Assignment 02 and 03

EECS 3461, Fall 2017 v.1, Prepared by: M. Baljko

Submission
You may work individually or in pairs.
*If you are submitting as a pair, you **must** inform the instructor prior to submission. If no information otherwise is received, then an individual assignment will be assumed.*
To submit your solutions to this assignment, you will use the submission facility on the course website on moodle.

Assignment 02 is worth 10% of your final grade.
A2 Due Date: Wednesday March 20, 2019, 11:59pm
Assignment 03 is worth 10% of your final grade.
A3 Due Date: Wednesday April 03, 2019, 11:59pm

Overview

The overall assignment is for you to design and evaluate an ***interactive system*** for that responds to the design brief that is provided below.
This assignment consists of two components that, together, will take you through the one iteration of the development lifecycle for an interactive product.

1. Design Brief

See the Appendix for the Design Brief

2. Assignment 2

2.1. *Establishing Requirements*

Read Chapter 10 of the textbook. In order to complete this component, you will need to be familiar with the contents of this chapter.

Given the design brief, determine the **requirements**. This should include a sub-section for each of Functional and Non-Functional Requirements. The Non-Functional Requirements section should contain sub-sub-sections for each of the following:

- Look and Feel Requirements
- Usability and Humanity Requirements
- Performance Requirements
- Operational and Environmental Requirements
- Maintainability and Support Requirements
- Security Requirements
- Cultural and Political Requirements
- Legal Requirements

Locate an on-line source of information about the Volere Requirements Specification Template to obtain further information about each of these.

Remember: the requirements should not be so specific as to determine the design of the interactive system. They should provide the criteria which determine whether a particular design can be considered or not. Many different potential designs can meet the requirements.

2.2. *User Profiles and a Persona*

Based on your user requirements, develop two different **user profiles** for the residents. Develop a main scenario for each of the two profiles, capturing how the user is expected to interact with the product. Further develop one of these into a persona.

2.3. *Use Cases*

From the design brief, it is clear that the design project is not intended to produce a system that supports the performance of a specific task. Instead, identify at least one use case for the system. Associate the use case with one of the user profiles and identify a use case that captures an envisioned goal of the user. This will be speculative, but that is ok.
The design brief describes an aspect of the system that requires staff input. Identify the use case for the staff members.

2.4. *Conceptual Model*

Read Chapter 11 of the textbook. Develop an initial conceptual model of the system. You can communicate information about the conceptual model using a low-fidelity prototype (storyboards, sketches, index cards, or other prototyping tools, such as InVision). The grading scheme will reward substance rather than a slick presentation, and it is absolutely possible to do this via paper-and-pencil sketches and index cards. You are attempting to convey a flow between the user and the interactive system. For this part of the assignment, it is not necessary to work in the digital. If you are working in the realm of the non-digital (paper, drawing, markers, post-it notes, etc), then you need to come up with a way to document these materials (e.g., via scanning or high-quality photos).

It is understood that the low-fidelity prototype need not look like the high-fidelity prototype that will be produced for Assignment 03. It needs to include information about some envisioned functionality. It is 'an object to think with' and will be used to generate questions and issues for further consideration.

2.5. *Success Criteria*

A. **Clarity/Presentation:** calibre of the writing and quality of the presentation
B. **Quality:** degree to which each of the components has been completed
    a. completeness and appropriateness of requirements
    b. requirements do not, in a sneaky way, specify the design (design decisions and requirements are abstracted apart)
    c. user profiles are distinct from one another
    d. distinction between user profiles and persona
    e. success in identifying use cases
    f. low fidelity prototype is fully documented; a level of detail is provided that allows all aspects of the conceptual to be understood.

2.6. *Submission Requirements*

Prepare a written report that contains:

- Section 1: Requirements (with sub- and sub-sub-sections as described above)
- Section 2: Description of the two User Profiles
- Section 3: Description of the Persona
- Section 4: Description of the Use Cases
- Section 5: Documentation of the Low Fidelity Prototype

3. Assignment 3: High(er) Fidelity Prototype

A detailed specification for Assignment 3 will be provided. In advance of this, the following information is provided.

- A fully-functioning `react.js` application will be given to you.
- The application has three components. (i) The application affords the user the possibility to specify keywords. (ii) The application employs the YouTube API to obtain, given the specified keywords, a list of videos, which are then displayed (and from which the user can select). (iii) The application displays a player, which auto-launches the top matching video.
- Instructions will be provided so that you can get this application up and running on your own machine.
- The assignment will ask you to create a high(er) fidelity prototype of the low fidelity version you prepared for Assignment 2. You can use the provided example application as the starting place.
- The success criteria for the assignment is the degree to which you communicate the conceptual model. There should be evidence of revision to your conceptual model, as a result of reflection during the design process moving from low to higher fidelity prototyping.
- It is not expected that functionality will be fully implemented. Rather, it is desired that, through the use of stubs, placeholders, and graphical elements, your prototype communicates your conceptual design and interaction flows via a quasi-interactive experience.

Design Brief

Project Name: Joy Infusion Project

Contact Name: Filanges Oakley

Enterprise Name: Vertebral Enterprises

Enterprise Description: Vertebral Enterprises was created in 2018 by Filanges Oakley to respond to an opportunity in the Pollex Home for Supported Living, with a view to expand to other similar institutions. Pollex Home for Supported Living provides apartment-style living for older adults who need medical support and care on a daily basis, as well as some communal living facilities (dining hall, recreation facilities). Filanges Oakley has deep expertise in how to support the activities of daily living for those in supported living arrangements. The mission of Vertebral Enterprises is to create useful applications and to distribute them freely via Creative Commons licensing. Vertebral Enterprises derives income via consulting and training services. It has an unusual business model because it does not need to generate any profits. To support this project, Vertebral Enterprises has received funded from an agency that supports community-based activities.

What makes this enterprise unique? Vertebral Enterprises is risk-taking and not afraid to consider unusual or atypical approaches to problems or to tasks. Whereas other companies in the sector are risk averse and conservation, Vertebral Enterprises is not worried about failing.

Existing brand guidelines: existing brand guidelines for Vertebral Enterprises do not need to be followed for this design project.

Regulatory issues: none

What opportunity is being addressed: There are large display screens positioned throughout the Pollex Home for Supported Living, in various public places such as the elevator lobbies and outside the dining hall. These display screens must be in place to support the messaging as part of the emergency broadcast system, but most of the time the screens are not needed for this purpose. Pollex would like to capitalize on the opportunity provided by these screens to provide positive, interactive encounters. The infrastructure exists to run a standalone app for each screen or to network the screens together. The screens are positioned on the walls, as part of the environment. Although the screens may happen to be positioned in spaces where there are seats, the seating is not oriented towards the screens and the screens are not intended to be viewing areas.

Purpose and function:
The screen is primarily envisioned to be showing selected content from YouTube. The content should play automatically (e.g., not needed input from any users), but at the same time, should allow users to interact with it, should they desire to.

The staff of Pollex should be able to specify a set of keywords. Only content from YouTube that matches these terms should be available for showing. Content from YouTube that does not match these terms should not be available for showing. This filtering stage will produce a set of options but will not completely determine the choices. The idea is, via this filtering procedure, to identify content that infuses joy and generates pleasurable experiences. The staff of Pollex understand that the keyword matching is not a perfect technique for obtaining content that matches the criteria, but are ok with this. The residents are not meant to see this aspect of the application. Keyword specification will be determined at weekly staff meetings. Thus, the keywords may be changed from time to time by staff members.

The screens should provide chance encounters to residents, as they move past the screens as they go about their days. Perhaps they will pause for a few minutes, but it is not intended that groups congregate and remain in front of the screens for any length of time.

Pollex would also like to provide its residents with the ability to interact with the screens in some way, rather than assuming that they are meant to be passive consumers of this content. The Pollex residents should be provided with some way to interact with the available choices. However, the choices available should not be overwhelming.

Pollex residents can potentially interact with the content of the screens using touch or other indirect pointing devices (such as modified Wii controllers with single select buttons).

Scope: the design team will deliver early prototypes and then a functional prototype for evaluation. The functional prototype will be assessed by Vertebral Enterprises' evaluation team. Pending successful review, the design team will deliver a fully functional product.

Format: the aspect ratio of the screens as 16:9 and there are several different sizes, ranging from 48" to 86" (as measured on the diagonal). All screens are capable of showing colour.

Design Project plan:

- low-fidelity prototype – Mar 20
- high(er)-fidelity prototype, with some interactivity and some partial interactivity – April 03

Measures of success:

Use of the system will be logged to determine the degree to which the resident interact with the system Pollex staff will undertake a series of observation sessions, to characterize the use of the system. The goal is that at least half of the residents use the system at least once a week. A follow-up survey will be conducted face-to-face with the residents, to characterize their impressions. The goal is that the residents find some joy or pleasure at encountering the content. Visitors to Pollex may offer their feedback as well, but it is the experiences of the residents that are of primary importance.