Software speciifcation outline - Computer science forum.

Group No. 2

February 27, 2016

1 Introduction

1.1 Overview - Purpose of sytem

This document describes the specifications to which we designed our project around. We chose to create a Trinity Computer Science centric forum that students and lecturers can use to communicate and share opinions and discuss module assignments and topics.

Some parameters of the project are:

1. Scope
    1.1. Computer Science centric, meaning there wont be an option to create new boards for different courses. Allowing this would increase the difficulty of the project, and would rely heavily on lecturer/moderator participation to create each courses board.
    1.2. The scope of this project includes:
        1.2.1. Unique user names.
        1.2.2. Trinity email exclusive sign-up.
        1.2.3. Password protection.
        1.2.4. Topic creation.
        1.2.5. Replies to topics.

2. Intended Audience

    2.1. We intend for this forum to be used by students of Computer Science, module demonstrators, lecturers and teaching assistants. Every user that signs up must have a valid TCD email address.

    The purpose that this project was created with was to give a place for students to discuss problems or relevant topics with their coursemates. We felt that in a course like Computer Science, an online communication board like this was a necessity to improve our communication with our peers and to be able to learn from and help each other.

1.2 Abbreviations

Useful abbreviations for the following documents are:

1. SCSS - School of Computer Science and Statistics.
2. CS - Computer Science.
3. CSB - Computer Science and Business.
4. CSL - Computer Science and Language.
5. HTML - HyperText Markup Language.

    5.1. Used as standard markup languge in creating websites.

6. PHP - Personal Home Page.

    6.1. Used fpr web design and also as a general purpose programming language.

7. UI - User Interface.

References:

1. VBulletin Community Forum help

    1.1. `http://www.vbulletin.com/forum/help?faq=vb3_board_usage#faq_vb3_forums_threads_posts`

2. PHP Manual

    2.1. `http://php.net/manual/en/preface.php`

2 System Design

2.1 Design Overview

1. The system is to be implemented in two parts

   1.1. **Back end implementation** - SQL Database.

   This is where the forums actors are set out (Users, Unregistered Users and Moderators). It is also where all the data for forum users and forum posts are stored and called to from the Front end.

   1.2. **Front-end implementation** - HTML + PHP.

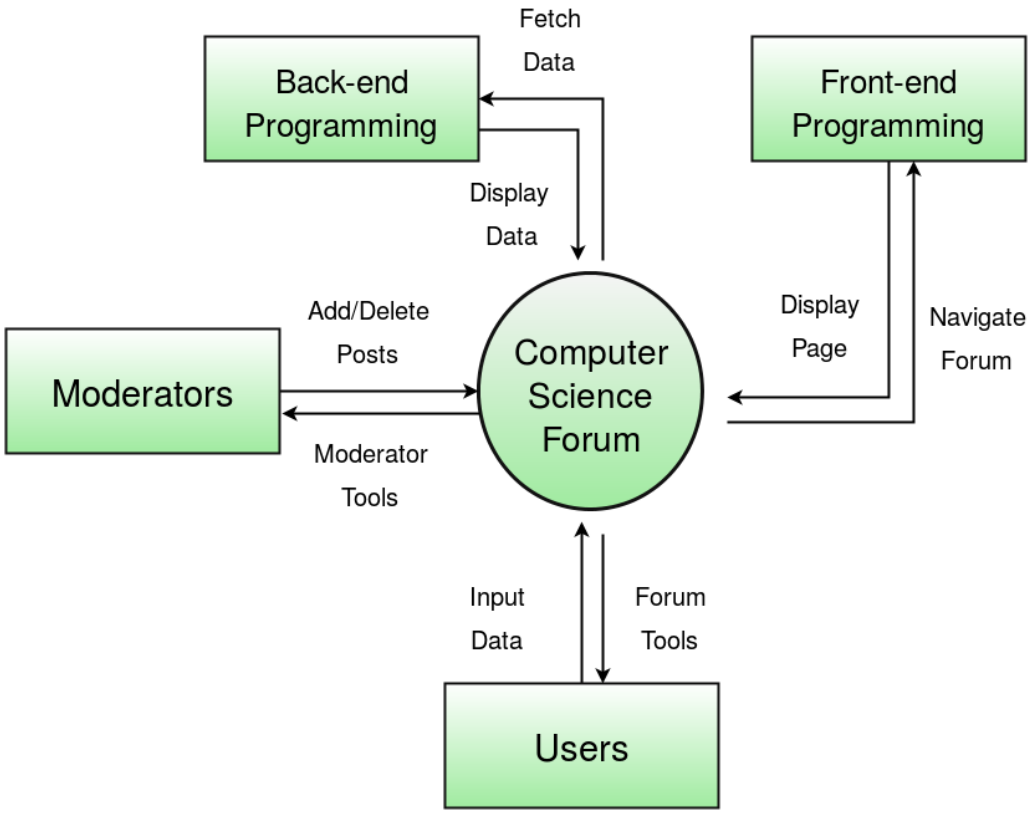
   This is what the user interacts with when using the CS forum. The front end is integrated with the back end functions to create new threads, new users, etc.

2. The system is designed by integrating the front end aspects with the SQL database to create a website that is constantly expanding through user input. The front end side of things will load information from the database and display is according to the values and data it finds, which means the front end will dynamically change for new threads created, and will display new information when it updates such as post count for individual users.

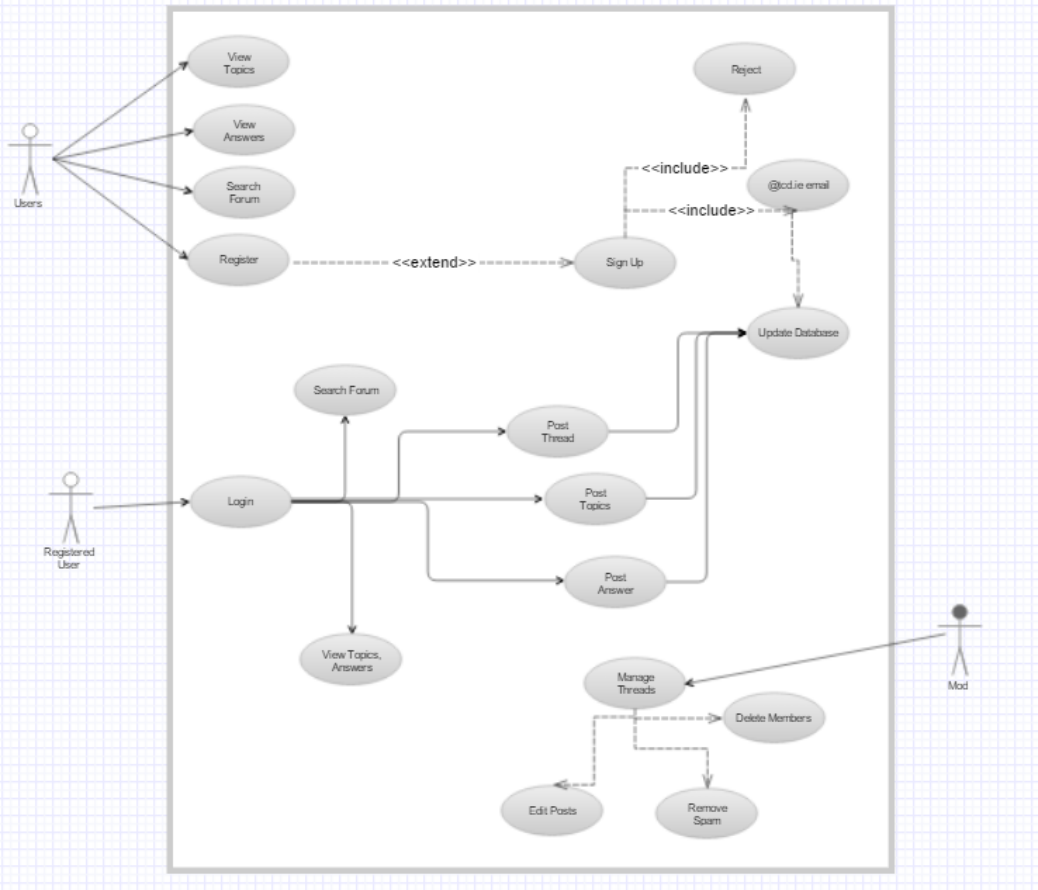
3. The system will be hosted on the Trinity KDEG machine, which is accessible to us through the Trinity COMPSCI network. It is has a RAM of 1GB and 28GB of hard drive space, which will be enough for us to create a more than sufficiently scaleable forum.

3 System Design Models

3.1 System Context

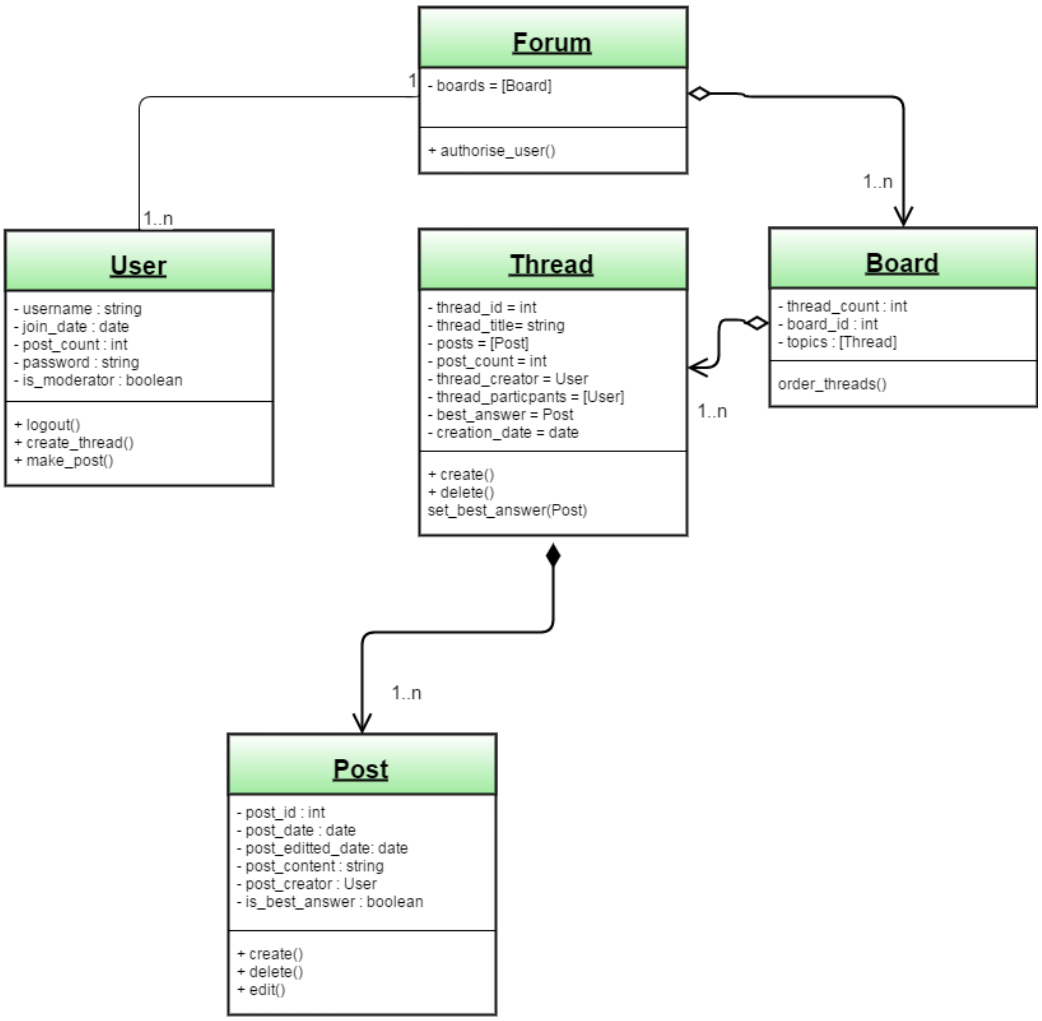


3.2 UML Use Case

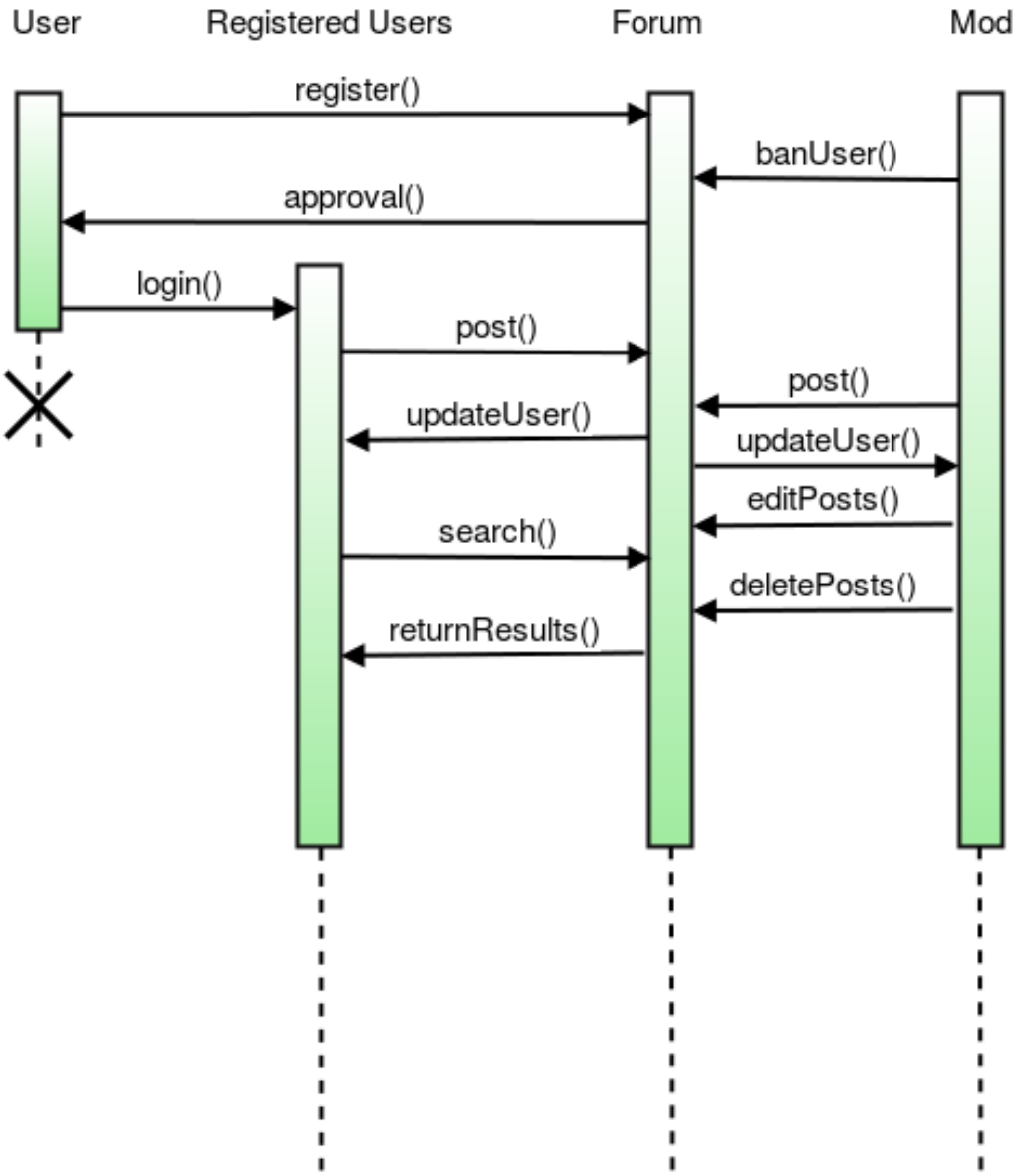


4 System Architecture

4.1 Class diagram

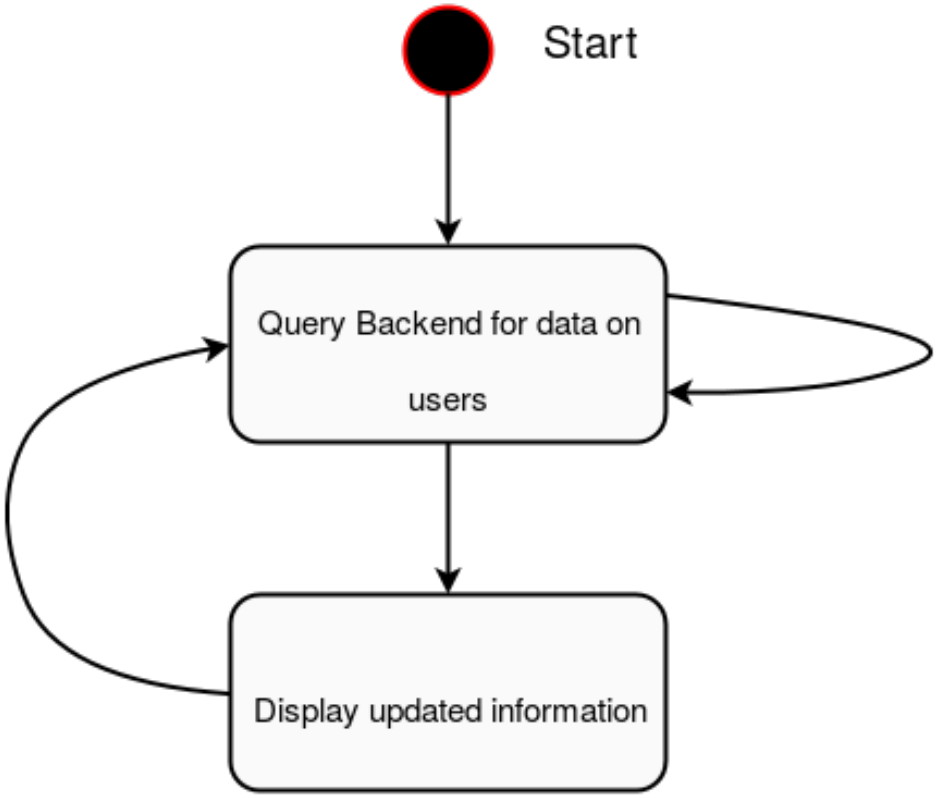


4.2 Sequence diagram

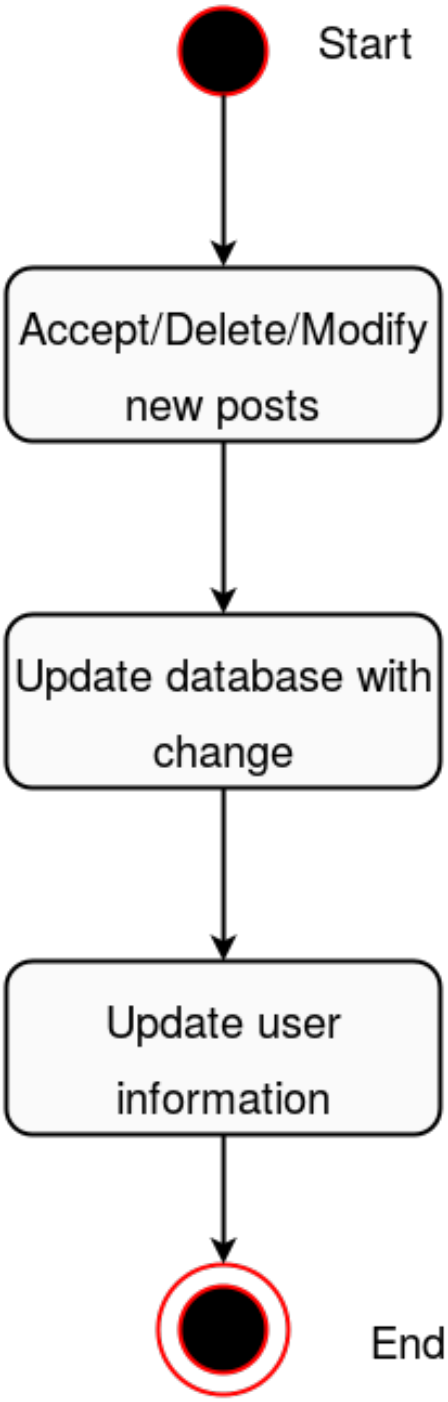


5 State diagrams

5.1 Front end

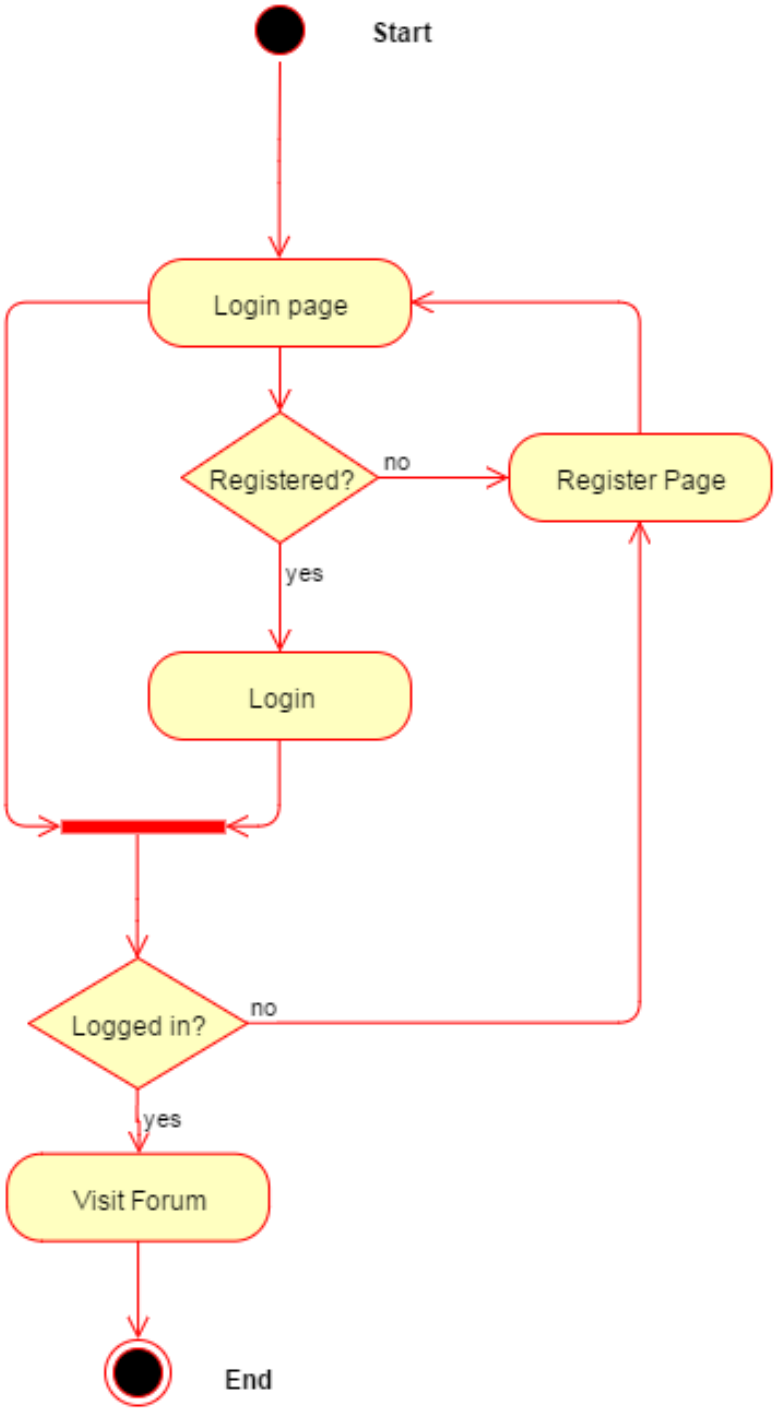


5.2 Back end


Start
Accept/Delete/Modify new posts
Update database with change
Update user information
End

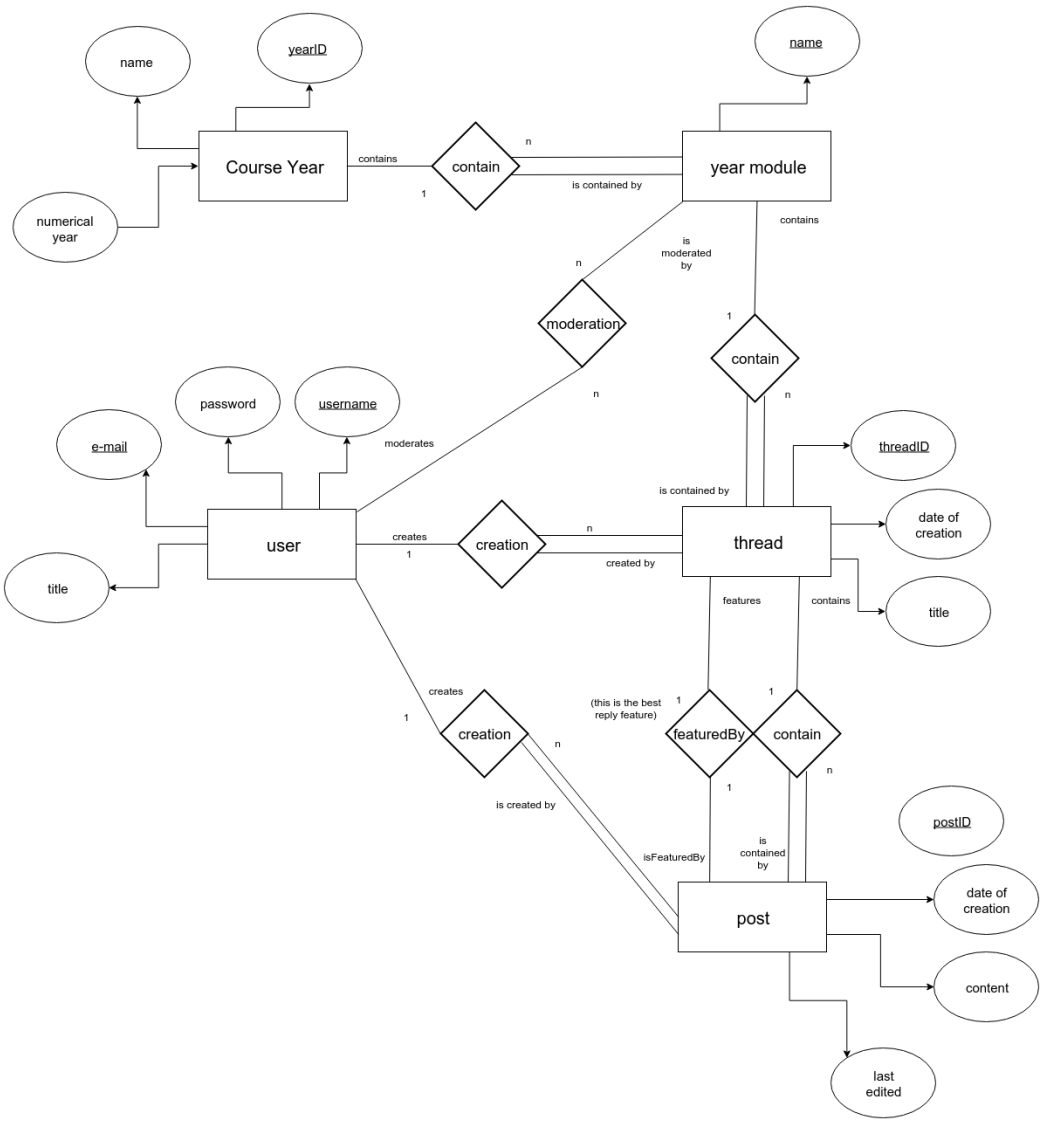
6 Activity diagram

6.1 Logging in

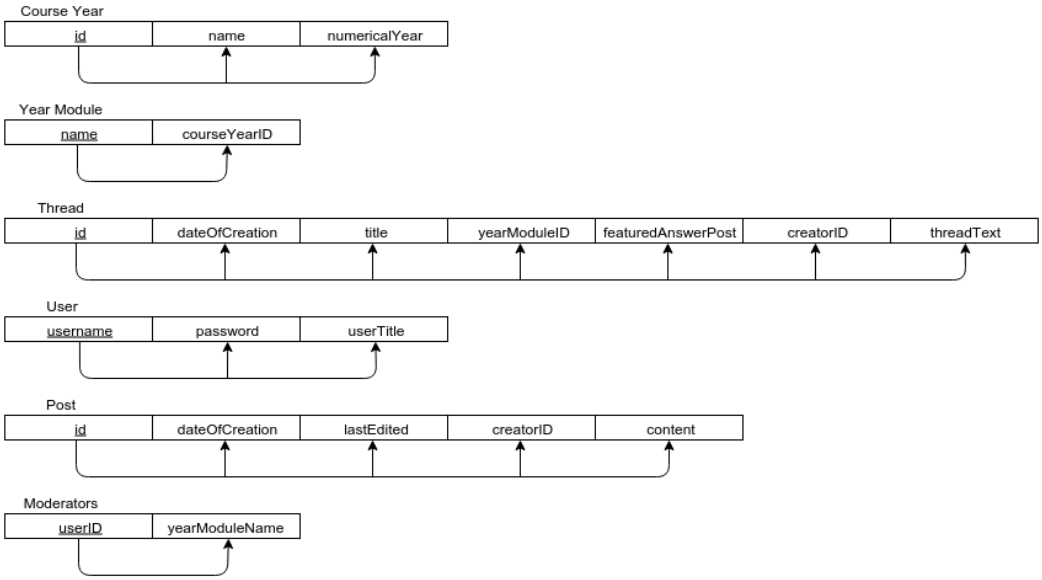


7 Other diagrams

7.1 Entity relationship diagram



7.2 Functional dependency diagram



7.3 Relational schema