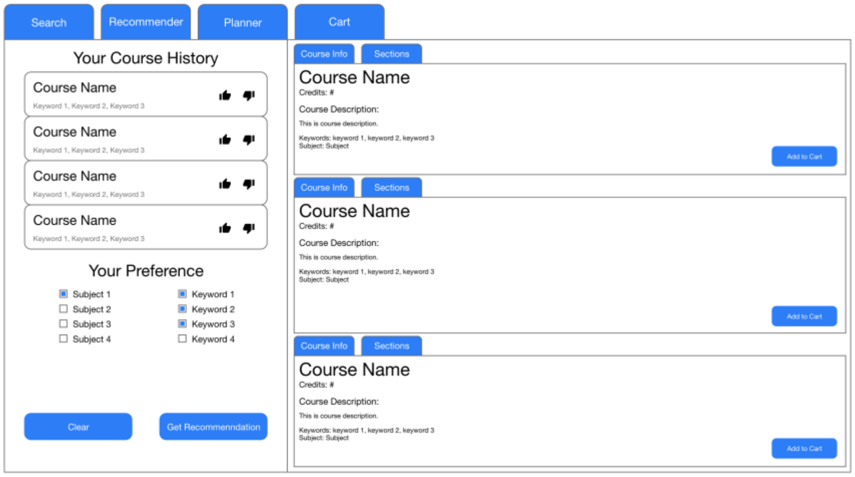
CS-639 Building User Interfaces, Fall 2019, Professor Mutlu

Assignments — Week 06 | Design | Designing for the Web

This assignment is designed to help you start making design decisions toward the final product you will build in Module 1. In the *React 3* assignment, you will have the option to build a *course recommender application* or a *course planner application*. The course recommender application will recommend the new courses to take based on user ratings of the courses they have taken in the past and the user's general areas of interest. The course planner application will construct schedules based on a tentative list of courses, enabling the user to plan a course schedule for a given semester. Review the React 3 assignment README for the specifications of each application. In this assignment, you will choose one of these options and make design decisions regarding what content you will include in your application, how the content will be organized within the application canvas, what navigation aids you will provide your user with, and what component hierarchy will result from your design.

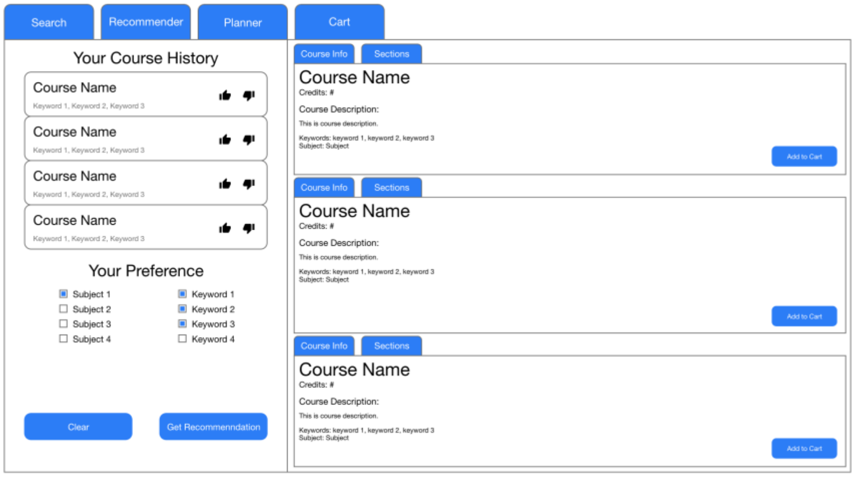
Step 1. Conceptual Design. Choose one of the options for your application: *recommender* or *planner*. After reviewing the design specifications in the React 3 README, ideate on how it will work and sketch a conceptual design of the application. Your conceptual design can be hand-drawn or in the form of a digital wireframe (e.g., created in Adobe XD). Annotate your design to describe how the application will work and its main sections. Provide a photo or screenshot of your annotated design below.

For React 3, I am going to implement a course recommender.
This is the sketch:



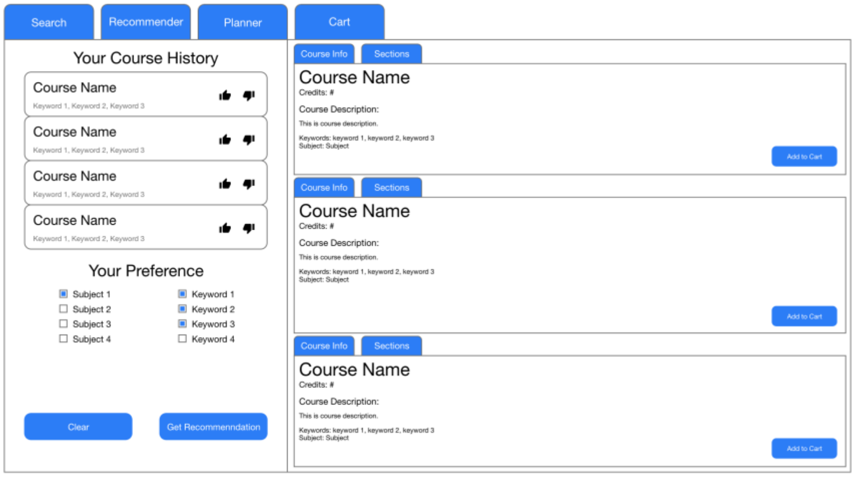
When the user selects the "Recommender" tag, the recommender will display. Initially, the side bar loads the component of the previous courses the user takes, and classified lists of subjects and keywords relate to the courses the user takes. The user is able to rate the course he takes, select the subjects and keywords the user prefers, and the course area will show up the courses that matches the user's preference when click the get recommendation button.

Step 2. Information Structure. Make a list of all the *content* that will be included in your design and displayed to the user, including content necessary to obtain user input, the output that your application will provide to your user, and other content that the user will need to effectively use your application. You can refer to previous lectures for discussion on Information Structure and Design Patterns for what kinds of elements/content your application might include. For each item in your list, provide a brief (2-to-3-sentence) description of the content, including the type of information included and its form (e.g., textual course description, shape that represents a class, a card that contains course information).



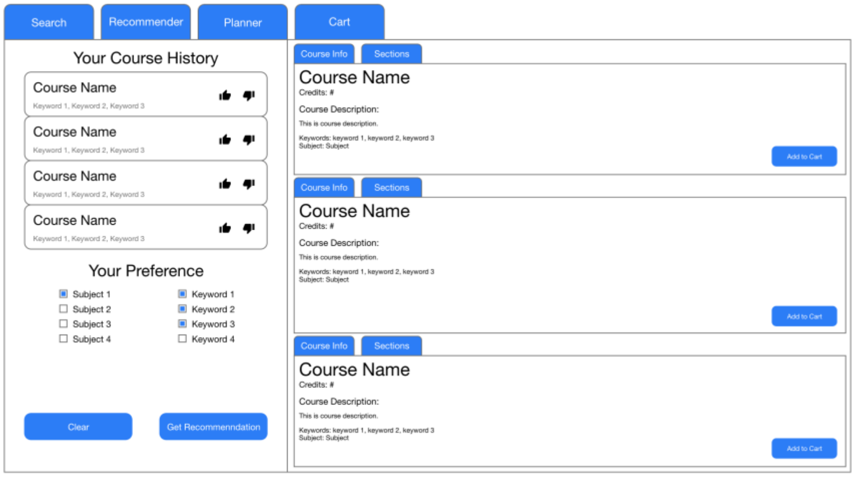
I will make the app into an organization of ***Tabs***; different tabs stand for different functions:
Course Search, ***Courser Planner***, ***Course Recommender*** and ***Course cart***.
In the ***Course Recommender*** page, I will render the page into two different parts, a ***SideBar*** and a ***Course Area***.
The ***SideBar*** is made of a ***Card*** that contains the list of ***PreviousCourse***s, a ***Filter*** that consists of ***CheckBox*** of subject or keywords.
The ***Like/Dislike Button Group*** allows user to rate a ***PreviousCourse***.
The ***Clear Button*** allows user to clear his rate and selection on preference.
The ***Get Recommendation Button*** generates a list of recommended ***Course*** for the user.
The ***CourseArea*** consist of filtered(recommended) ***Cards*** of ***Courses*** which allows user to add the ***Course*** into the ***Cart***.

Step 3. Content Organization. In this step, make decisions about how you will organize the content you described in the previous step on the application canvas. Specifically, make decisions about what will appear above and below the fold, whether there will be any content below the fold, whether the application will include multiple pages or a single page, and whether content that may not fit within a single page will be paginated or loaded using infinite scroll. For example, do you plan to show all recommended courses on a single page or show one on each page. If all courses are shown on a single page, will some of them be below the fold? If you are showing one course at a time, will you paginate the recommended courses or load more on the page as the user requests them? Provide a narrative description of your decisions and their justifications below.



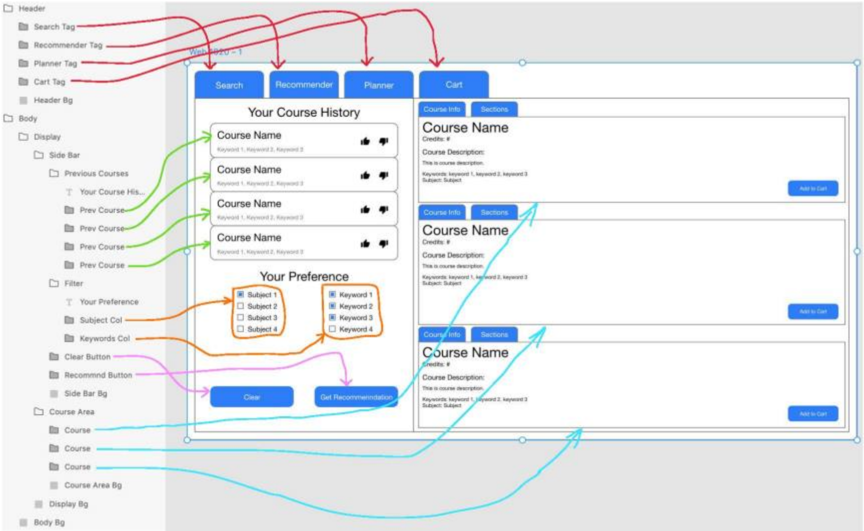
In my design, the ***SideBar*** will be in the form of Fitting All in and the ***CourseArea*** will be in the form of the Fold. The ***Card*** of ***SideBar*** is static. In other words, the recommender application will load the courses the user taken and generate the list of preference ***CheckBox***es as long as the user click the ***Recommender Tab*** on the top. The ***CourseArea*** for recommended ***Course***s is dynamic. In other words, user is able to scroll it down to see recommended ***Course***s. When the user opens the recommender for the first time, since no ***PreviousCourse*** is rated and no CheckBox is selected, no Course will display. The ***CourseArea*** will render a new state of ***Course***s as long as the user rate a ***PreviousCourse*** or set his preference.

Step 4. Navigation Aids. Determine what navigation aids will be necessary for the user to effectively use and navigate through your application. For example, if the user is reviewing multiple recommended courses or multiple course plans, how you envision the user to navigate through them? Do you need a menu that reflects the main sections of your application or the steps of the proscess users must follow? Create a hand- or digitally drawn mock-up of your application that illustrates the decisions you made in Steps 3 and 4 and annotate pieces of content and navigation aids.



The ***Tabs*** of ***CourseSearch***, ***CourseRecommender***, ***CoursePlanner*** and ***CourseCart*** are primary navigations, which navigates the user into different functions of the application. The ***Tabs*** of ***CourseInfo*** and ***Sections*** are secondary navigations that navigates to user to add the recommended ***Course*** to the ***Cart***.

Step 5. Component Hierarchy. In this final step, review the mock-up you created in the previous step and describe the component hierarchy that you expect your application will have in its implementation. Review React 2 lecture for example hierarchies. An example/template is also provided below. Include a one-sentence description of each component. The output of this step will be the input into your React 3 assignment and guide the development of your application.



- App
  - CourseSearch Component
  - CourseRecommender Component
    - SideBar Component
      - CourseHistory Component
        - PreviousCourse Component
          - CourseName Text
          - CourseSubject Text
          - CourseKeywords Text
          - Like/Dislike Button Group
      - PreferenceFilter Component
        - Subject CheckBox
        - Keyword CheckBox
      - Clear Button
      - GetRecommenndation Button
    - CourseArea Component
      - Course Component
  - CoursePlanner Component
  - CourseCart Component