Final Project Proposal

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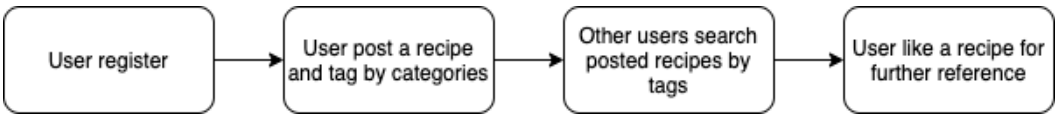
1 PROBLEM STATEMENT AND RELATED WORK

The main product of this project is a workable cook recipe sharing social network application, where users can share their recipes and tag them by categories. Shared recipes can be searched and viewed by other users. It is inspired by cook-at-home experience in COVID-19 pandemic. To avoid risk of virus spreading, cooking at home has become the major choice for meals. As self cooking becomes more frequent, the need of learning and sharing cook recipes is growing.

Main motivation and target of this project is to research on user interface design of social network application on both desktop and mobile platform. As there are many existing social network applications, we plan to use them as user interface samples and research on features of their designs.

The following figure represents the main user story of this application.



2 NEED FINDING

The main need finding technique we plan to use is survey and interview. Since many fellow students have cook at home experience in recent period, it is expected to receive meaningful needs from them. We plan to interview 3-4 fellow students in-person, and design an online survey to collect needs for the application.

Also, since we plan to use existing social network applications as examples, during the research on their user interface designs we expect to derive some common needs of social network applications.

3 PROTOTYPING

We plan to use Miro as a wireframe and mockup prototyping tool.

The prototyping work will include three stages: wireframe, mockup, and webpage. Firstly, wireframes will be created. At this stage the focus is to setup cross-platform layouts based on responsive webpage design principals, and apply interface efficiency rules. Then wireframe prototypes will be concreted to mockup prototypes, which will illustrate style and color design of page elements to evaluate the visual effects of different designs.

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After mockup prototypes stage, webpage prototype will be created. These webpages will be developed as interactable prototypes. These webpage prototypes are designed to be able to connected to the backend server by implementing HTTP APIs and work as the web application frontend.

Design of most pages that can be visited by users will follow these three stages of prototype design. Since the webpage prototypes are designed to be able to connected to the backend, most of user interaction functions will be implemented in this stage.

4 IMPLEMENTATION

The project is planned to be a cross-platform web application. By following responsive webpage design principals, the web frontend can adaptively adjust its layout for different devices. We plan to use Vue.js for the frontend framework and Flask for backend framework.

Users can register and manage their account (including setting up and change user name, email and password), and post, edit, delete recipes. For each recipe, the poster can append multiple tags to represent the feature of the recipe (for example, Asian, Mexican, Vegetarian), these tags can be added or removed at any time. All posted recipes can be searched by all users according to their tags, and search results will be presented in order of post time (the most recent at first). Readers of recipes can like a recipe, liked recipes will be listed in a personal liked list for future reference. Liked recipes can be removed from the list at any time.

5 USER STUDY / EVALUATION

To evaluate the prototypes and the application, we plan to test our webpage prototypes and application on classmates and other fellow students. The test use sessions will be performed without guidance, in which we can observe how the tested user perform their usage to find potential design flaws or problems if any difficulties occurred in the test use session.

Also, after each test session, we plan to interview the test user for their feedback. According to the collected feedback and observations in the process, we can improve user interface design and then iterate the test use process.

We plan to recruit a regular test user group of 5-6 testers to perform in-person test use sessions. Additionally, other than the regular tester group, the webpage prototypes can be posted on the Internet to be accessed to a wider group of test users remotely, after which we can collect feedback with online surveys.

6 ALTERNATIVE APPROACHES

As time and efforts available is very limited, it is estimated that the complexity of the application will be relatively low comparing to existing applications. Since the main purpose of this project is to explore user interface design to social network application, some minor functions will be simplified, for example, search is limited to tags and ranking of results are in time order. However, all the functional simplifications should be carried out without affecting representation to the user interface design.

7 TIMELINE AND DELIVERABLE

- **November 15:** collect user interface designs of existing applications *(Tao Xie)*
- **November 15:** construct the structure of program source code *(Yang)*
- **November 15:** design and distribute survey for need finding *(Xie)*
- **November 17:** design wireframe prototypes *(Xie)*
- **November 20:** design mockup prototypes *(Xie)*
- **November 22:** recruit regular test group *(Yang, Xie)*
- **November 22:** preliminary design and implement database and backend API *(Yang)*
- **November 25:** implement webpage prototypes based on mockup prototype *(Yang)*
- **December 6:** carry out test use sessions and improve prototype *(Yang, Xie)*
- **December 6:** program backend API *(Yang, Xie)*
- **December 9:** first version of workable application *(Yang, Xie)*

8 BIO

- **Jiaxing Yang:** Team leader and programmer, will implement major part of programming and testing
- **Tao Xie:** Designer and prototype sketcher, mainly gather and analyze user interface designs of similar social networks, and prototype this project