**Work in Progress Report**

**Major developments/breakthroughs (reference specific code please):**

I changed the entire structure of my project to incorporate card layout. I also put in tabbed panes so when the user chooses a unit there will be tabbed panes on the west side of the border layout. The panes are created in PanTabbedF or PanTabbedP. I’ve also put in drop down boxes in the tabbed panes for the user to choose specifications for the demonstration that will be displayed in the center

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**Major Challenges/setbacks( reference specific code please):**

I’ve been having problems with setting the background in the center depending on which setting the user chooses. I’ve tried different ways to set it but whenever I try to incorporate it into my main program it won’t work.

**Any modifications to your specifications/release schedule:**

I think I’m moving along a lot better now but I think I will still be a little bit behind on finishing the velocity and gravity demonstrations and then I will move onto the graphing program.

**Description of your scratch/test program:**

**Describe the generic concept you needed to test out:**

I tested out using card layout, tabbed panes, drop down boxes and a little bit of work with backgrounds.

**Source any web site/book that helped you with that concept:**

Card Layout

* <http://ics3ui.sgrondin.ca/ss15/Layout.html>
* Card Layout Test program from your github

Tabbed Panes

* <http://stackoverflow.com/questions/15032959/java-swing-add-tabs-into-jpanels>

Drop Down Menus

* <http://stackoverflow.com/questions/22506331/simple-dropdown-menu-in-java>
* <http://stackoverflow.com/questions/14306125/how-to-use-actionlistener-on-a-combobox-to-give-a-variable-a-value>

Backgrounds

* java-demos.blogspot.ca/2012/09/setting-background-image-in-jframe.html

**Describe the code and the lesson that you learned from it**:

With the card layout I just used the layout to choose which panel to display in the center. I learned more about the layout and it’s definitely been very useful. The tabbed panes just create the panes and then I can create buttons and labels and different things that I want to put into them. This was helpful because it’s a much easier way to navigate than having a bunch of different buttons and switching between panels all the time. Drop down menus is just a way for me to display a bunch of options to choose from without filling the entire pane up with a bunch of buttons that would be too much for the user to process. It’s a really valuable thing to use because it saves so much space in the panel and makes it much nicer to look at. The background part is just something I am starting to work on, I’ve been able to display an image in the scratch but I’m having trouble with incorporating it into my main code so I am going to try to look into different ways to do it that could work better with my code.