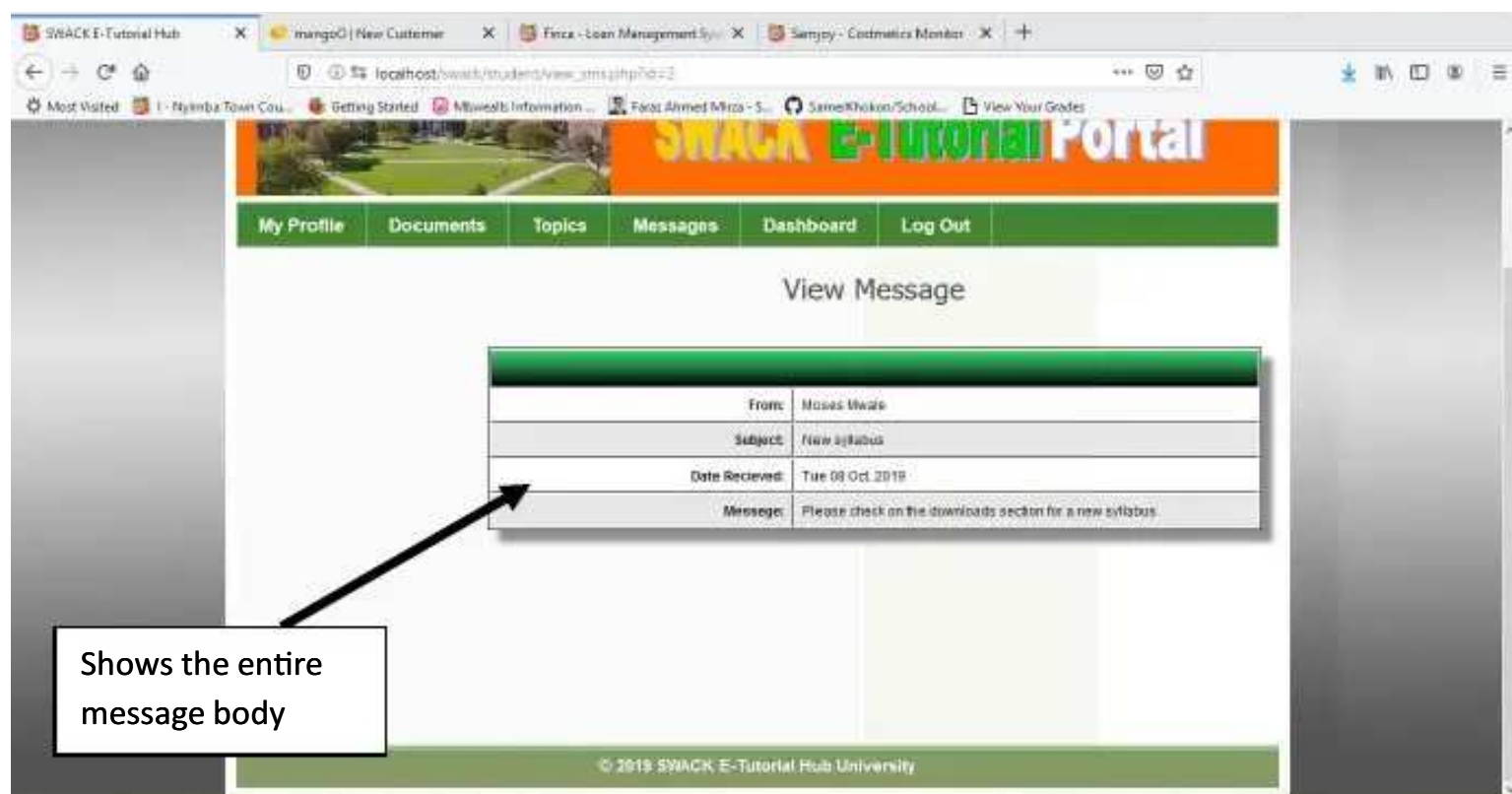


Figure 11. Message more details

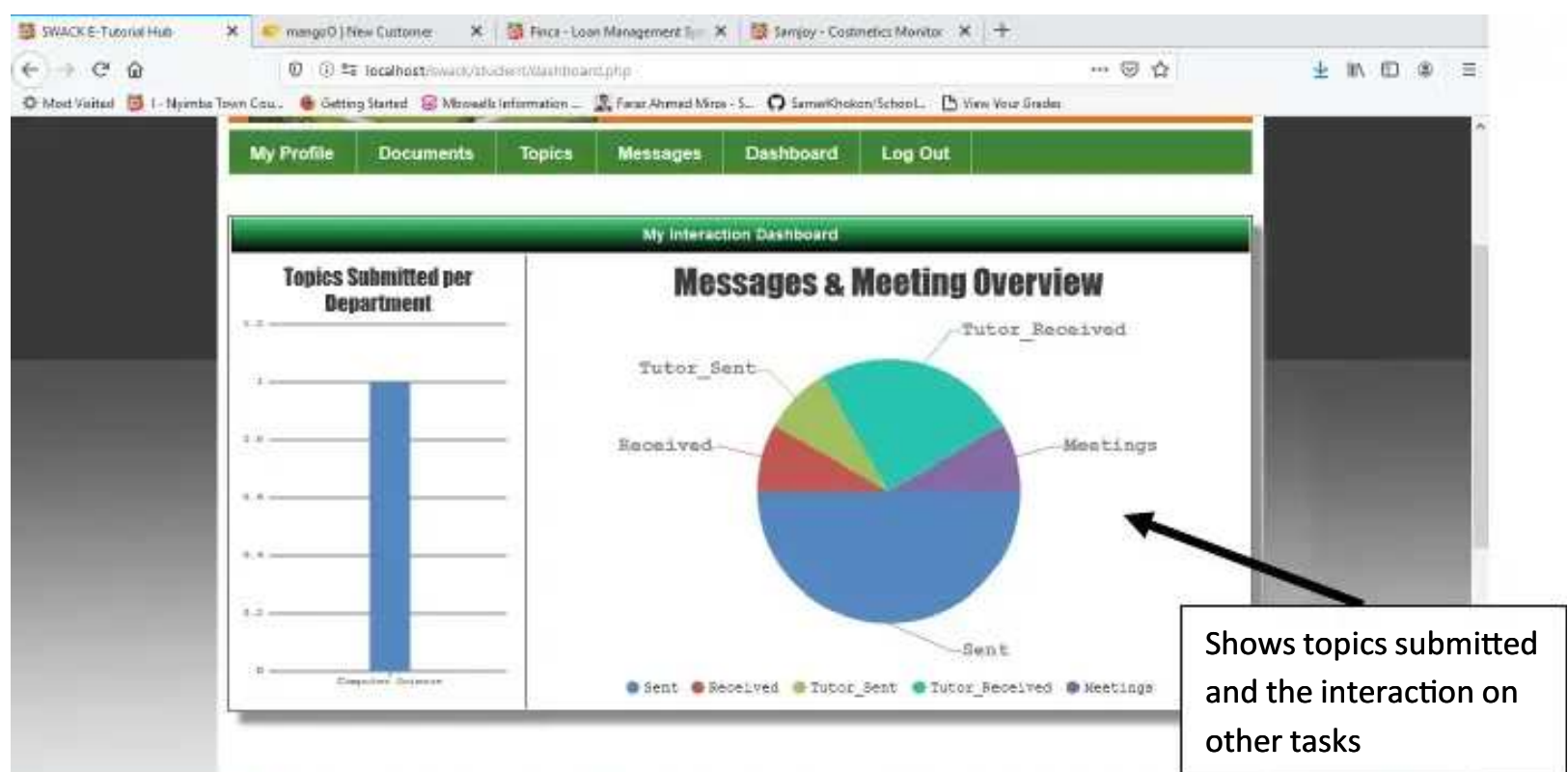


Figure 12. Interaction dashboard

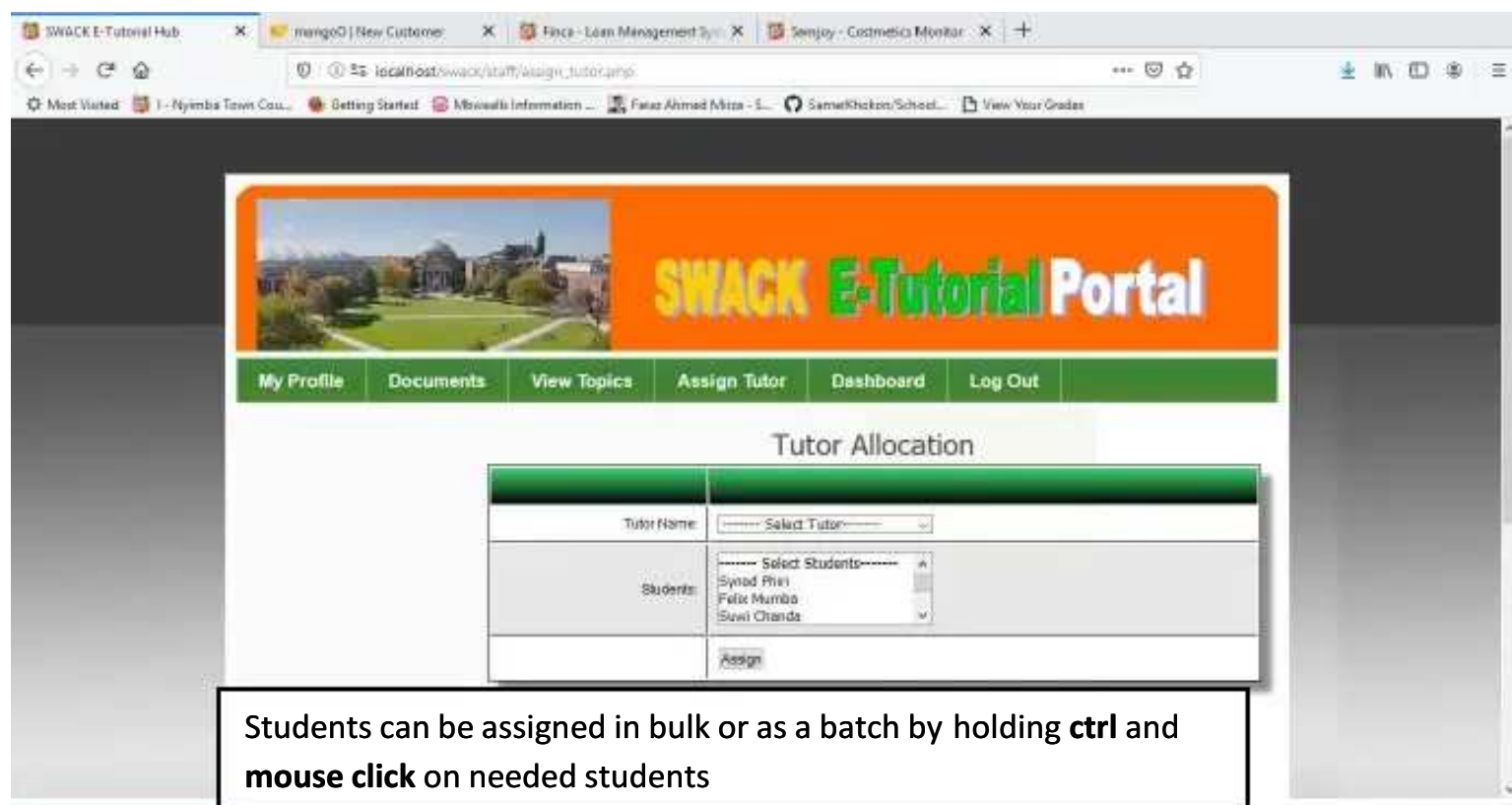


Figure 13. Assigning students to a tutor



Figure 14. Showing overall interaction of all activities by staff

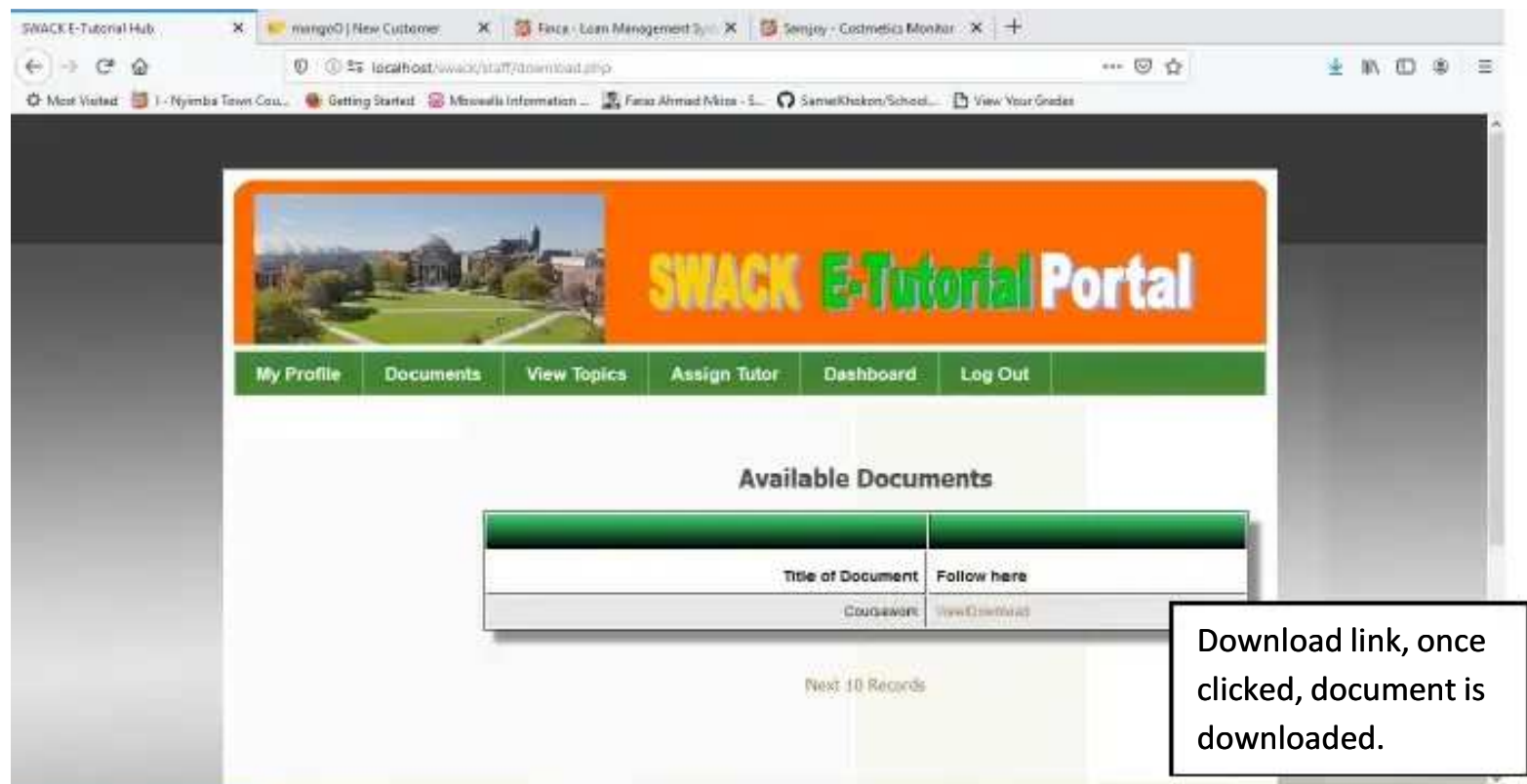


Figure 15. Document download

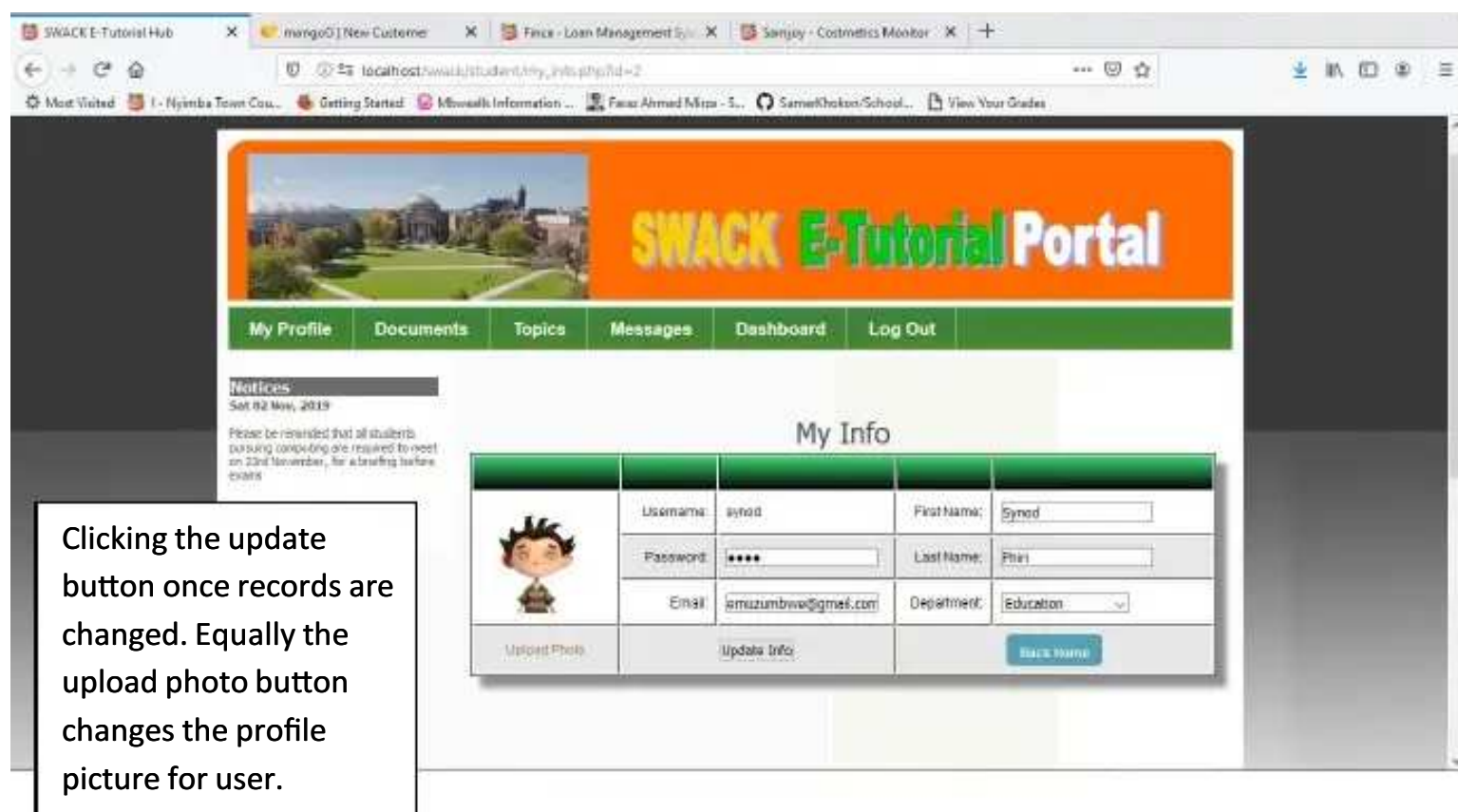


Figure 16. Profile view for record update

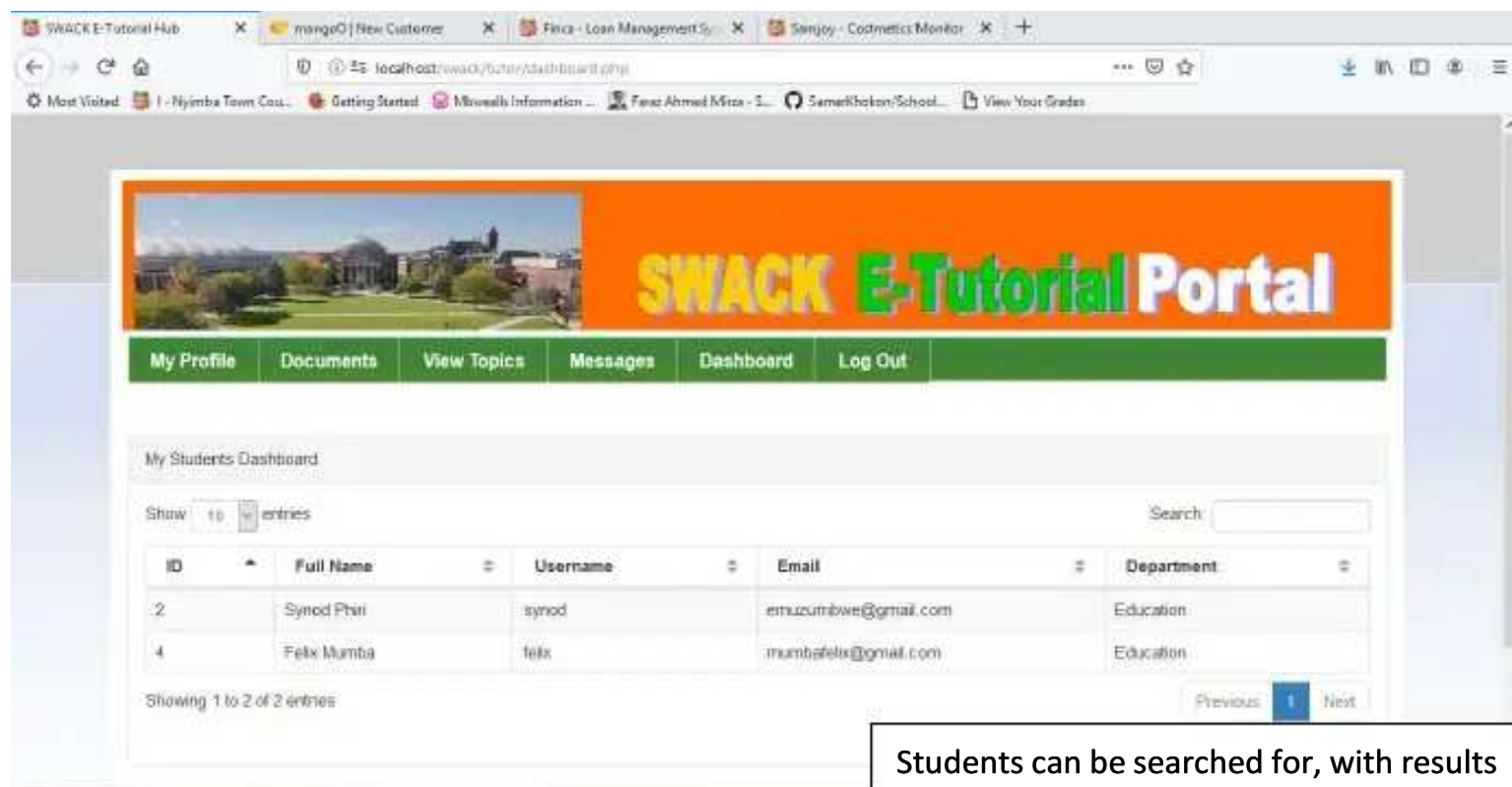
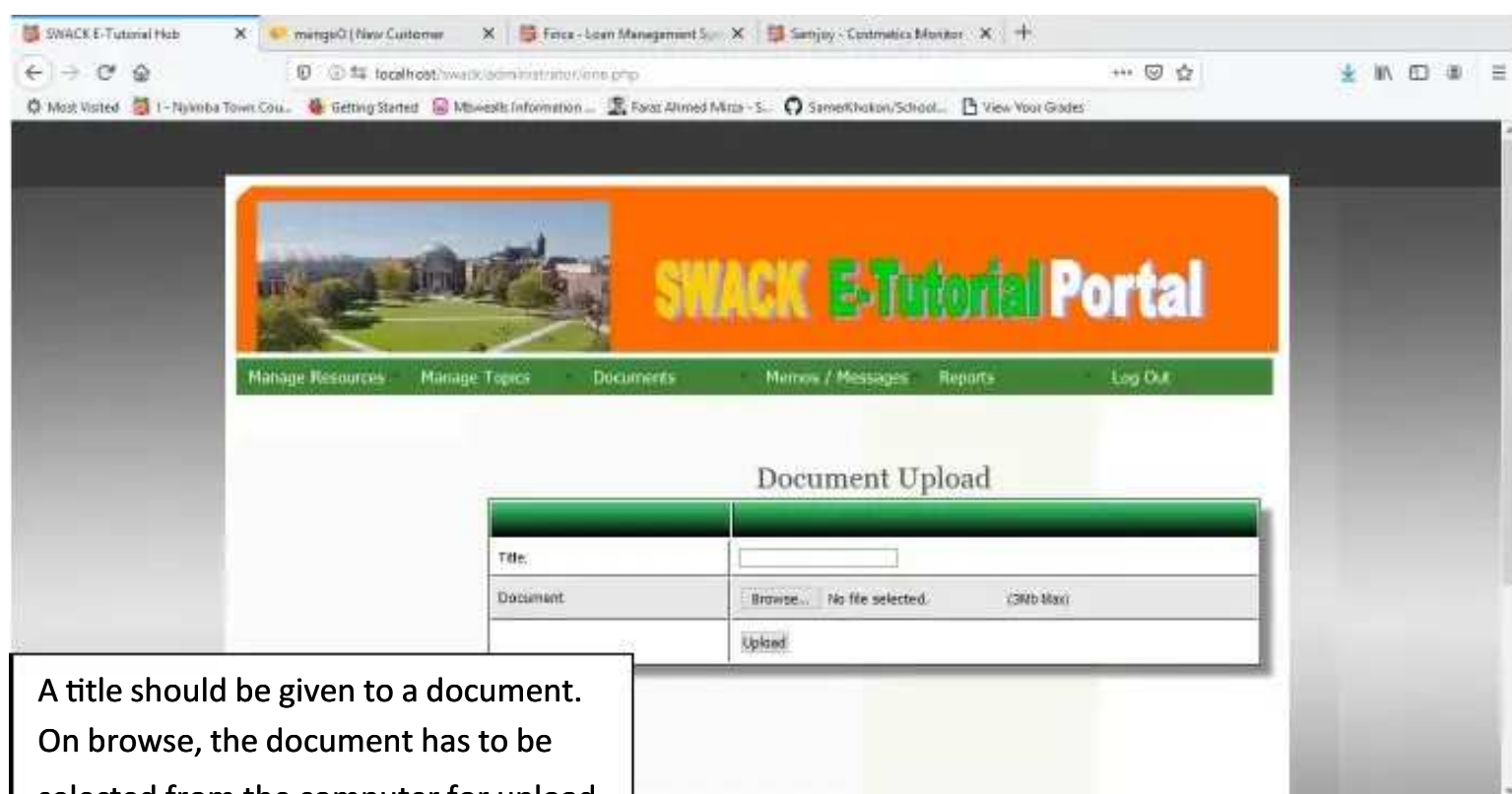


Figure 16. Tutor viewing student details assigned to them

Students can be searched for, with results showing instantly. Clicking on any title **sorts** the records following that order.



A title should be given to a document. On browse, the document has to be selected from the computer for upload.

Figure 17. Document upload

The screenshot shows the SWACK E-Tutorial Portal interface. The header includes the portal name and navigation links: Manage Resources, Manage Topics, Documents, Memo / Messages, Reports, and Log Out. The main content area is titled 'Create New Notice' and contains a form with the following fields:

Notice:	<input type="text"/>
Start Date:	<input type="text"/>
End Date:	<input type="text"/>
<input type="button" value="Submit"/> <input type="button" value="Back"/>	

A text box on the left side of the form states: "A notice is also given validity period to run. A notice can also be scheduled to run on a future date."

Figure 18. Creating a new notice

The screenshot shows the SWACK E-Tutorial Portal interface. The header includes the portal name and navigation links: Manage Resources, Manage Topics, Documents, Memo / Messages, Reports, and Log Out. The main content area is titled 'Create New User' and contains a form with the following fields:

First Name:	<input type="text"/>	Last Name:	<input type="text"/>
User Name:	<input type="text"/>	Password:	<input type="text"/>
Email:	<input type="text"/>	Department:	<input type="text" value="--Select--"/>
Grant Role:		<input type="text" value="--Select--"/>	
<input type="button" value="Add User"/>			

A text box on the right side of the form states: "A user is assigned a user group on being added to control access."

Figure 19. Adding new user