Specify, Design, and Implement Your Own Application

Assignment

Design and implement your own application. It should have these components:

1. A significant application layer, with some logic.

2. A graphical interface.

3. Uses knowledge from the course and (preferably) some new knowledge, such as using an Open-source library or some Java classes we haven't used before.

4. Uses basic design principles and design patterns -- where suitable for your application. See TA or me to help you identify places where you can apply a design pattern.

What to Submit

1. Submit a proposal on paper. This is like a "Vision" of your project. A short proposal is fine.

Please include:

Vision of the Program: what does it do? What are features? What will it look like? Please include a drawing or screenshot.

Value Proposition: why is this worth doing? What will you learn?

Participants: If more than one person, what will each person do? Max is 2 people for most projects, 3 people for a really ambitious project.

Project Work Products

1. Source code on Bitbucket.

2. A runnable application that anyone in the class can run.

3. Short report, including how your project uses *design patterns* and UML design documents. UML must include annotations (explanation of what major components do).

Format of written documentation will be given later.

Example Projects (from past years)

Graphical guitar tuner application which plays pitches for tuning guitar. This shows how to use the MIDI library in Java to play a given tone.

RSS Reader with graphical UI. Get news feeds from the Internet.

Multi-player snake game played over the network.

Multi-player battleship game played over the network.

Ping-pong game using Gamepads, which shows how to use Java library for Gamepads.

SnailGet - a multi-threaded file downloader to speed up file downloads using parallel downloading, with graphical UI, like Flashget. *I have document describing how to download different parts of a file simultaneously*.