INFS7202 Individual Project Proposal

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Introduction

Due to the pandemic, many students around the world cannot have an on-campus learning experience, and they need to study remotely most of the time. When studying alone remotely, most students can be confused easily, as they do not have enough support to solve their questions. Different students have different strengths and weaknesses, so it is a good idea to build a platform that allows students to help each other during this hard time. The main purposes of this online discussion platform are to provide additional support to students who are having hard time to find support, so that it can ease their stress and give them a much enjoyable learning experience.

Overview

AskItNow is an online discussion forum for asking and answering academic questions. AskItNow's layout follow the "KISS" principle, as complicated design can distract or confuse users occasionally. The layout of AskItNow will include 5 major components, which includes the navigation bar, the footer, the scrollable list, the content area, and the filter section. The navigation bar allows user to configure user settings, view notifications, view recommendations, and switching between home screen and the "ask questions" page. The footer is to show copyright information, contact information and allow users to support the community if they want to. The scrollable list is to show all the current questions. The content area is to show details of the questions and see the answers. The filer sections are for the user to filter questions base on their customized criteria.

From the technical perspective, this application includes frontend and backend development. For the frontend technology, I will use HTML, CSS, JavaScript, and Bootstrap for the development. For the backend technology, I will use PHP as my server-side programming language, MySQL as my database, phpMyAdmin for database manipulation, SQL for retrieving data, and public cloud platforms for later deployment.

Design of application and functionality/Objective

The application will follow the Model-View-Controller design pattern, so it will make development more organized and easier to modify if required.

From system architecture perspective, the application will follow the 3-Tier Architecture settings, which means the application has a user interface, server, and a database. All these components will interact constantly to maintain the operations of the application.

The application has authentication ability, users need to login before using the application. Also, the application has user authorization ability, which allows users to create an account before start using the online discussion platform. Authentication and user authorizations are required for security purposes, so that it can help the system to identify user's identity.

From the functionality perspective, the application allows users posting questions, ranking answers, using key words to search the most suitable questions, replying, and rating answers, giving recommendations to users, and bookmarking/pin a post.

For basic features, I will also use third party API to strengthen the power of the application. For instance, a geography students may want to insert a map for assignment questions, so I will

enable the map insertion function through map API. The map API service doesn't need to be Google Map API, as Google Map API services can charge you after you are running out of free API request. In addition, I will also use PayPal API to support the donation function from the community support section. Basic CRUD operations are also involved in the functionalities from the previous paragraph, for instance, posting questions, searching questions, etc.

For advanced features, I will try to use different classification algorithms to train the most appropriate classification model, which can provide predictions on what users are interested in, so that we can recommend the most compelling contents to the users.

From user experience and security perspectives, I will also use session, so that it can control accessibility and maintain convenience for users at the same time.

In terms of deployment, I will use UQ Zone as the deployment platform, since I never have any experience on any other cloud platforms, for instance, AWS and Azure. To play safe, UQ Zone would be a better option for me, as I have been using it for a while, and I am more familiar on how it works. In addition, UQ Zone has better support for me when I encounter technical issues during future development and deployment.

Potential technical issues

From my opinion, I think the biggest challenge will be the backend part, as I never work on backend task and deploying a website in the past. In addition, some of the free APIs that I may use may not have a well written documentation like other famous, paid APIs, so I need to consider the tradeoffs between these two factors. Lastly, I think debugging a program would be another technical issue, as debugging can take a lot of time.

UI/UX design

The first image in the appendix is the initial UI design of the login page. Users will arrive this page before using the application. This UI is for authentication and user authorizing purposes.

The second image in the appendix is the main UI of the platform, users will see this UI when they are successfully login to the application. Most features will be implementing in this place.

The third image in the appendix is the create questions page. Users can create their post here, which will be displayed on the main UI (second image in appendix) once they publish the post.

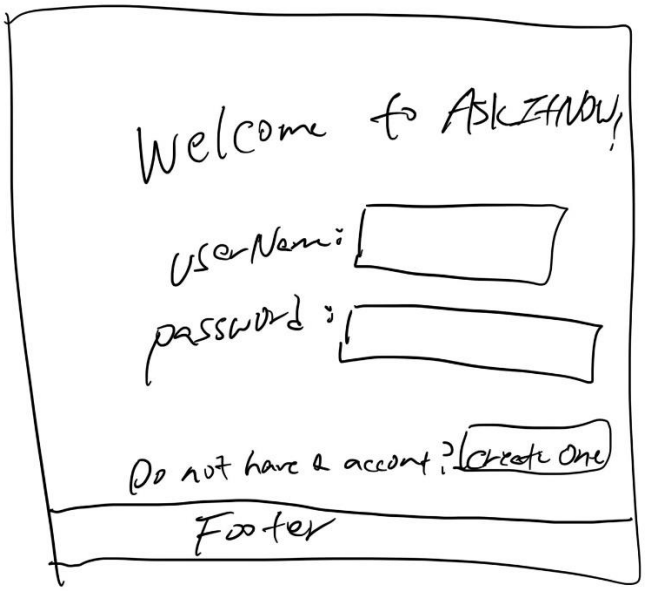
Timeline

By the deadline of Millstone 2: 1. Implement the main pages 2. Completed authentication and user authorization tasks 3. Posting questions feature 4. Answering and rating questions feature 5. Ranking answers 6. Searching questions 7. Bookmarking/Pin a post

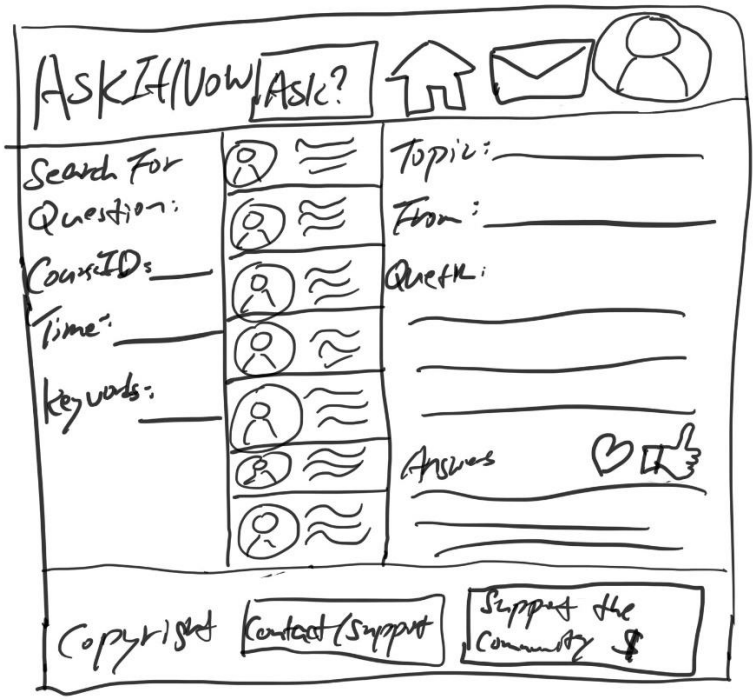
By the deadline of Milestone 3: 1. Work on the map API 2. Work on the PayPal API 3. Build recommendation system based on trained classification model.

Appendix:

Img1: This is the login page



Img2: This is the main UI of the discussion platform



Img3: This is the question page