**Software Engineering Challenge**

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**Requirements**

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

**I need to make a city with buildings.**

What classes/objects do you think you need?

**I will need at least a city viewer, building, and window class.**

**7 Buildings and 7 window objects.**

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

**A week.**

**Research**

What knowledge or skills will you need to build this program

**I will need to know how to use applets and animate objects. I will need to know how to paint rectangles and change their sizes. To be able to import and move pictures.**

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

**Applet videos, new Boston.**

If so, what can you learn from them?

**How to import pictures, customize colors, and display text**

Do you foresee any problems or constraints, describe

**Putting pictures into the project.**

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

**Yes, they are the same from the book.**

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

**The ability to animate and draw.**

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

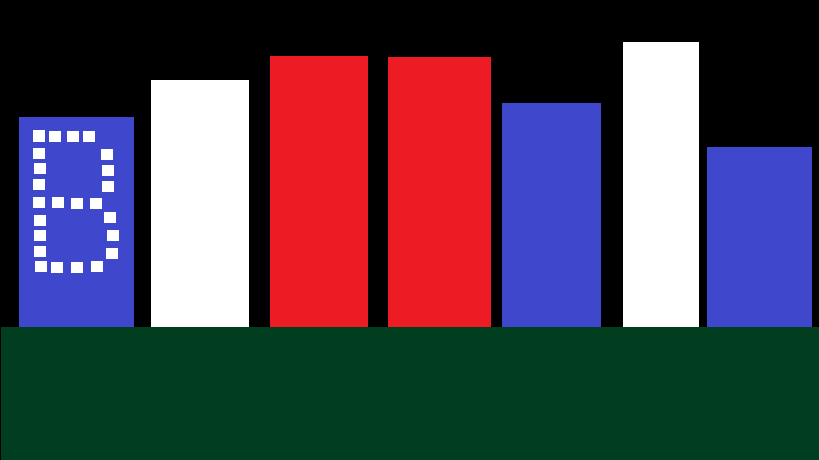
**Yes, I have the internet to help me.**

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

**How to import pictures and display text**

**Design**

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



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

1. **Created the 4 classes**
2. **Created the 3 constructors**
3. **Create the objects**
4. **Create the Buildings**
5. **Set the Buildings to different heights**
6. **Set the background so it paints over everything**
7. **Created the letters made of windows**
8. **Import the picture**
9. **Add the text**
10. **Remove errors**

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

**A week**

**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

Initially I started making the buildings and it was going very smoothly. The creation of the building class and the creation of the building objects was easy. At one point I forgot the order of width and height and that slowed me down because I couldn’t understand why my buildings kept going sideways. Another problem I encountered was forgetting to update the x and y coordinates making all the buildings appear on top of each other. Finally I was able to make the next four panels of buildings. I initially tried to use repaint, but that ended up continually calling the paint method over and over. I then decided to make a setting method in the buildings to simply change the building information and the just painted the buildings again to remove the repaint method from my code. Then my code printed the four frames and then printed frames 2-4 again which was not intended (a problem that still exists within my code). I then started to make the windows class. The windows class initially was going take parameters for all the buildings, but that turned out to be a horrible idea. I then decided to just make each window object with the same parameters as the buildings, but instead of a color parameter, I had a letter parameter. Then I started making the letter B with the windows. I ended up having to add back the color parameter which took a while, but it ended up only mattering for the letter B. After lots of trial and error and two days I finished the letter B. Then it was a matter of copying and changing the loops to make it form the different letters. After finishing the windows I look up and learned how to add a picture into the applet. I quickly was able to move the picture across the screen, but then I decided to add text. I also looked up how to get text onto the screen and after only a small amounts of adjustments was able to get the text to display how I envisioned it. The only error I still have is that the code repeats except the “Buffalo” buildings which was not intended. I looked into it, but inevitably decide it was fine the way it was because I didn’t know how to fix it. I actually really liked this project because I got to express my creativity and my passion for the Buffalo Bills.

Daily Progress Report

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| --- | --- |
| Date | Description |
| January 19, 2017 | Finish drawing, make basic plan, and answer questions |
| January 20, 2017 | Start the building of the viewing applet and the building class. Created constructor and initialized the seven buildings. |
| January 23,  2017 | Made four different screens and displayed the buildings. Made the background class. Colored the buildings |
| January 24, 2017 | Created Customized building colors and made the windows class. Started the creation of the letter B. |
| January 25,  2017 | Finished the letter B and the rest of the letters for the windows after a ridiculously long period of time. Then display the buildings with the letters on them. |
| January 26,  2017 | Import a picture, made new additional buildings with flashing lights, displayed text, and move the picture |
| January 27,  2017 | Comment code! |