**Software Engineering Challenge**

**Requirements**

Describe the challenge or problem, what does the program need to do

What classes/objects do you think you need?

How much time do you think you will you need to complete the project?

Make a city, we’ll need some sort of applet to display the city, and extra classes for mouse movement or keyboard input, because I want to make it a little game. This should probably take more time than in class, so work outside of class will be needed.

**Research**

What knowledge or skills will you need to build this program

What examples are online or in other graphical programs (games, apps etc. . .)

If so, what can you learn from them?

Do you foresee any problems or constraints, describe

Have you created a similar programs or applets? Are there similar programs in the book or other resources?

If so, what elements of that project can you bring to this project?

Do you have the resources you need to create the program?

Do you need to learn any new knowledge or skill(s) to create the program?

Applets, we haven’t done a lot with them.

Unity, games built in C#, which looks almost identical to Java.

Nope, there are examples everywhere though

Yes

Yeah, some new API knowledge, but that’s about it

**Design**

Draw/create a basic graphic of the applet you plan to build - attach the drawing

(paint, word, photo shop) not every objet (draw one example although there may be several in the final program) needs to be in the basic graphic

Include a task list--what will you need to do and in what order

Estimate the amount of time you will need to complete the project

1. Initialize an applet, start drawing from there
2. After fully implementing a background, start drawing windows that flash
3. Work on day night cycle (with change in background)
4. (OPTIONAL) Implement mouse controls? Maybe a little guy to jump around, or destroy buildings
5. Polish

It should take a good week if I work every day

**Construction – included in summary doc**

Document your construction progress with date and progress made (build a chart/table in word or excel), also, include at least three screen shots of your applet (beginning, middle, and end)

**Testing/Results/Delivery—summary doc not required to start project**

Preliminary testing

Does your program meet the needs of the initial challenge or problem? How do you know?

Are any changes or modifications needed, why or why not? Document any changes.

Summarize the project - what worked, what didn’t work, note your successes and/or failures.

Looking back, would you have done anything differently, why or why not

Software Summary Document

It does, it is a full city with animated parts

Daily Progress Report

|  |  |
| --- | --- |
| Date | Description |
| February 26, 2018 | Applet is initialized, programming building and other objects. (BUILDING DONE) |
| February 27, 2018 | Working on a window algorithm, and using an array of ints to control the state of the windows |
| March 1, 2018 | Switched to a new window class to make a windows object for each building. Double buffered background. Added a road, added sun |
| March 2, 2018 | Fixed stuttering issues |
| March 4, 2018 | Added car, changed day night cycle so there is a sun and moon. Background progressively changes color |