

## BTH545 Lab 2

### Learning Outcomes

- Learn to lay out an interface so as to organize it efficiently while making the various parts of the interface easy to find and visually distinct from the rest of the interface.

### Cognitive UI Design

Cognitive UI design involves drawing the user's attention to parts of the interface, ensuring the interface is easy to interact with, and providing support to offload the memory and computational load on the user. Keeping these ideas in mind, design an interface that satisfies the following requirements. You can use one screen, multiple screens, dialogs and any control you feel will make the interface easy to use.

You should:

- draw your interface on paper or using a drawing tool,
- draw a diagram showing how you navigate from one screen to another,
- show how popups or dialogs come out of existing screens,
- you do not need to provide screens for every possible sport or food. You could do screen on two different types of sports and one type of food. You should sketch one representative screen of each type of screen in your application.
- submit it to Blackboard with a file "members.txt" containing the names of all group members.

### Food and Exercise Log (in-lab, 60%)

You are to design the interface for an application (this could be on the desktop, web or mobile -- your choice) that allows the user to record their daily physical activities and food intakes.

- Physical activities are recorded by selecting activities from a list and specifying time and distance or whatever appropriate measurements are needed for each activity. The number of calories burned will be calculated from a formula that requires the user's height, weight, stride length and parameters from the activity selected.
- The application should be able to track the user's weight over time and display graphs as well as numeric displays of how it is changing. Similarly, it should be able to display progress in running and swimming speed, weights lifted, etc.
- Users can enter the amount they consume of various foods and this will show the total calories they consume for the day. The interface will then show whether they are consuming more calories than they burn or burning more than they consume. In addition, it can show users the amount of various vitamins and minerals they are consuming and whether any do not meet recommended daily requirements.
- Users should be able to customize the application so that they can define new activities or add foods that are not in the default list.
- Users should be able to see a calendar from which they can select and view the data from any previous day where data was recorded.

## Reflection (at-home, 40%)

Write a reflection on why you made all of the decisions you did in designing the interface. Provide examples of where you:

- Focused attention on one part of the interface,
- Made parts of the interface visually distinct from other parts,
- Displayed information in a way that is easy for the user to perceive,
- Used Gestalt laws in the design of the interface,
- Use Fitt's law in the interface,
- Provide some type of aid to reduce the load on the user's memory.

For each point, you should show one or more examples of where you have used it in your interface and explain the benefits of this way of design in your interface. You should also comment on why it is superior to one or more design alternatives.

## Deliverables

You should submit images of your drawings to Blackboard before leaving the lab. By midnight within 2 days of your lab, you should submit your reflections to Blackboard. For example, if your lab is on the 10<sup>th</sup> of the month, your reflections are due by midnight on the 12<sup>th</sup> of the month regardless if the 12<sup>th</sup> falls on a weekend or not. All submissions should list all members of the group. In the reflections, each section should have the author of that section identified. Every group member is required to author at least one section in the reflections to qualify for the group mark.