


12/10/2016

HoverSpace

SOFTWARE CONSTRUCTION
PROJECT



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: ABOUT APPLICATION :

Purpose of Application:

This web application “HoverSpace” is supposed to make a public forum on which user can post questions, answer them related to academics and daily life.

Programming Language Used:

Python – Python is a widely used high-level, general-purpose, interpreted, dynamic programming language. Its design philosophy emphasizes code readability, and its syntax allows programmers to express concepts in fewer lines of code than possible in languages such as C++ or Java. The language provides constructs intended to enable writing clear programs on both a small and large scale.

FrameWork Used:

Python Django – Django is a free and open-source web framework, written in Python, which follows the model-view-template (MVT) architectural pattern. It is maintained by the Django Software Foundation (DSF). Django's primary goal is to ease the creation of complex, database-driven websites. Django emphasizes reusability and "pluggability" of components, rapid development, and the principle of don't repeat yourself. Python is used throughout, even for settings files and data models. Django also provides an optional administrative create, read, update and delete interface that is generated dynamically through introspection and configured via admin models.

Database Used:

MongoDB – MongoDB is a free and open-source cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with schemas. MongoDB is developed by MongoDB Inc. and is free and open-source, published under a combination of the GNU Affero General Public License and the Apache License.

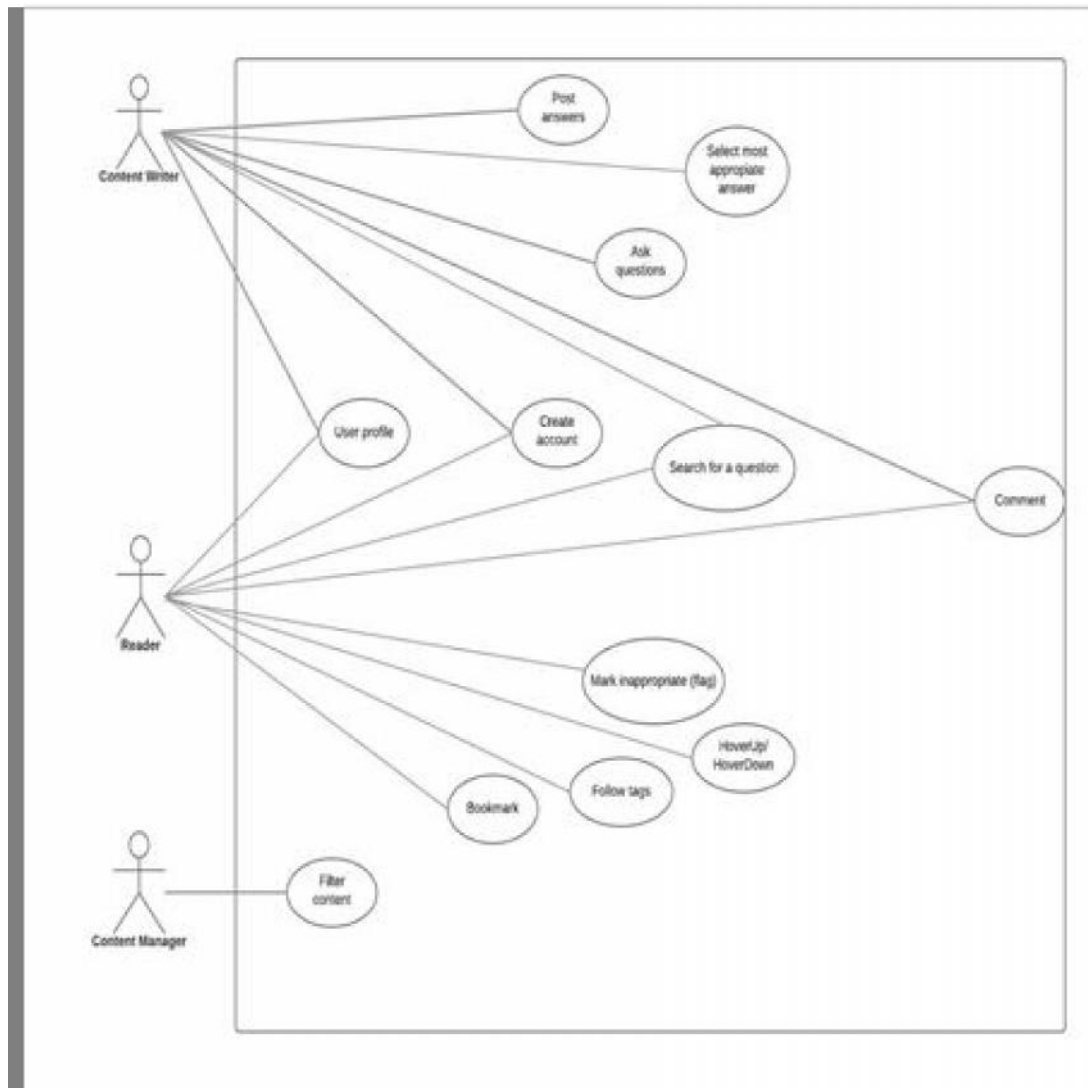
Special Features:

1. The application will have a new search feature which helps the user search through the database for a question or even through important keywords in question.
2. The application will have a “Edit question”, “Edit Answer” feature which enables users to update their questions or answers after being posted.
3. The application will also have a feature of “Flag as Inappropriate” for both questions and

answers so that any inappropriate content on website could be reported. If the content is found inappropriate by content manager the content is taken down and the karma points of the user who posted is reduced

4. User Profile page developed which tells the questions asked, answers posted and the karma points of the user.
5. User should sign up before asking the question, or reading the answers of the questions.

Use case diagram - Revised
Use case diagram **without** nested boundary



Product Backlog - Revised

| Story ID | As a/an | I want to ... | so that ... | Priority (H/M/L) |
|----------|-------------------|---|--|------------------|
| HS001 | Registered User | Ask questions | I could get answer | H |
| HS002 | Unregistered User | Create an account | I could read answers and ask questions | H |
| HS003 | Content Writer | Answer questions | Share my experience and knowledge | H |
| HS004 | Registered User | HoverUp(Upvote) and HoverDown(Downvote) questions and answers | It can help other users | M |
| HS005 | User | View user profiles | I can see what questions they have answered and their questions. | M |
| HS006 | Registered User | "Flag" inappropriate answers | I can help report vulgar answers. | L |
| HS007 | Registered User | Add as favourite | I could see the answers later | L |
| HS008 | Content Manager | Review & Filter content | I can remove the vulgar content. | L |

| Story ID | As a/an | I want to ... | so that ... | Priority (H/M/L) |
|----------|---------|---------------|-------------|------------------|
|----------|---------|---------------|-------------|------------------|

| | | | | |
|-------|--------------------------------------|--|---|---|
| HS009 | Questioner | Select most appropriate answer | Can accept most appropriate answer. | M |
| HS010 | Registered User | Edit the questions or answers i have posted. | I can change my or update my question or answer as and when needed. | M |
| HS011 | Admin | Ensure system is up and running perfectly | There is no glitch in working application. | H |
| HS012 | User | Search whether a similar question is already asked or not. | I could see desired question or ask it if nothing similar to it exists. | H |
| HS013 | User (registered / unregistered) | Browse Top Stories | I can read the questions users ask and their answers. | H |
| HS014 | Reader | Follow Tags | I can see all the questions based on a topic. | L |

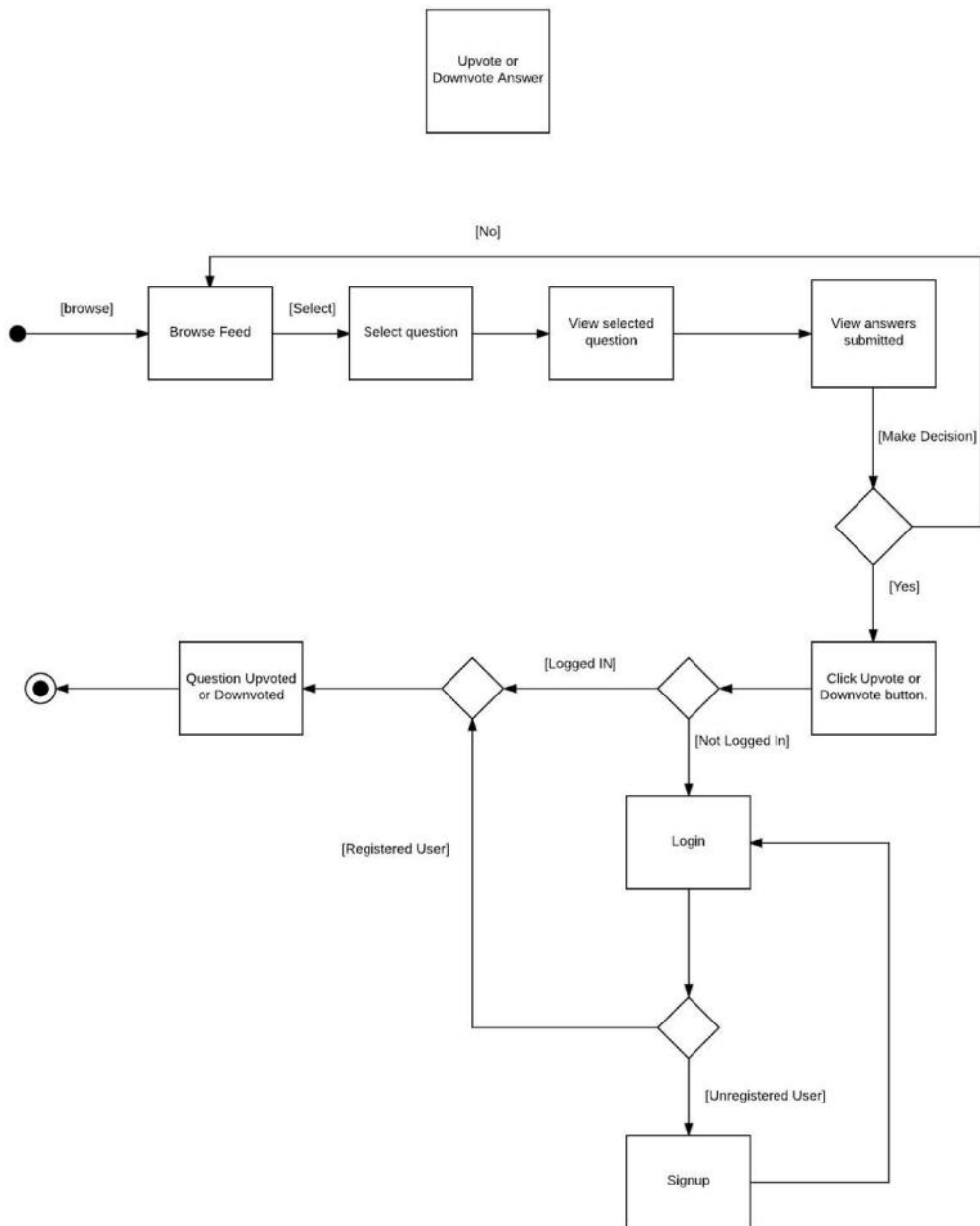
Sprint 3 Plan - Backlog

| Story ID | As a/an | I want to ... | so that ... | estimate | actual |
|----------|-----------------|--|---|----------|--------|
| HS012 | User | Search whether a similar question is already asked or not. | I could see desired question or ask it if nothing similar to it exists. | 7 | 8 |
| HS014 | Reader | Follow Tags | I can see all the questions based on a topic. | 6 | 8 |
| HS009 | Questioner | Select most appropriate answer | Can accept most appropriate answer. | 8 | 8 |
| HS005 | User | View user profiles | I can see what questions they have answered and their questions. | 7 | 8 |
| HS008 | Content Manager | Review & Filter content | I can remove the vulgar content. | 8 | 8 |
| HS006 | Registered User | "Flag" inappropriate answers | I can help report vulgar answers. | 7 | 8 |
| HS010 | Registered User | Edit the questions or answers i have posted. | I can change my or update my question or answer as and when needed. | 4 | 9 |

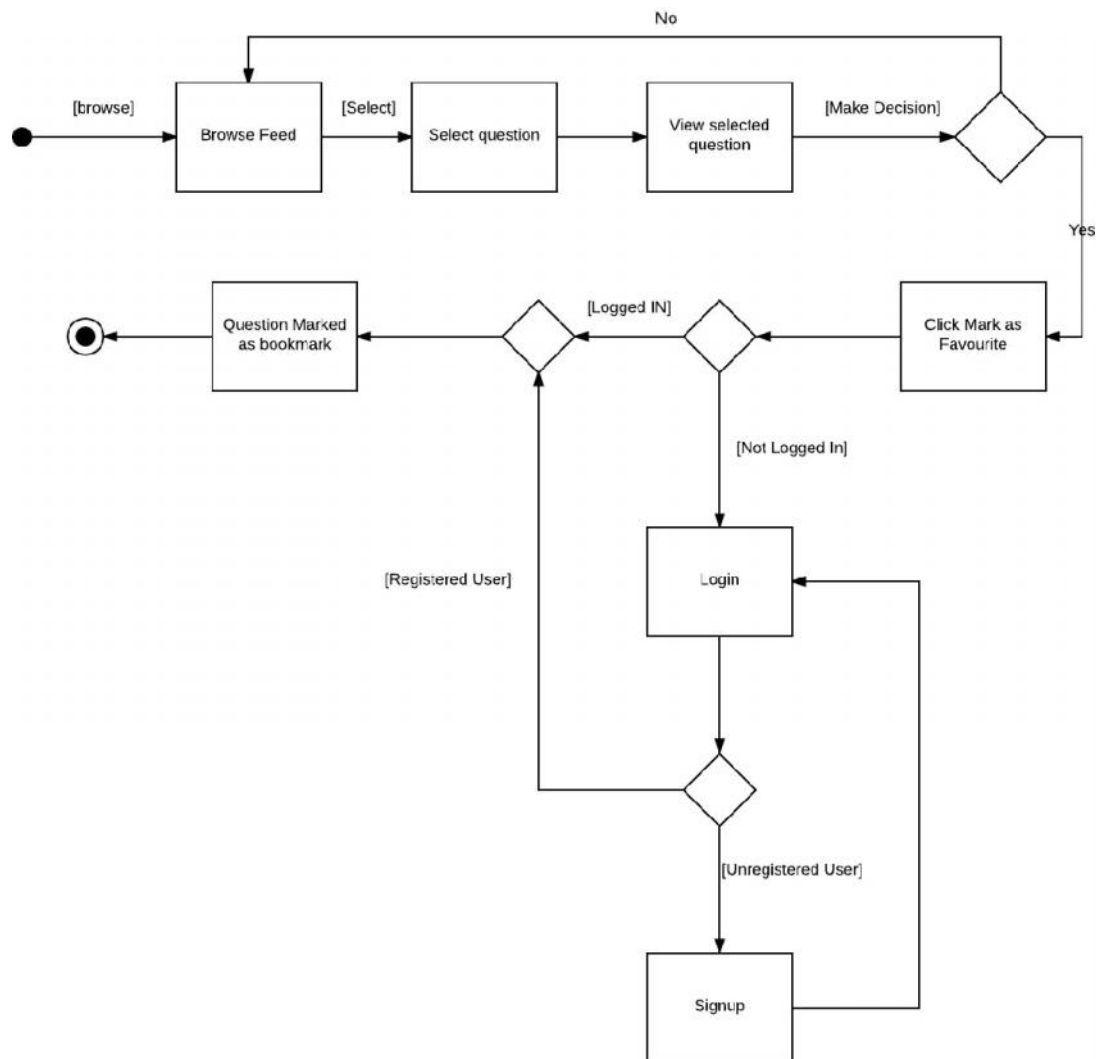
Sprint 3 Plan - Acceptance criteria and test result

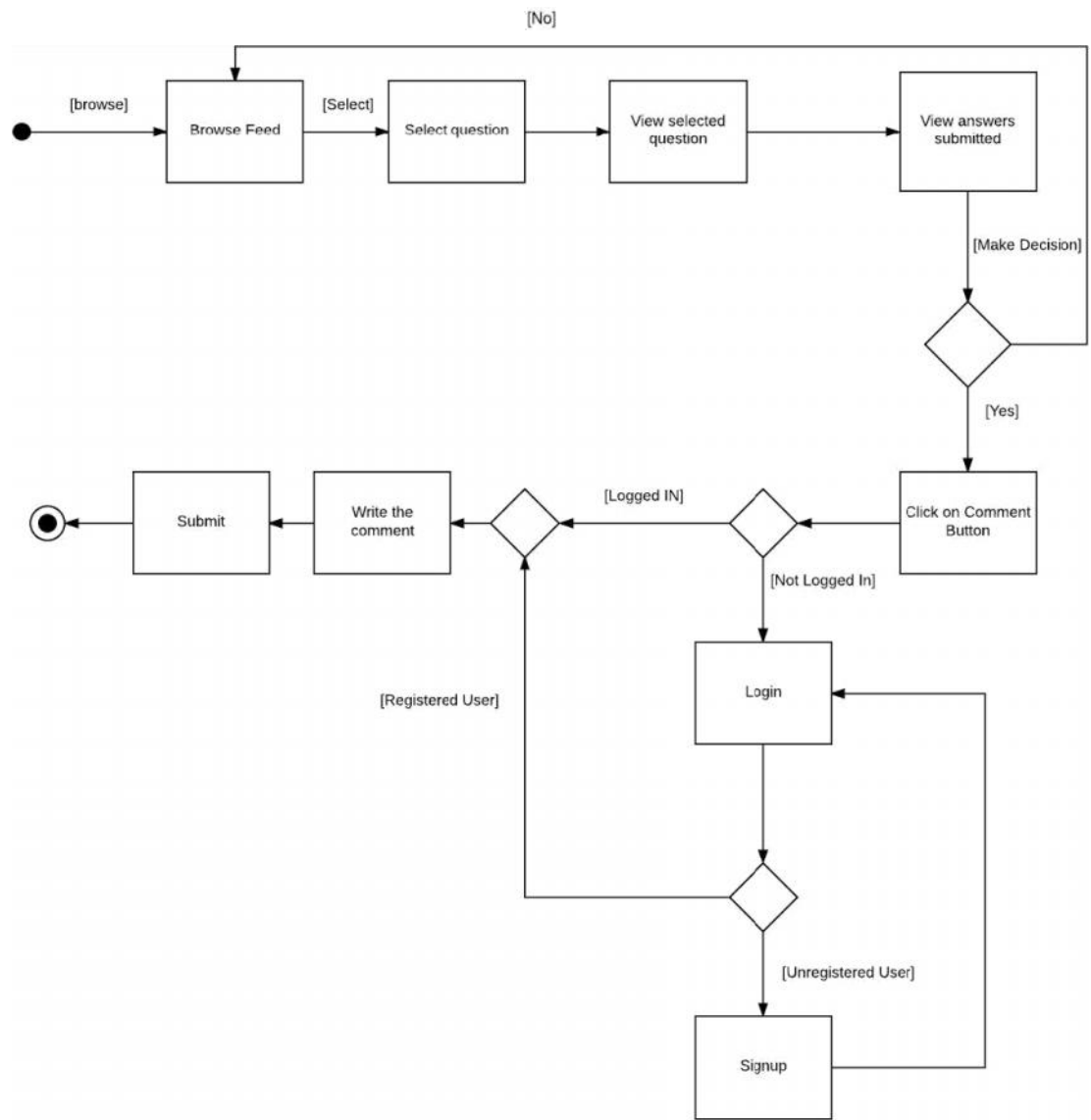
| Story ID | Acceptance criteria | Test Result |
|----------|---|-------------|
| HS009 | User must be a registered user with Hoverspace.com to select any answer as most appropriate answer. | yes |
| HS009 | Only the user who has asked the question can mark an answer as most appropriate answer. | yes |
| HS006 | User must be registered with Hoverspace.com to mark any answer or question as inappropriate for public viewing. | yes |
| HS010 | User must be logged in to edit his questions or answers. | no |

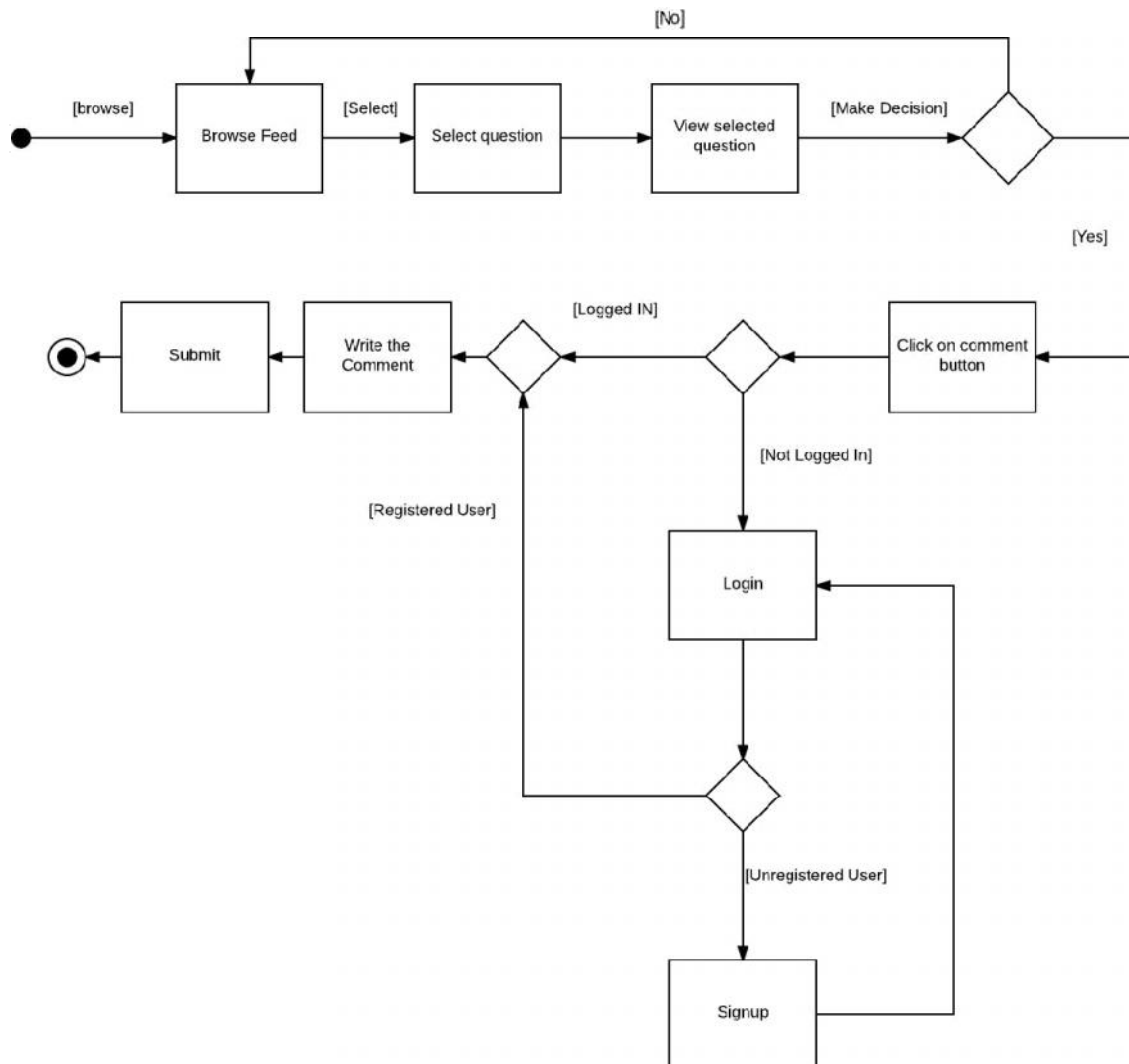
Activity diagrams (Revised to match with our final product)



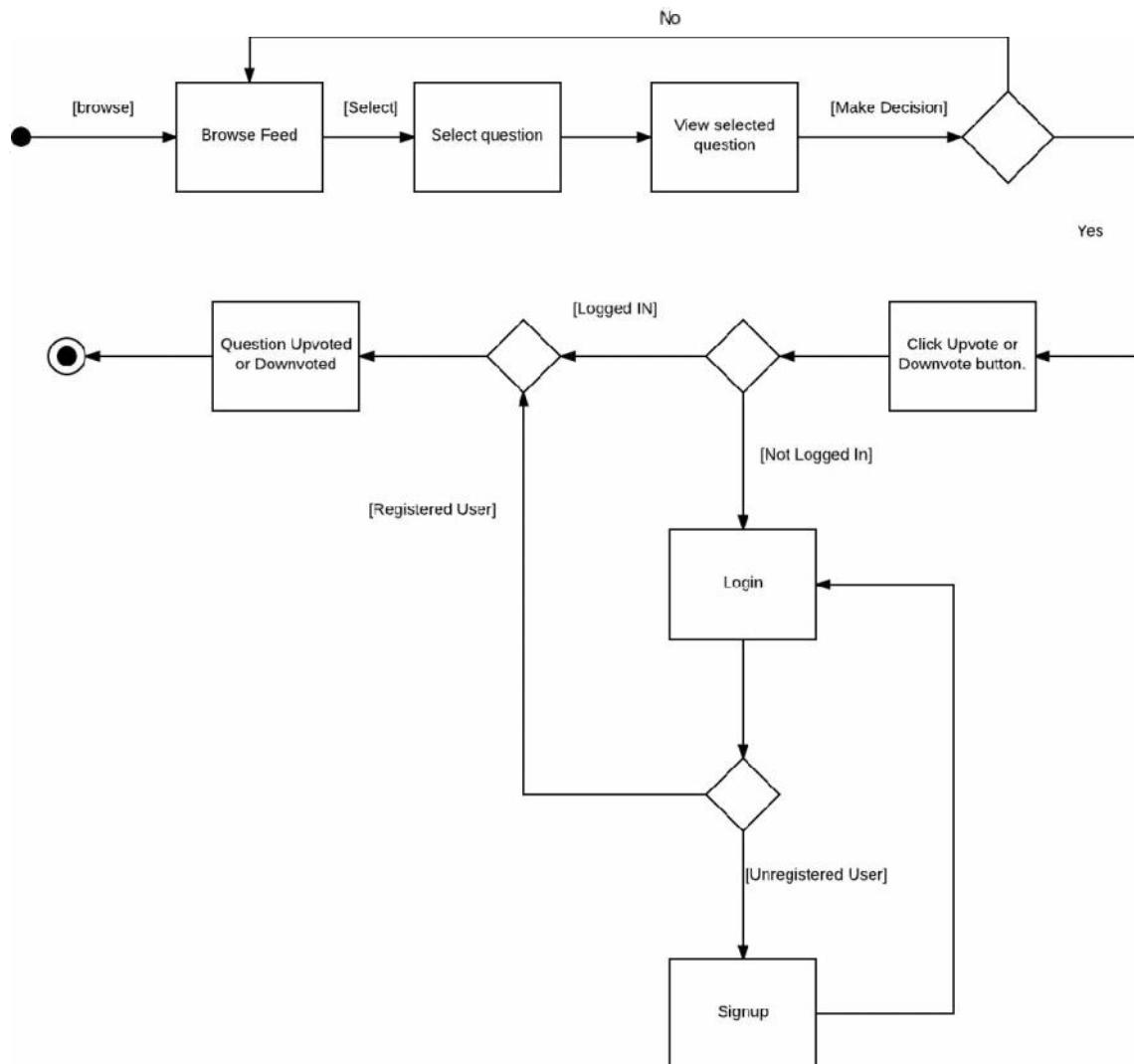
BookMark Question



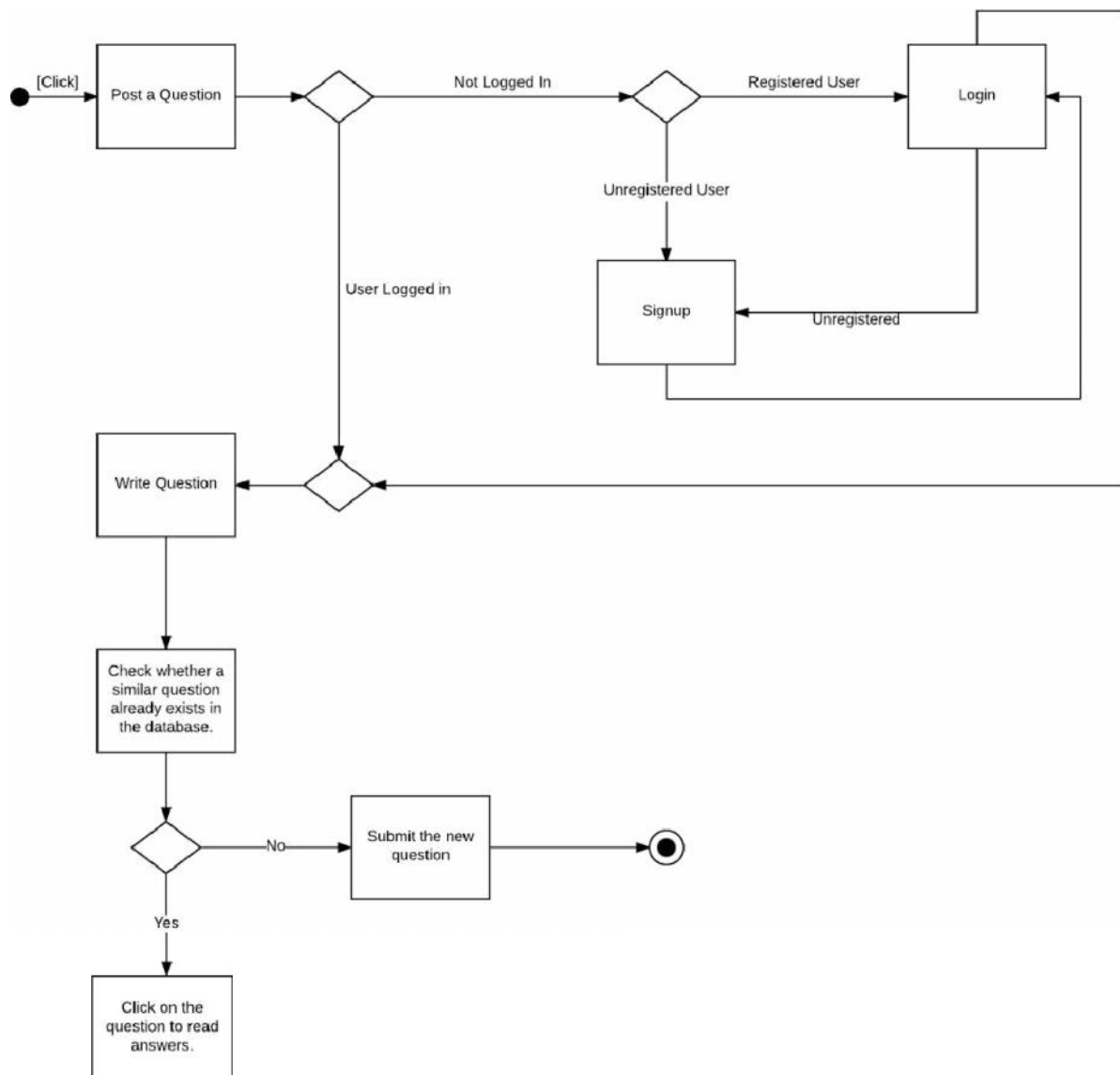




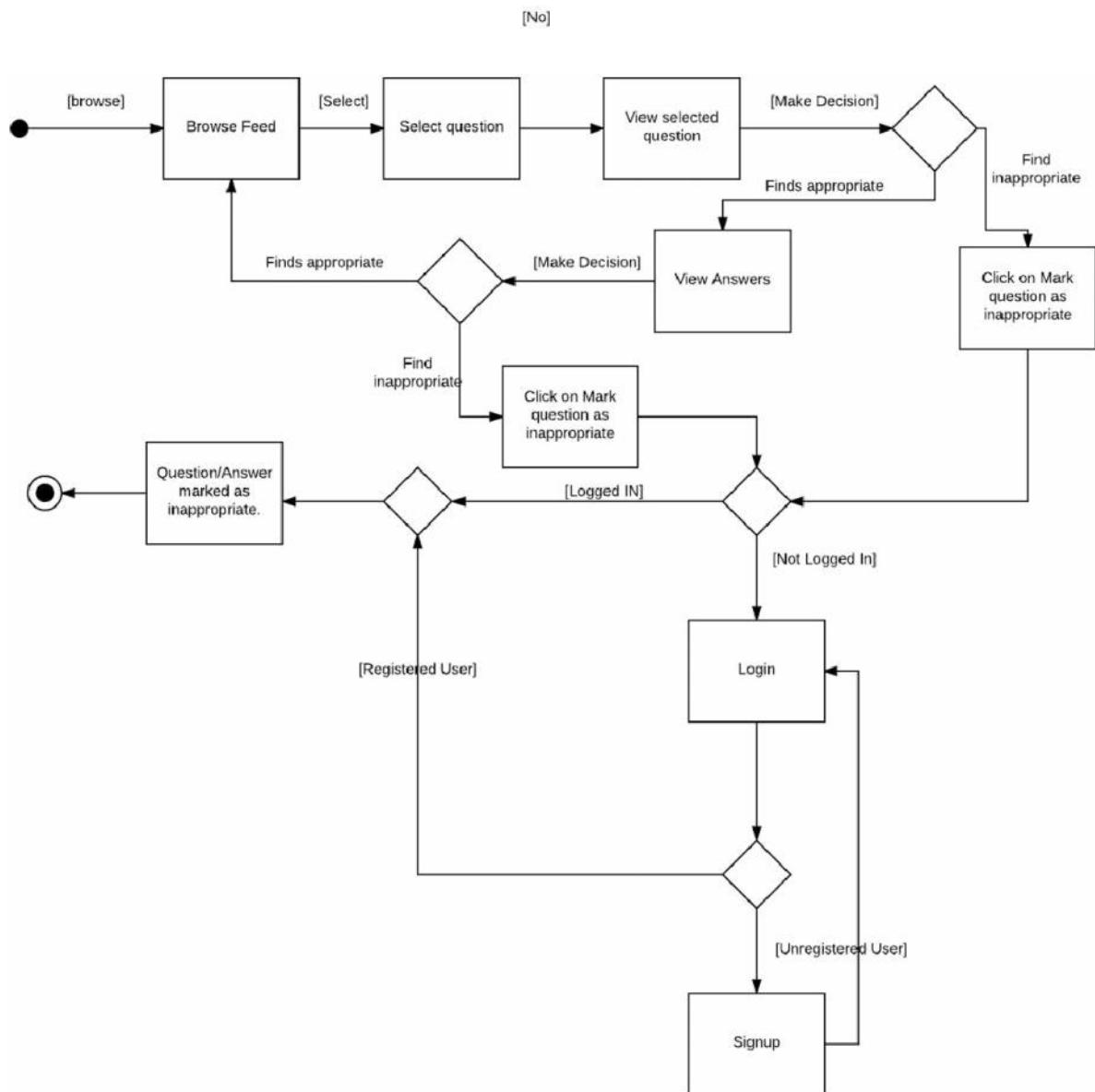
Upvote/Downvote Question



Post Question
Activity Diagram
(REVISED)



Marking
Question/Answer
as inappropriate



UI/UX Designs (Wireframes) – For the Sprint 3 functionality

HoverSpace

search

Login

Register

Username

Email Address

First name

Last name

Password



Login

Username

Password



Short Description

Long Description

Tags



22



Question text will appear here. Question text will appear here. Question text will appear here. Question text will appear here.



Posted By : user_name

Posted on : yyyy-mm-dd



22



Answer text will appear here. Answer text will appear here. Answer text will appear here. Answer text will appear here. Answer text will appear here. Answer text will appear here. Answer text will appear here. Answer text will appear here.



Posted By : user_name

Posted on : yyyy-mm-dd



22



Answer text will appear here. Answer text will appear here. Answer text will appear here. Answer text will appear here. Answer text will appear here. Answer text will appear here. Answer text will appear here. Answer text will appear here.



Posted By : user_name

Posted on : yyyy-mm-dd

write answer here...



.Tags

- tag1
- tag2
- tag3
- tag4
- tag5
- tag6
- tag7
- tag8
- tag9



Question text will appear here. Question text will appear ...

2 answers

posted by: user_name

posted on: yyyy-mm-dd



Question text will appear here. Question text will appear ...

2 answers

posted by: user_name

posted on: yyyy-mm-dd



Question text will appear here. Question text will appear ...

2 answers

posted by: user_name

posted on: yyyy-mm-dd



Question text will appear here. Question text will appear ...

2 answers

posted by: user_name

posted on: yyyy-mm-dd



Question text will appear here. Question text will appear ...

2 answers

posted by: user_name

posted on: yyyy-mm-dd

Top Contributors

| Name | Karma |
|----------|-------|
| username | 223 |
| username | 55 |
| username | 10 |



Question text will appear here. Question text will appear ...

2 answers

posted by: user_name

posted on: yyyy-mm-dd

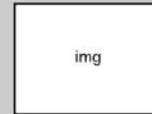


Question text will appear here. Question text will appear ...

2 answers

posted by: user_name

posted on: yyyy-mm-dd



img

username

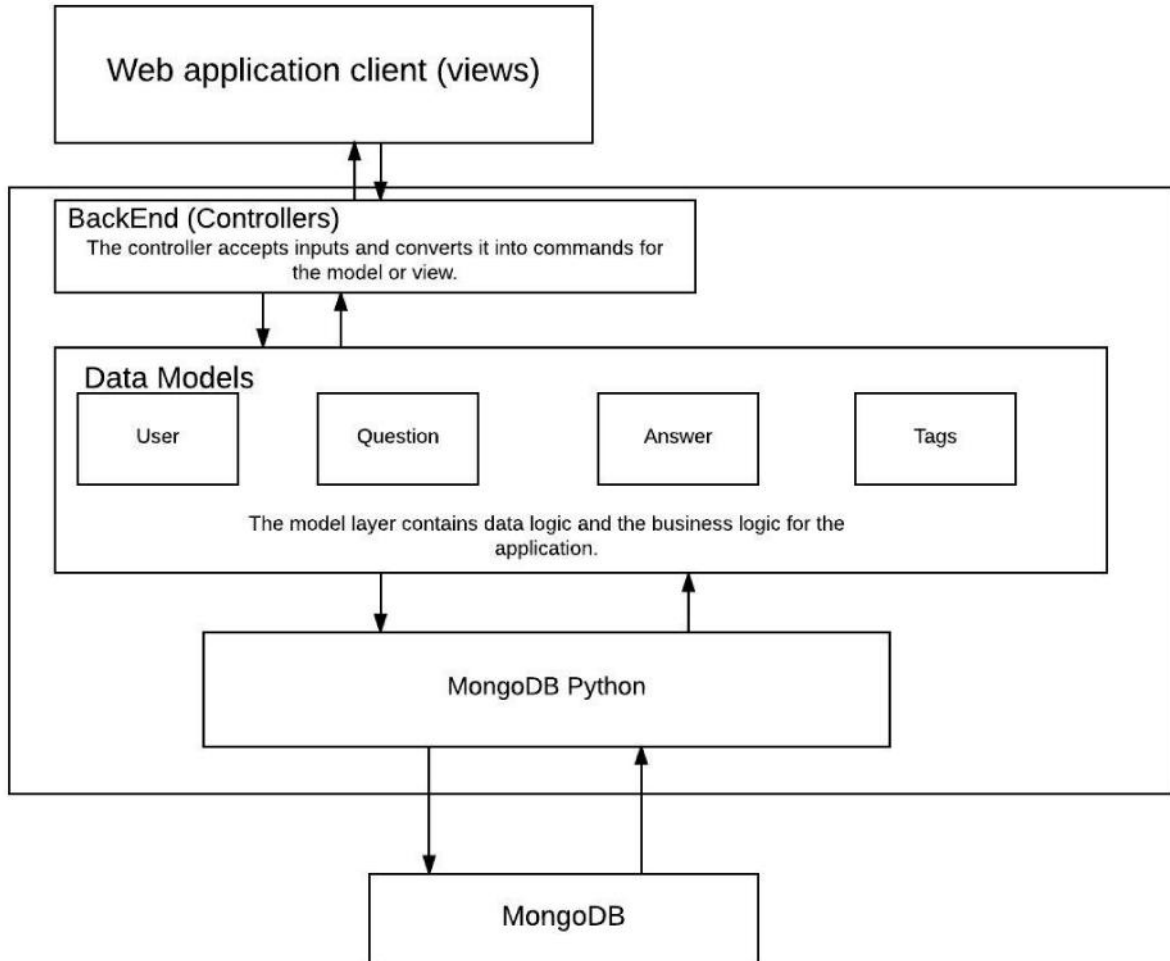
FULL NAME

Email@address.com

karma points : X

System Architecture Diagram

Layered architecture



Scrum Minutes of the Meeting (Two entries per week for each team member)

Sprint 3 – Week 1

| Work completed | Work planned | Impediments |
|--|---|---|
| Designed the wireframe diagram for userprofile page and changed the previous wire frame diagram and UI according to new changes. | Wireframe diagrams for the user profile page and reviewing the previous wireframe design, improving the UI/UX of website. | None. |
| Changed the UI of the website to be more user friendly as per the suggestions given in the peer review. | Improve the UI as per the wireframes . | None. |
| Implement voting feature (upvote/Downvote) on both question and answer. Also calculated karma points. | Improve the Upvote/Downvote feature of the website . | Faced difficulty while working with AJAX. |
| Worked on implementing “Edit answer and Edit question” and improved the bookmark feature. | Implement the feature of editing user’s own question or answers and improve connect the bookmark feature to database. | Had difficulty implementing the front end design for Editing question and answer. |
| Worked on implementing the search feature. | Implement the search feature of the webapp. | None. |

Sprint 3 – Week 2

| Work completed | Work planned | Impediments |
|--|--|--|
| Changed the frontend design of question page adding buttons for upvote/downvote bookmark and mark as flag. | Change the front end design of some pages to add more features and improve the UI | None |
| Worked on front end development of user profile page and implemented the changes on the home page to show the top 10 contributors. | Implement the user Profile page. Implement the changes as per new features in the home page. | Faced a lot of issues while working with JQuery/AJAX |
| Designed the class Diagram and System Architecture Diagram. Did the testing of the web application. Implemented Calculating karma points of users. | Design the class diagram and System Architecture Diagram. Responsible for testing of application and to all the acceptance criteria from sprint 1 to 3 are fulfilled. Designed the algorithm to find the karma points of user. | Had difficulty deciding which class design patterns to follow and which architecture to follow for the application. Had issues while checking authentication of the emailid. |
| Worked on flagging feature. Implemented select most appropriate answer. Implement feature to search question by tags. Reviewed uses sessions. Helped in designing user profile page. | Implement flagging system to report inappropriate content . Implement front end design of comment . implement user sessions acceptance criteria. Implement "select most appropriate answer" | Had issues implementing front end designs. |
| Implemented tagging system & search algorithm. Integrated the smart feature of suggesting similar questions prior to posting question. | Implement the tagging system. Review the posting question feature with the help of advanced search develop it as a smart feature of application. | Faced difficulty designing a smart algorithm for implementing search. |

Sprint 3 Summary

Review Summary (about the product)

| | |
|---|---|
| 1 | The application now has a new search feature which helps the user search through the database for a particular question or even through important keywords in question. |
| 2 | The application now has a new “Edit question”, “Edit Answer” feature which enables users to update their questions or answers after being posted. |
| 3 | The application also has a feature of “Flag as Inappropriate” for both questions and answers so that any inappropriate content on website could be reported. If the content is found inappropriate by content manager the content is taken down and the karma points of the user who posted is reduced. |
| 4 | Bookmark, HoverUp/HoverDown features integrated with backend. |
| 5 | User Profile page developed which tells the questions asked ,answers posted and the karma points of the user. |

CODE QUALITY:

1. Simplicity:

Code is made as simple as it can be, minimize complexity.

```
questions.py  E:\Hoverspace master\Hoverspace master\Hoverspace\questions.py (3.5.1)
File Edit Format Run Options Window Help

import datetime
from Hoverspace.models import QUESTIONS_COLLECTION
from Hoverspace.user import User
from bson.objectid import ObjectId

class Question():
    # quesID, short_description, long_description, postedBy, timestamp, ansID, upvotes, downvotes, accepted_ans, flag
    def __init__(self, postedBy, short_description, long_description=None, tags=[], timestamp=None):
        self.postedBy = postedBy
        self.timestamp = datetime.datetime.utcnow()
        self.short_description = short_description
        self.long_description = long_description
        self.tags = tags

    def postQuestion(self):
        quesID = QUESTIONS_COLLECTION.insert_one({
            'postedBy': self.postedBy, 'short_description': self.short_description,
            'long_description': self.long_description, 'timestamp': self.timestamp,
            'ansID': [], 'commentID': [], 'votes': 0, 'tags': self.tags,
            'accepted_ans': None, 'flaggedBy': [], 'flag': 'False'
        }).inserted_id
        usr = User(self.postedBy)
        usr.update_questions(REF(quesID))
        return quesID
```

2. Naming Variables:

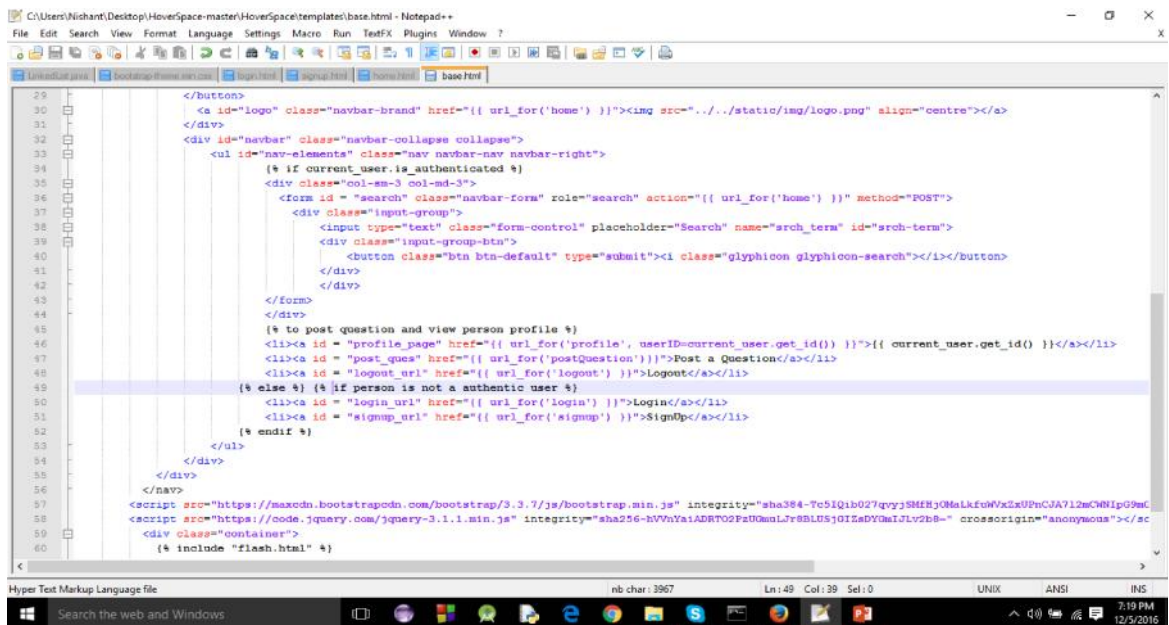
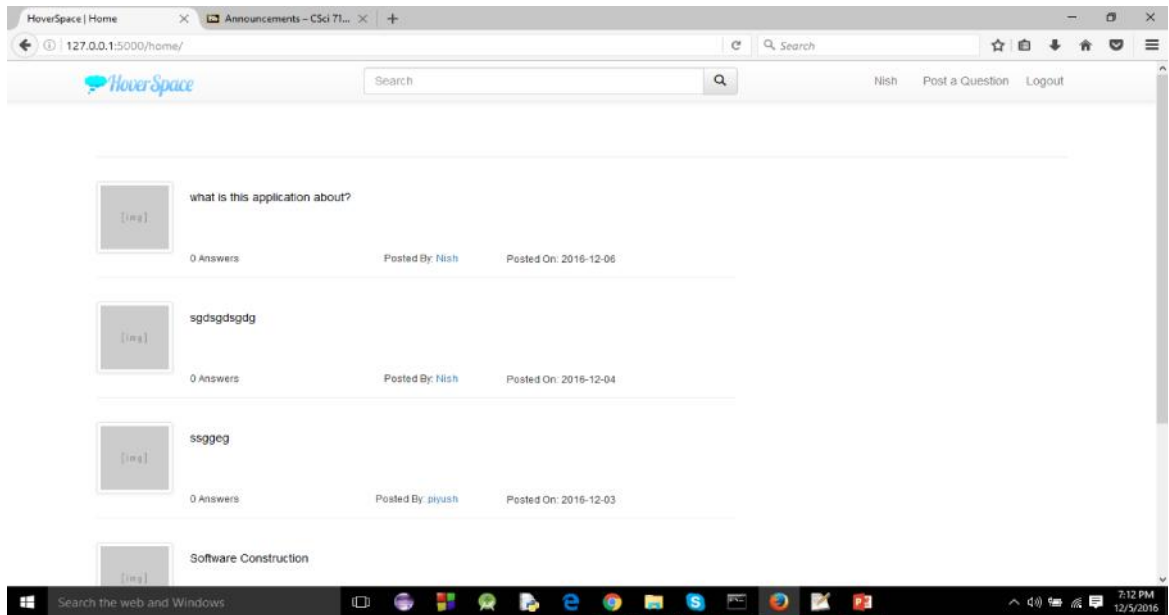
```
import os
from pymongo import MongoClient

DATABASE_URI = os.getenv('MONGOLAB_URI') or 'hoverspace'

DATABASE = MongoClient(DATABASE_URI)
db = DATABASE.get_default_database()

USERS_COLLECTION = db.users
QUESTIONS_COLLECTION = db.questions
ANSWERS_COLLECTION = db.answers
TAGS_COLLECTION = db.tags
COMMENT_COLLECTION = db.comments
```

3. Layout and style:



4. Design by contract:

The screenshot displays a Notepad++ window with the following details:

- Title Bar:** E:\HoverSpace-master\HoverSpace\template\signup.html - Notepad++
- Menu Bar:** File, Edit, Search, View, Format, Language, Settings, Macro, Run, TextFX, Plugins, Window, ?
- Toolbar:** Standard text editing and development tools.
- Tab Bar:** Unsaved.txt, Signup.html, Home.html, Base.html
- Code Content:**

```

13  {% for field in form if field.widget.input_type != 'hidden' %}
14  <div class="control-group">
15    <label class="control-label" for="{{ field.name }}" > {{ field.label }}</label>
16    <div class="control">
17      {{ field(class="form-control input-md") }}
18    </div>
19  </div>
20  {% endfor %}
21
22  {%Precondition : user should creat a profile or signup before posting any question
23
24      Postcondition : User should be authentic
25                    User successfully sign Up
26
27  Class invariant:  Username length > 3 varchar
28                    password length > 3 varchar
29                    Email ID should be valid
30  %}
31
32  <h6>
33    * Username length should be greater than 3<br>
34    * Password length should be greater than 3<br>
35    * EmailID should be valid
36  </h6>
37  <div class="control-group">
38    <br>
39    <button type="submit" id="signup_btn" class="btn btn-default">Register</button>
40  </div>
41  <br>
42  </form>
43  </div>
44  </div>
45  </div>

```
- Status Bar:** Hyper Text Markup Language file | nb char: 1553 | Ln: 29 Col: 33 Sel: 0 | UNIX ANSI | 7:26 PM 12/5/2016