Online College Magazine

Software Requirement Specification

Chennai Campus

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Ciphers

Online College Magazine

IBM TGMC-2011

Version 1.0

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1. Introduction:

Online college magazine is a platform for students to exhibit their talent through the online college magazine website by submitting their articles. We appreciate the power of social media in this digital era. Online College magazine is a boon to students as hard copies leads to wastage of paper and are cumbersome to carry. It's the age where people prefer writing blogs and staying in touch through the internet. It provides our youngsters to speak their mind out and thus instills in them a sense of independence and individuality.

1.1 Purpose:

Every student has access to the internet. Hence, it becomes imperative to create an online college magazine for students to share their own articles, read various articles, thus promoting literary insight.

All students do not have access to the printed magazine, and it is not eco-friendly as it leads to wastage of paper. An online college magazine can completely replace the printed version and all students can have complete access to it in this age of internet. It creates a user-friendly interactive place where students/faculty can share their ideas. Ratings on article create a healthy competition amongst students.

It will be an open website, and everybody will have access to view articles.

1.2 Scope:

Different users like students, faculty, administrators and moderators have corresponding privileges

A centralized database of all profiles and articles is created and only the administrator has access to it. Separate moderators for each category to categorize the articles.

Students/Faculty have their own profiles where they can submit articles, view all articles, comment on articles, report articles and them.

All submitted articles are received by the moderator first where he can review and edit them and then post is successfully created on the website.

An email is immediately sent to the user with the reason once his article is rejected with the reason for rejection.

The website has a dynamic search engine for articles and posts.

Archives are maintained for all articles till date.

Articles are classified into various categories based on tags and scope for easier navigation through the website.

The homepage consist of the most read articles, most rated articles, the recent articles, editors pick, article of the month, college news and latest arrivals in the library.

FAQ section is also included for users benefit.

1.3 Definitions, Acronyms, Abbreviations:

Admin – Administrator (super user), he is the controller of all the students, faculty, guests and maintaining all records of the students and faculty.

Moderator – Editor-a person who reviews all articles, takes suggestions about the website and mark articles as spam.

Users – End users, those who only registered in this site.

Guests – Guests who visit the website-Users who are not registered.

HTML – Hypertext Markup Language is to create static websites.

J2EE – Java 2 Enterprise Edition is a programming platform and it is the part of the java platform for developing and running distributed java applications.

WAS – Web sphere application server community edition is an application server that runs and supports the J2EE and web service applications.

RSA – Rational Software Architect is a designer toolkit which is designed for develop more complex projects by providing fully dynamic web service.

DB2 – Database 2 is the database management system that provides a flexible and efficient database platform to erect strong on demand business applications.

XML - Extensive Markup Language used for data transfer and XML is stored naturally in DB2.

EJB – Enterprise java bean, it is architecture for the development and deployment of transactional, distributed object applications-based, server-side software components.

HTTP – Hypertext transfer protocol is a transaction oriented client/server protocol between web browser and a web server.

HTTPS – Secure hypertext transfer protocol is a hypertext transfer protocol over secure socket layer.

TCP/IP – Transmission control protocol/internet protocol is the communication protocol used to connect hosts on the internet.

RAD : is a development tool that helps to design web pages and also helps to design the diagrams like ER, Database schema diagrams and to generate DDL.

1.4 Tools Used

Application architecture – JAVA, J2EE

Web server – WASCE

WebSphere Application Server Community Edition (from now on WASCE) is a free, certified Java EE 5 server for building and managing Java applications. It is IBM's supported distribution of Apache Geronimo that uses Tomcat for servlet container and Axis 2 for web services. Over 15 WASCE developers are committers in the Apache Geronimo project.

Development tool –RAD

IBM Rational Application Developer for WebSphere Software (RAD) is an integrated development environment (IDE), made by IBM's Rational Software division, for visually designing, constructing, testing, and deploying Web services, portals, and Java (J2EE) applications.

Database platform – DB2

DB2 Database is the database management system that delivers a flexible and cost effective database platform to build robust on demand business applications and supports the J2EE and web services standards.

Design tool – Rational Software Modeler

IBM Rational Software Modeler, (RSM) made by IBM's Rational Software division, is a Unified Modeling Language UML 2.0-based visual modelling and design tool. Rational Software Modeler is built on the Eclipse open-source software framework and includes capabilities focused on visual modelling and model-driven development (MDD) with the UML for creating resilient, thought-out application and web services.

1.5 References

1. Object Oriented Modeling and Design with UML-Michael Blaha, James Rambaugh.

2. Software Engineering, Seventh Edition, Ian Sommerville.

3. IBM Red Books.

4. IBM TGMC Sample Synopsis.

5. IBM – www.ibm.in/developerworks

6. Java - www.sun.com

7. Wikipedia - *www.wikipedia.com*

8. Database Management Systems - Navathe.

9. Complete Reference - J2EE - Keogh.

1.6 Technologies used

HTML – Hyper Text Markup Language

Java Script – Script Language

XML – Extensive Mark Up Language

JAVA - Java is an object-oriented programming language developed by Sun Microsystems a company best known for its high end UNIX workstations. Java language was designed to be small, simple, and portable across platforms, operating systems, both at the source and at the binary level, which means that Java programs (applet and application) can run on any machine that has the Java virtual machine (JVM) installed.

J2EE - Java Platform, Enterprise Edition or **Java EE** is a widely used platform for server programming in the Java programming language. The Java platform (Enterprise Edition) differs from the Java Standard Edition Platform (Java SE) in that it adds libraries which provide functionality to deploy fault-tolerant, distributed, multi-tier Java software, based largely on modular components running on an application server.

EJB – Enterprise Java Bean

AJAX – Asynchronous Java script And XML

1.7 Overview:

Existing System:

It does exist in a few universities but with lots of drawbacks.

Drawbacks:

All students do not get access
Spamming prevents universities from using this system.
Not student-friendly**.**

Proposed System:

Registration for students, faculty, alumni

Our Plan:

Registration.
Online articles and comments.
Online ratings.
Prevent spamming and fake registrations.
Access to all students to the magazine.
Completely student friendly.

2. Overall Description:

2.1 Product Perspective

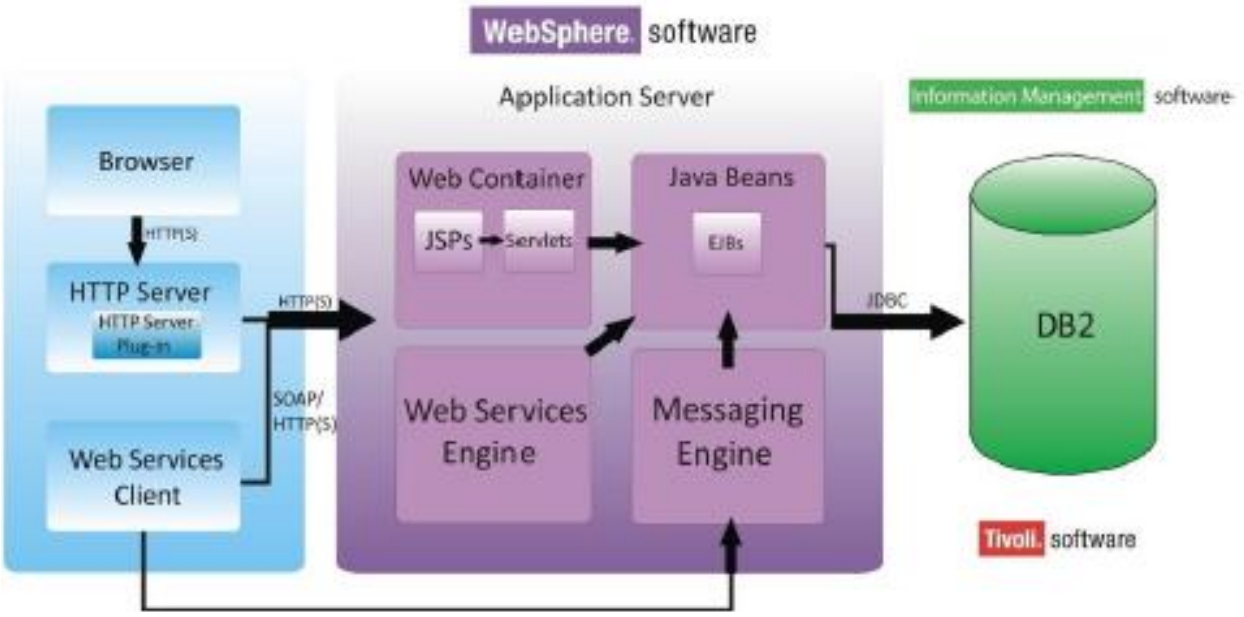


Fig 2.1: Product Perspective

2.2 Software Interface

Client on Internet
Web Browser, Operating System (any)

Client on Intranet
Web Browser, Operating System (any)

Web Server
WASCE, Operating System (any)

Data Base Server

DB2, Operating System (any)

Development End

RAD (J2EE, Java, Java Bean, Servlets, HTML, XML, AJAX), DB2, OS (Windows), WebSphere(Web Server)

2.3 Hardware Interface

Minimum requirements

Client Side			
	Processor	Ram	Disk Space
Internet Explorer or Google Chrome	Intel Pentium 3 or AMD 800 MHz	128 MB	100MB

Server Side			
	Processor	Ram	Disk Space
RAD	Intel Pentium 3 or AMD 800 MHz	1GB	4 GB
DB2-9.5		256 MB	500 MB (Excluding Database)

Recommended Requirements:

Client Side			
	Processor	RAM	Disk Space
Internet Explorer or Google Chrome	All Intel or AMD-1GHz	256 MB	100 MB

Server Side			
	Processor	Ram	Disk Space
RAD	All Intel or AMD 2 GHz	2 GB	3.5 GB
DB2-9.5		256 MB	500 MB (Excluding Database)

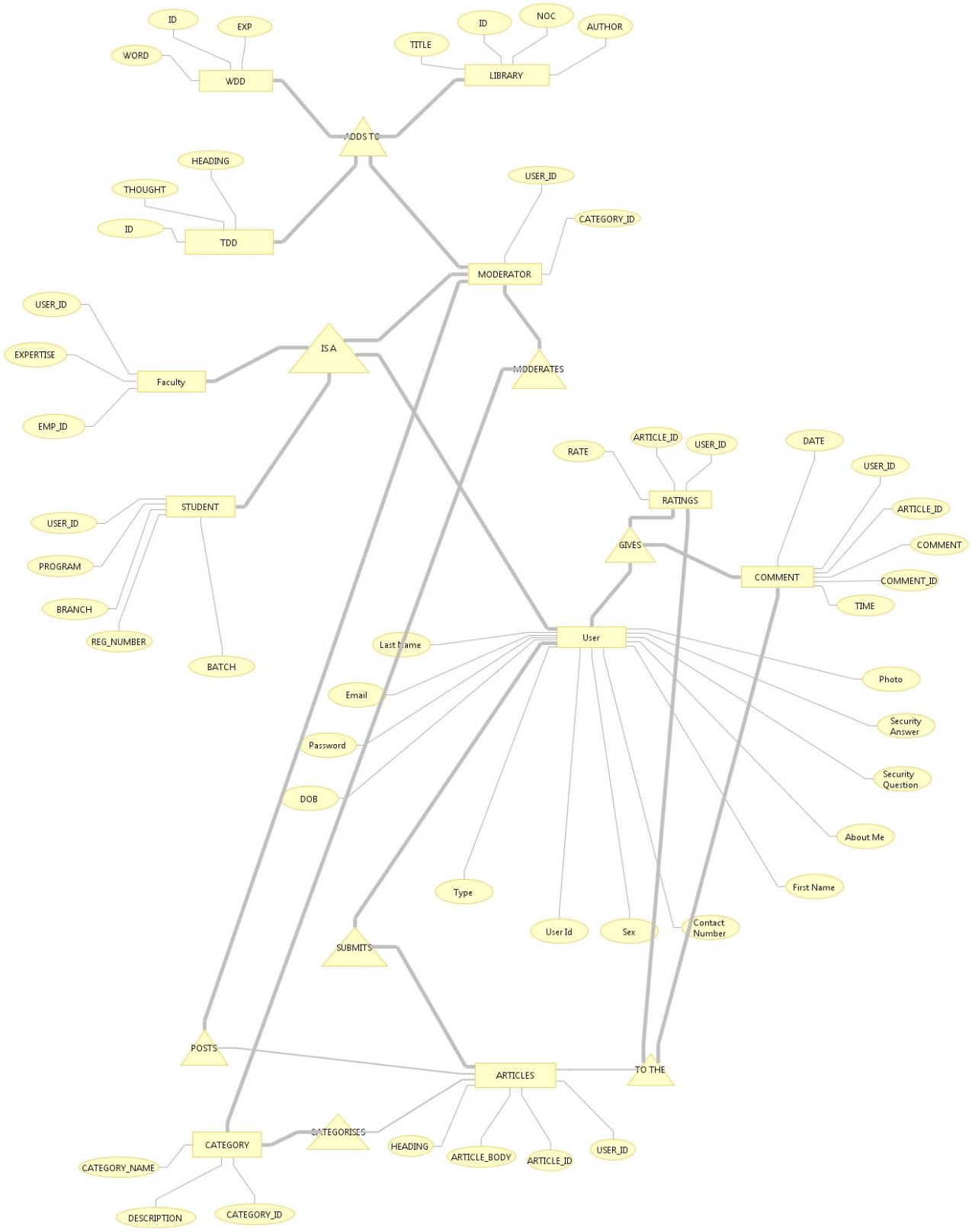
2.4 Communication Interface

Client (customer) on Internet will be using HTTP/HTTPS protocol.
Client (system user) on Internet will be using HTTP/HTTPS protocol.

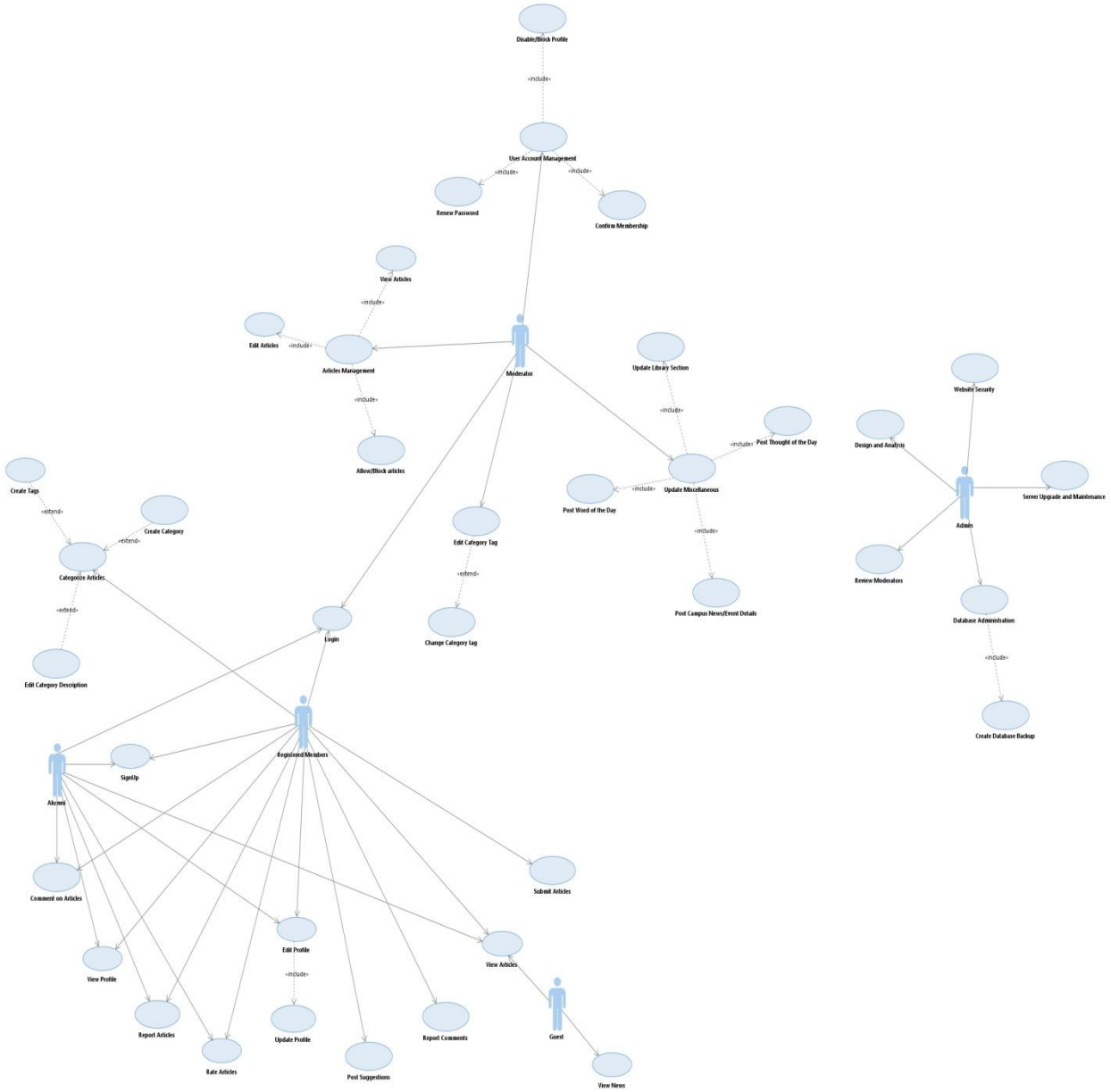
2.5 Constraints

GUI is only in English.
Login and password is used for the identification of users.
Only registered students and faculty will be authorized to comment and rate the articles.

2.6 ER Diagram

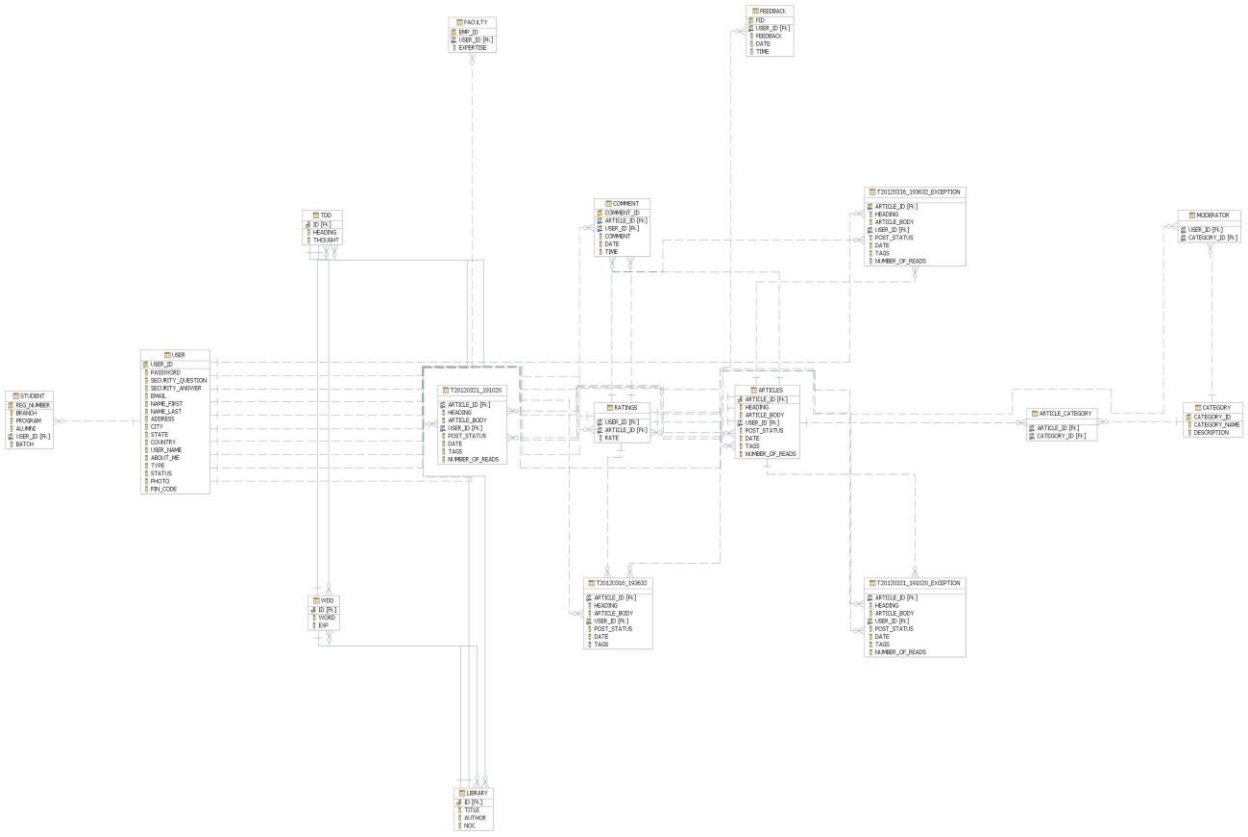


2.7 Use case model-survey



2.8 Architecture Diagram

2.9 Database Design



WDD - This table stores word of the day.

TDD - This table stores thought of the day.

LIBRARY - This table stores the new arrivals in the library and contains the information of the book such as title of the book, author and number of copies [NOC].

STUDENT - This table contains the information of the student. The ALUMNI field is set to 1 if he/she is an alumni else 0.

FACULTY - This table contains the information about the faculty.

ARTICLES - This table contains the information of the articles.

MODERATOR - This table stores the information of the moderator and his/her

associated category.

RATINGS - This table contains the information of the ratings given by the user.

ARTICLE_CATEGORY - This table contains the information of the categories an article belongs to.

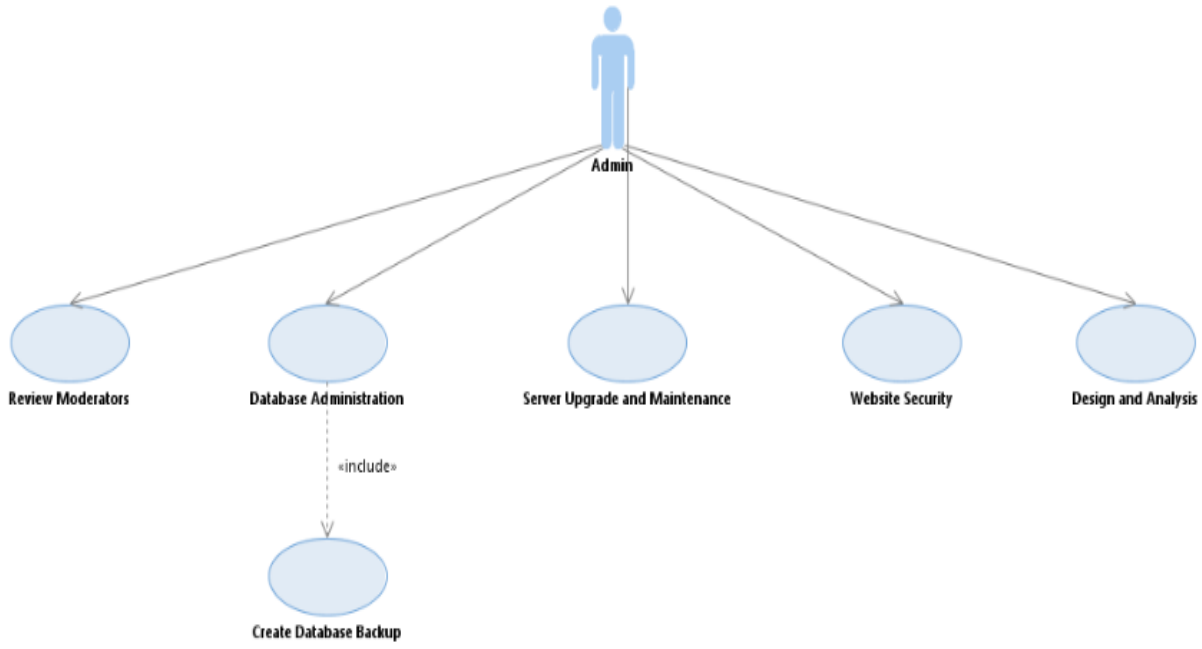
CATEGORIES - This table contains the information of the defined categories in the college magazine.

USER - This table contains the information of the user.

3. Specific Requirements

3.1 Use-case reports

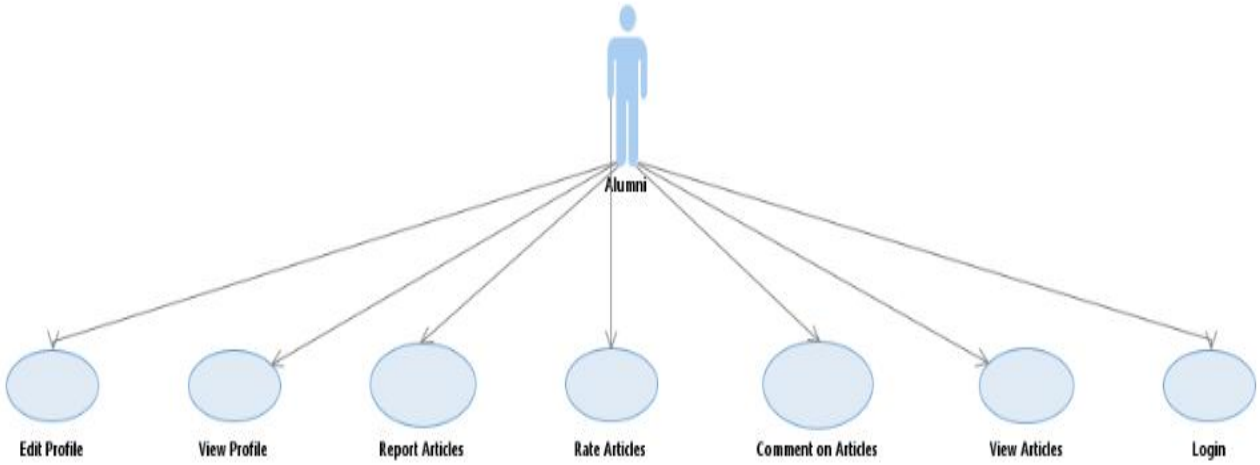
3.1.1 Admin use-case report



Description:

The admin can perform the functions which are displayed above. The admin takes care of the server upgrade and maintenance, website security to prevent spamming and hacks. The admin also takes care of the design and analysis of the website with the moderator. The role of selecting the moderators and updating them is done by the administrator. He creates a backup of the entire data of the website on a separate cloud for security purposes.

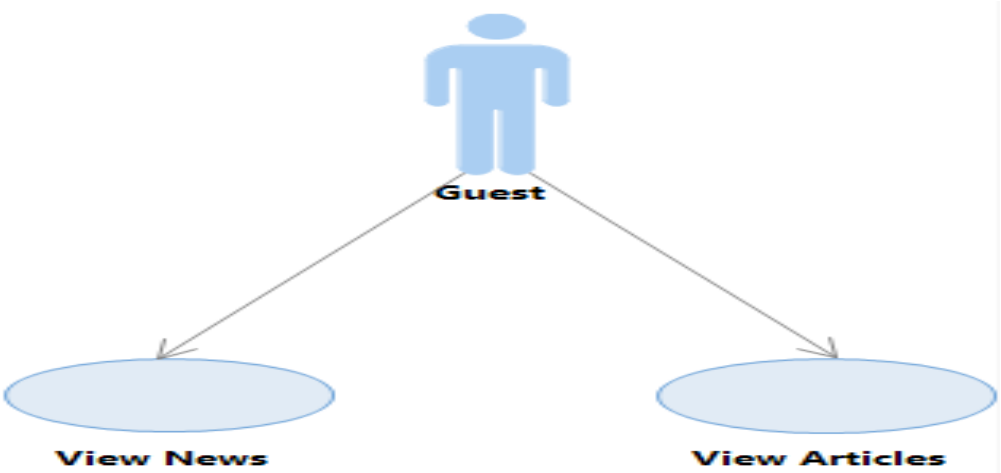
3.1.2 Alumni use case report



Description:

The alumni will enjoy limited functions on the website. The alumni can report articles, view profile of professors, rate articles, and edit his own profile.

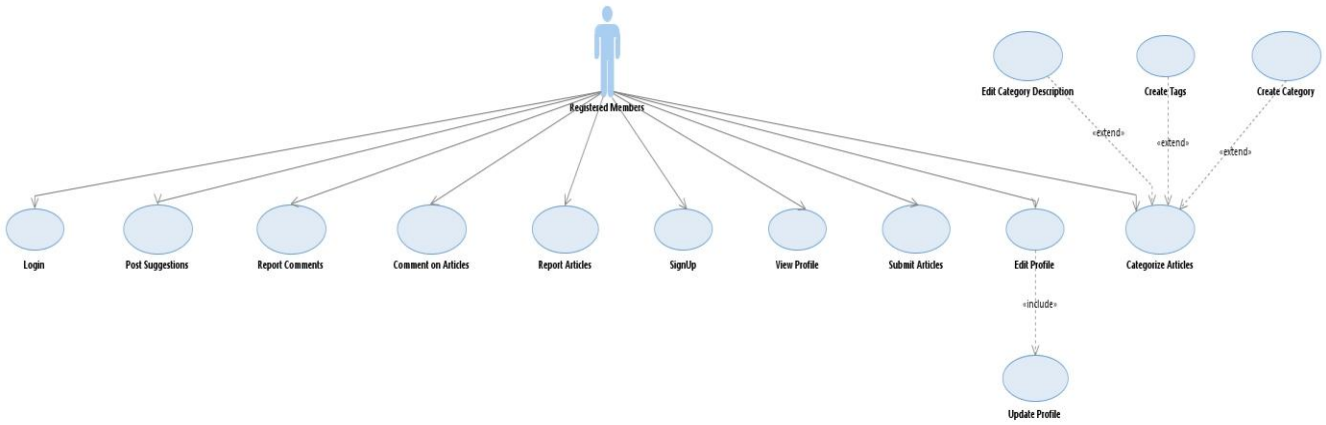
3.1.3 Guest use case report



Description:

The guest does not enjoy all benefits like a registered user. The guest functions will be limited to viewing articles and viewing the campus news. The guest cannot rate or comment on articles posted on the online magazine website.

3.1.4 Registered users use case report

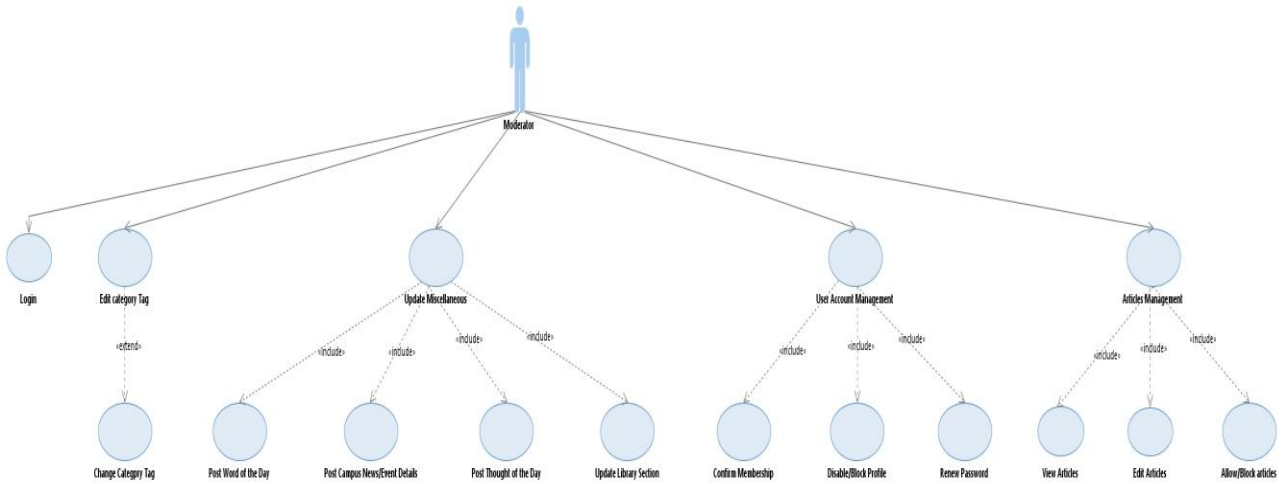


Description:

A registered user enjoys maximum privileges on the online website. The registered user category belongs to current students and faculty. The registered user can have his own profile, rate and comment on articles

which are posted. Submitting articles and updating the profiles are also a part of the functions which the registered user can perform.

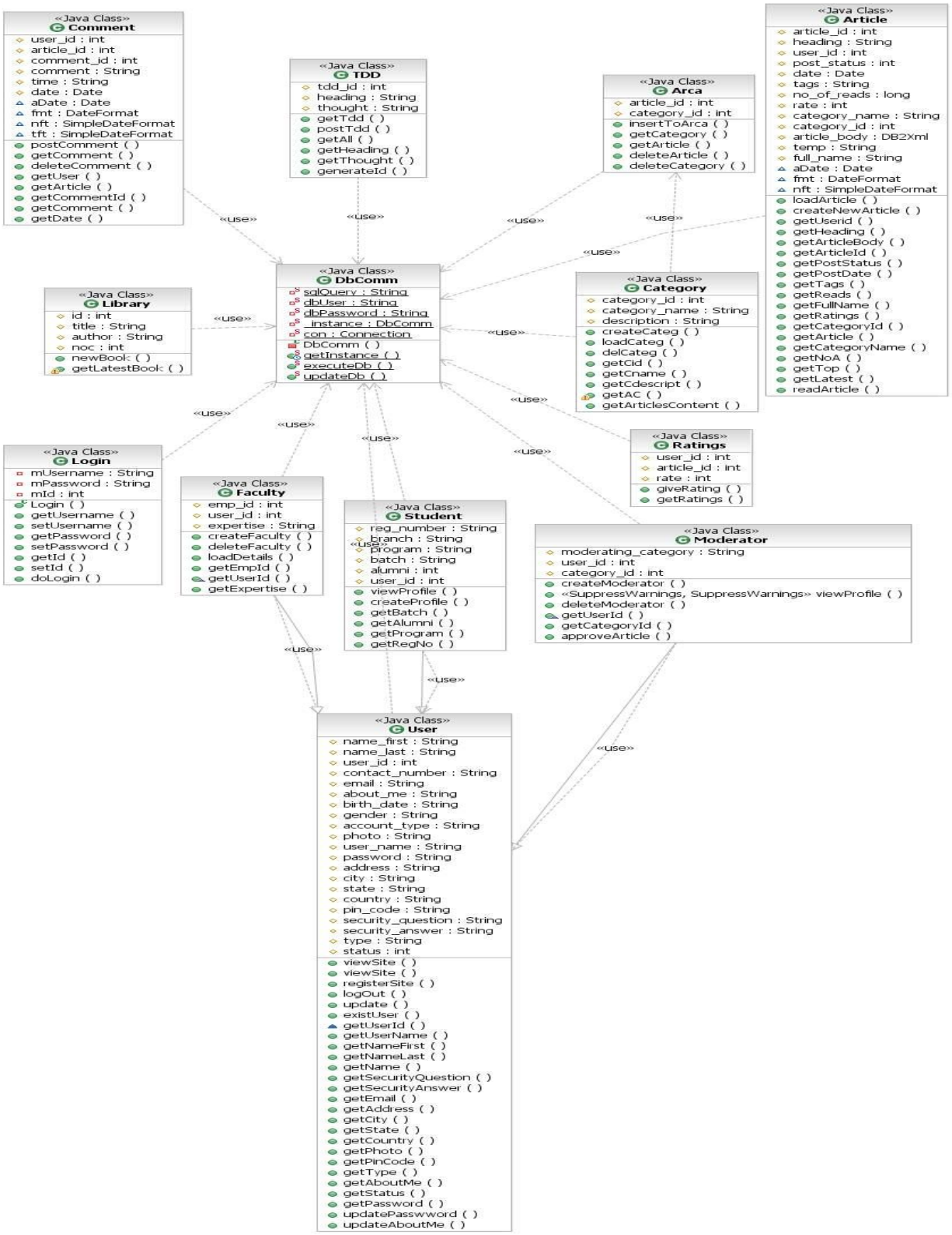
3.1.5 Moderator use case report



Description:

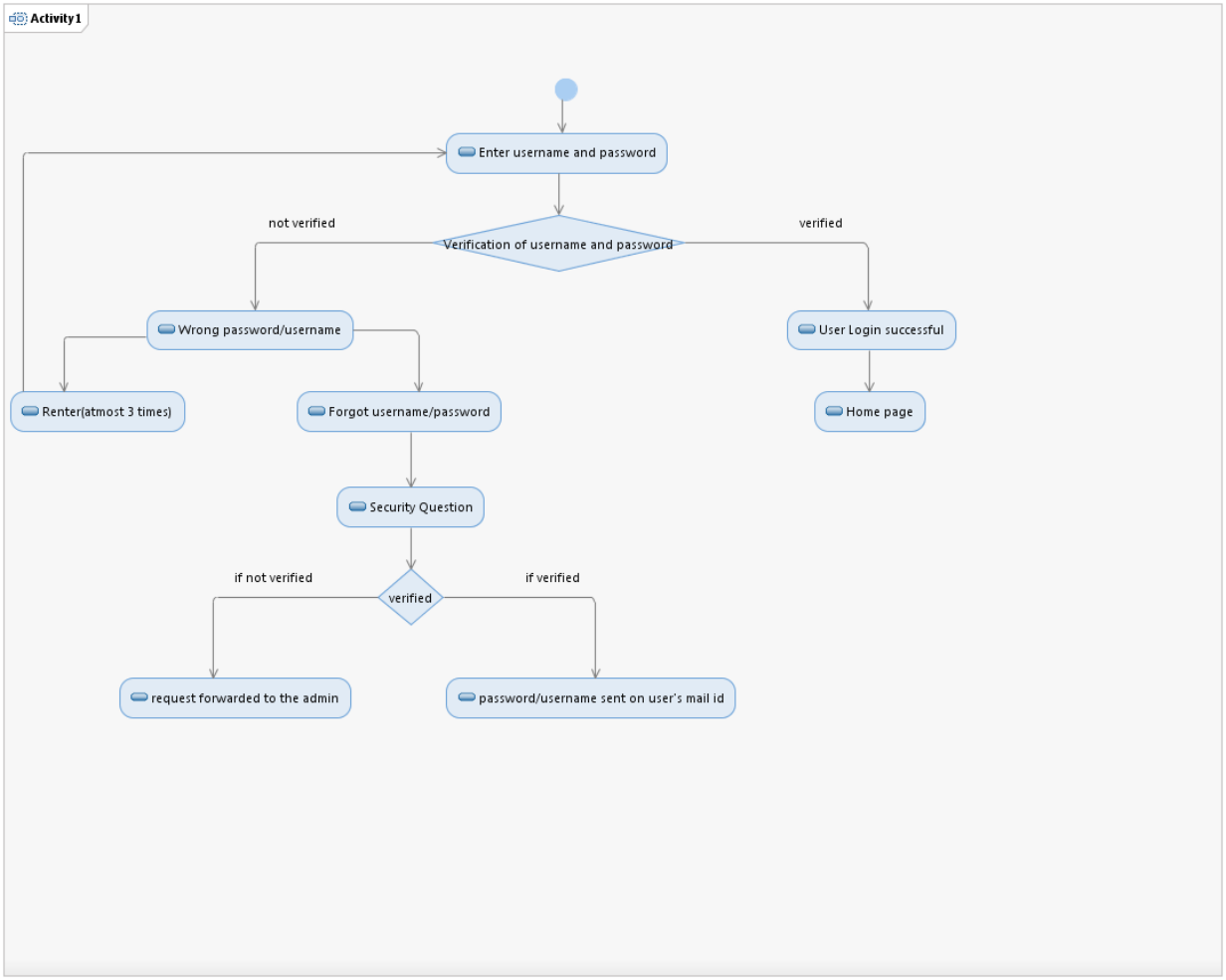
The moderator forms the centre of the entire scenario of the online magazine website. He has various functions to perform. The moderator posts the word of the day on the website, updates the campus news and events, posts thought of the day and update the library section. The moderator will also, confirm membership, and will have the privilege of disabling a profile and renewing the password if required. The moderator can block certain offensive articles of required. The final verdict of selecting the article or rejecting it lies with the moderator. Hence, the moderator forms the most important part of the use case model.

3.2 Class Diagram



3.3 Activity Diagrams

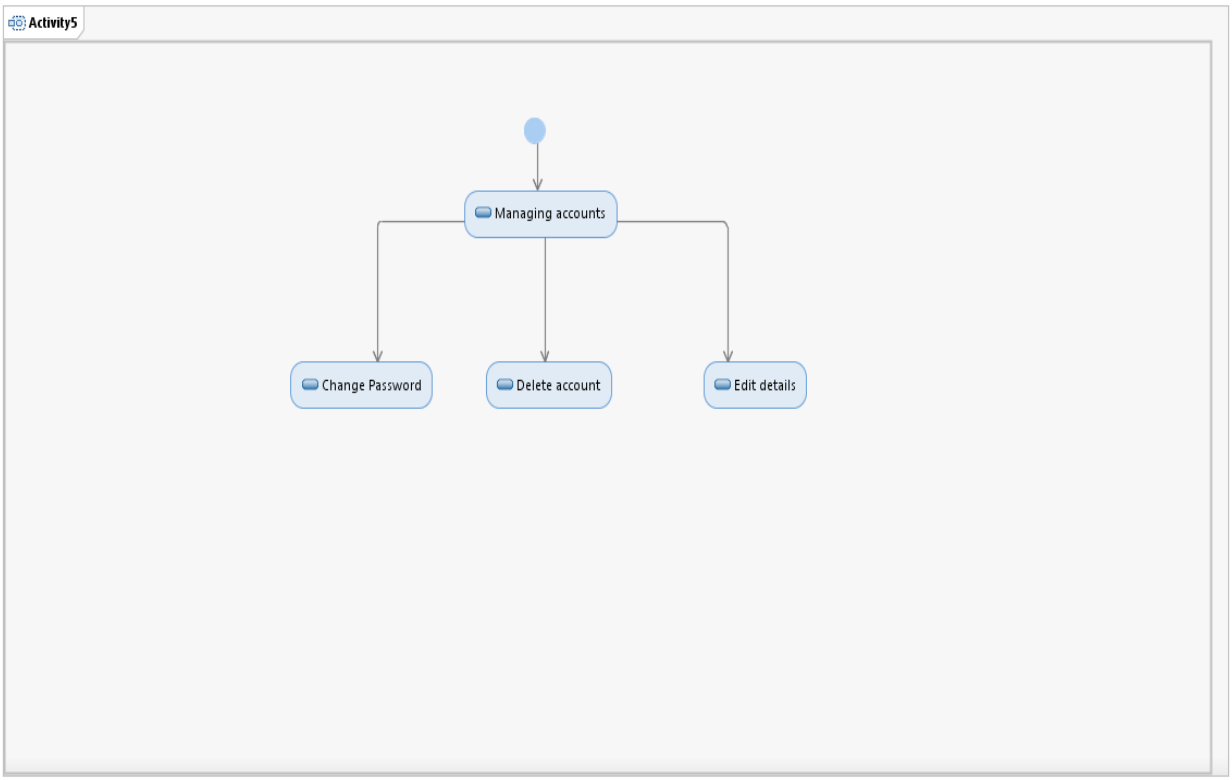
3.3.1 User login Activity



Description:

The user enters a username and password. If the username and password is verified then the user login is successful and user is redirected to the home-page. If the login is not successful then the user can either renter his password and username (the user can do this for only a maximum of 3 times) or he can click on forgot username/password. Then a security question is asked. If that is verified, then an email is sent on the user's mail id else the request is forwarded to the admin.

3.3.2 Managing Accounts Activity



Description:

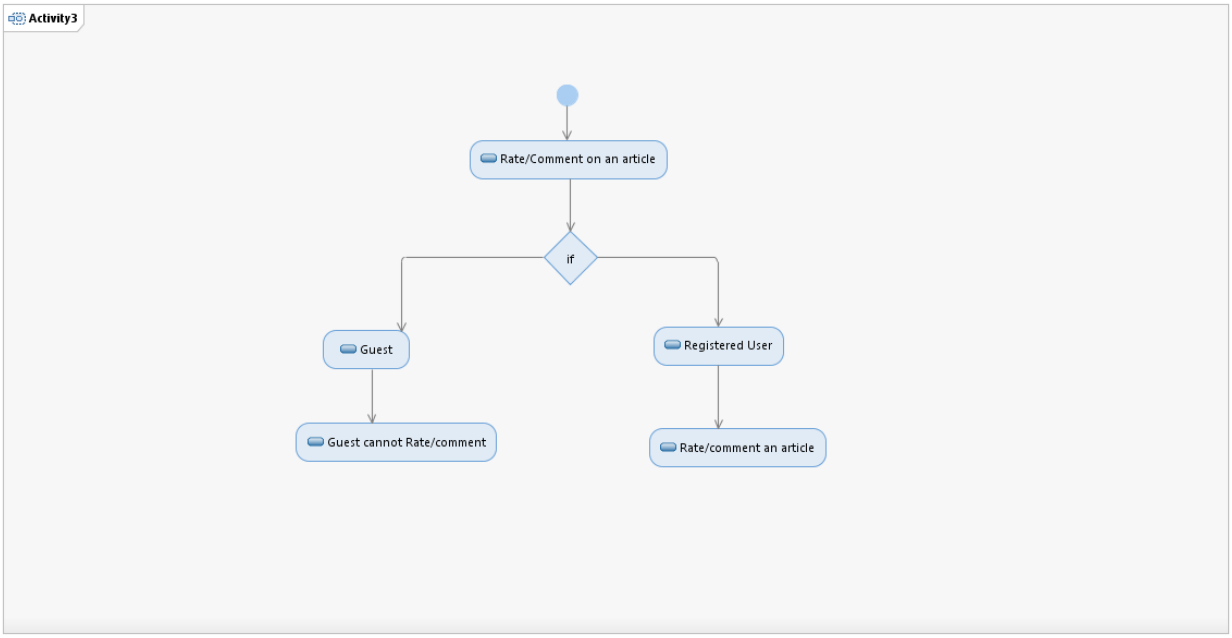
A registered user (admin, moderator, alumni, faculty, student) can manage their accounts by doing the following

a) Change password

b) Delete account

c) Edit details

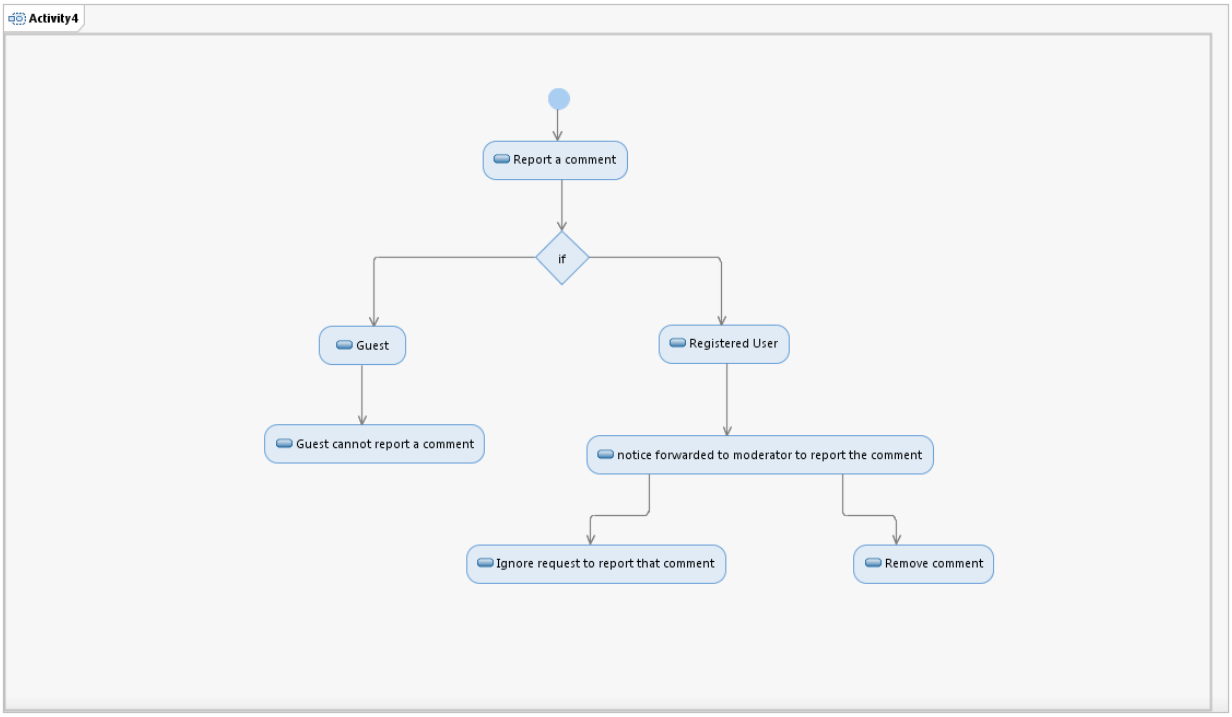
3.3.3 Rate and comment activity



Description:

If a user is a registered user then he can comment or rate an article but if it is guest then he cannot rate or comment an article. This shows that an alumni will not be able to comment or rate on an article.

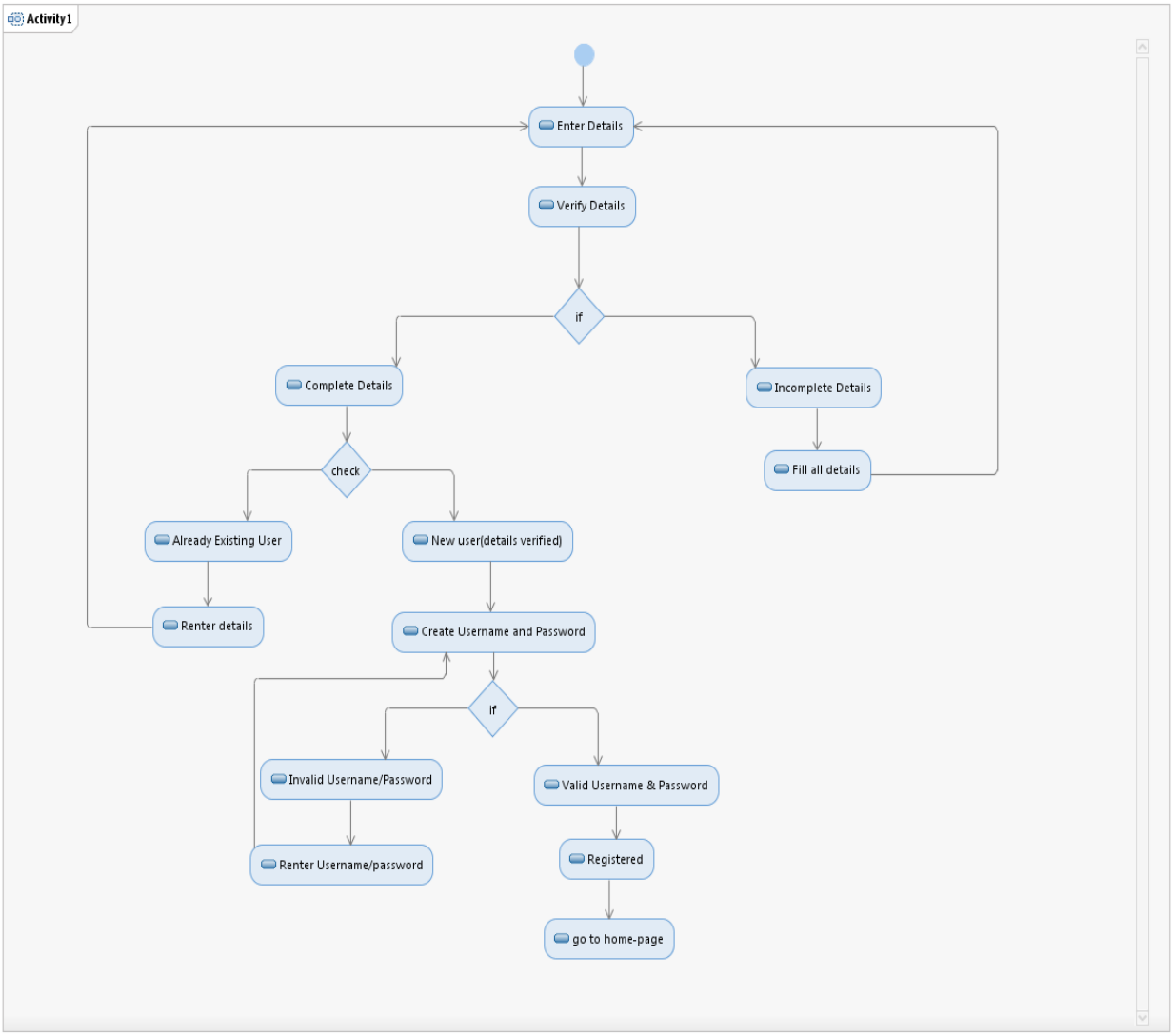
3.3.4 Report Comment Activity



Description:

If the user is a registered user then he can report a comment. Then a notice is forwarded to moderator to report the comment. The moderator can either remove the comment or ignore the request to report that comment. In case the user is a guest then he cannot report a comment.

3.3.5 Registration Activity

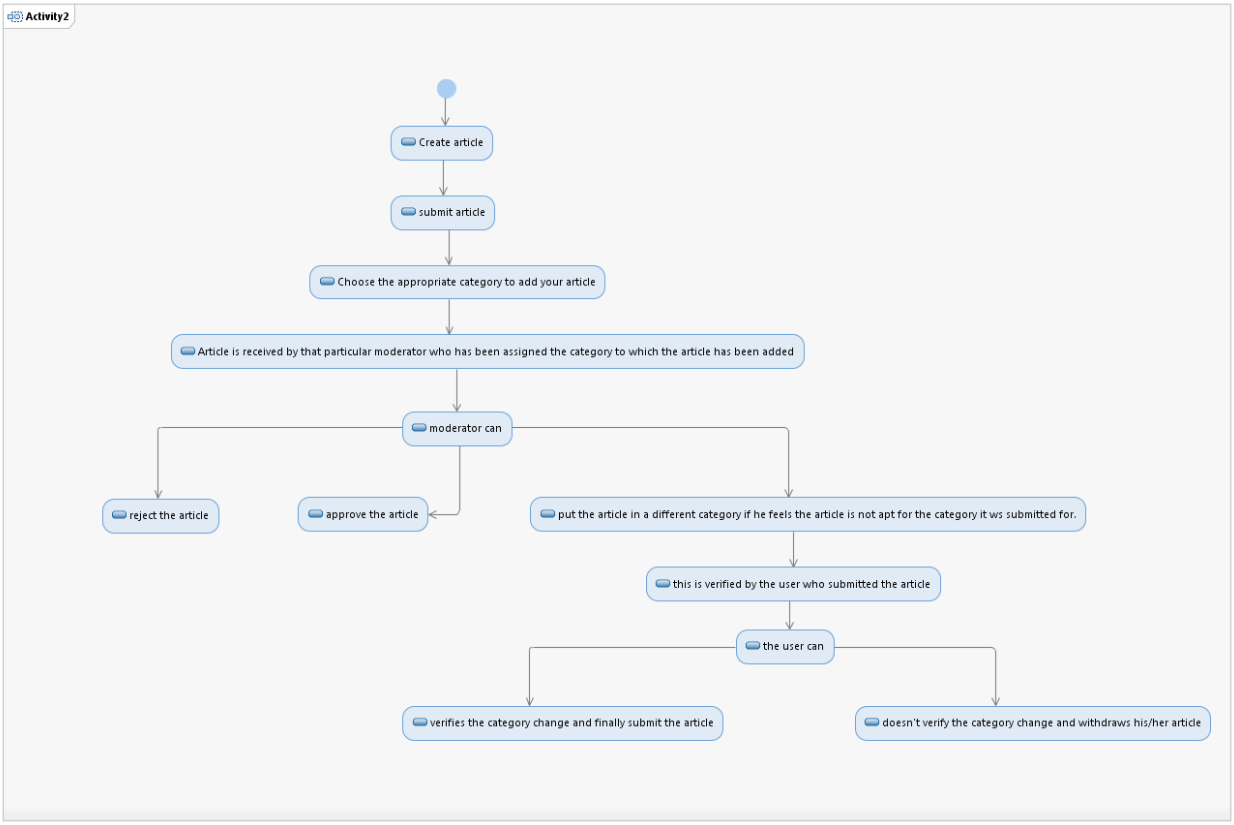


Description:

Initially student/faculty is made to fill mandatory fields filled in registration form. Once the user clicks submit, the details are verified. If the details are incomplete then the user is informed to fill the complete details and is redirected to the page where the details have to be filled. If the details that are filled are complete then it is checked whether it's a new user or already existing user. If its an already existing user then the user is asked to renter the details. If it is a new user then the user will create a username and a password. Then if it is a valid username and password then he/she is registered and is redirected to the home-page. If it is an

invalid username and password then the user is made to renter his/her username and password.

3.3.6 Submit Article Activity



Description:

If a user intends to post an article then he creates article and submits it in the appropriate category. The article is then received by the moderator of that particular category in which the article has been added. The moderator can

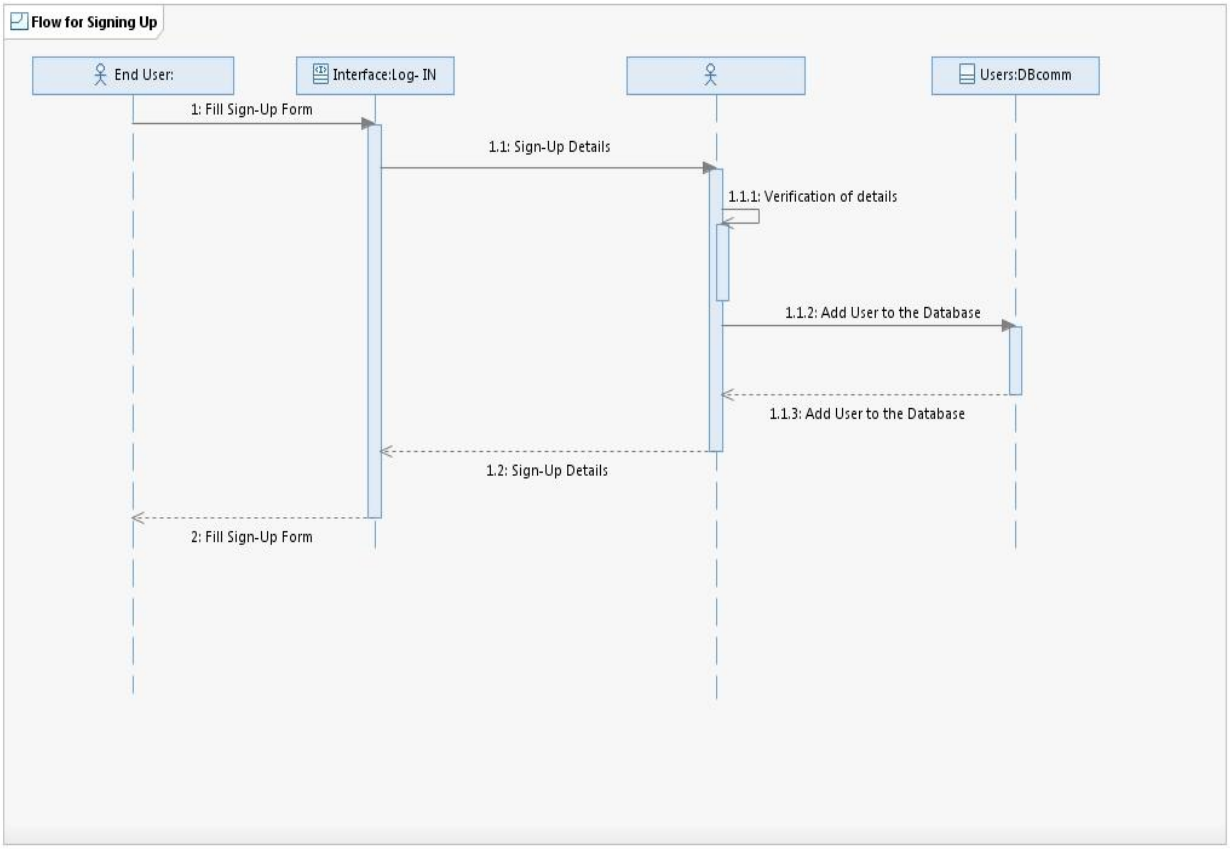
a) reject the article if he founds some unacceptable stuff in it

b) he can simply approve the article

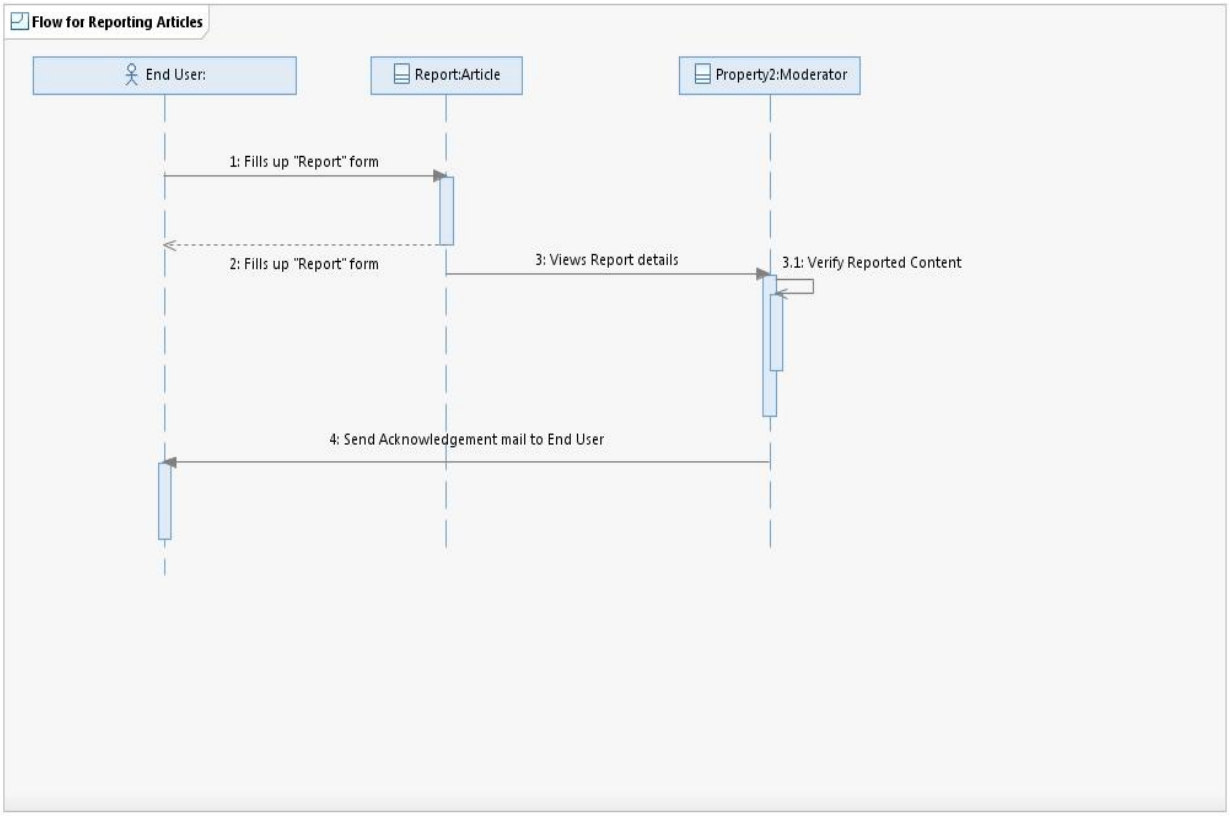
c) he can put the article in a different category if he feels the article is not apt for the category it was submitted for. Then this is verified by the user who submitted the article. The user can either verify the category change or submit the article or he does not verify the category change and withdraws the article

3.4 Sequence Diagrams

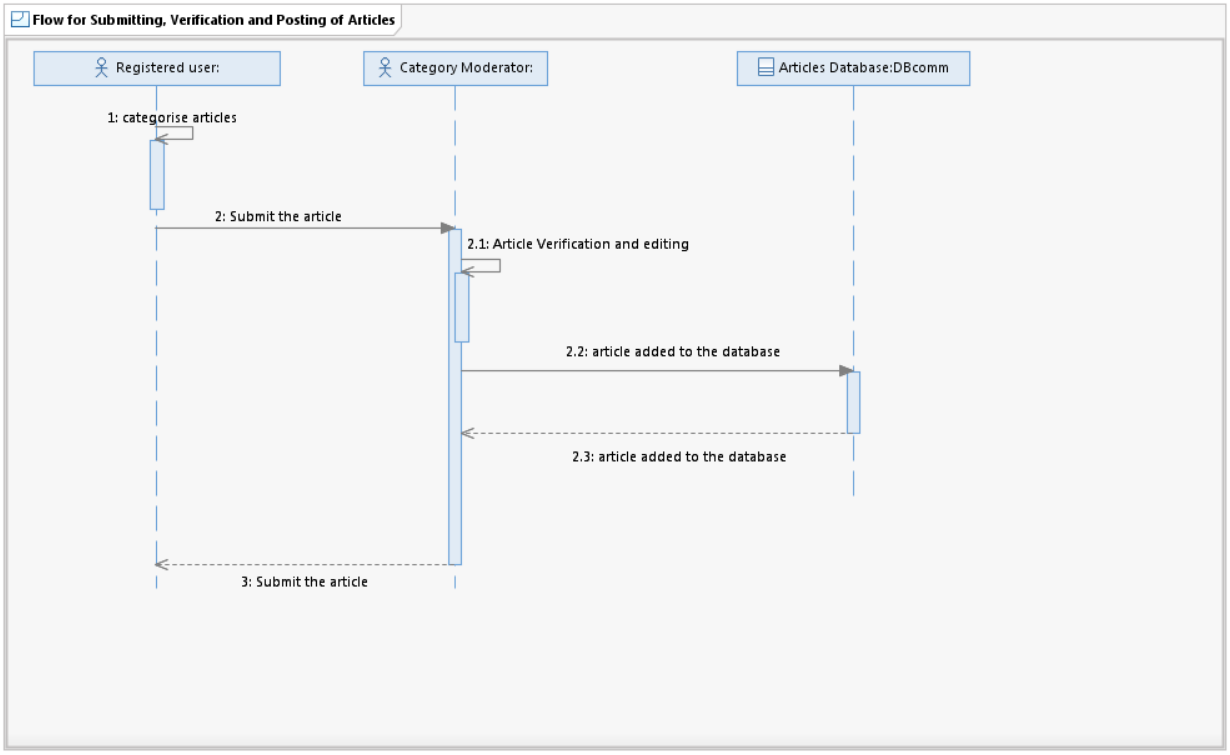
3.4.1 Sign-up Sequence



3.4.2 Report Article Sequence



3.4.3 Article posting Sequence



4. Supporting Information

We convey special thanks to our CSE department and VIT University. A special thanks to all IBM software's and websites which have helped a lot in making the project a successful one.