**Work in Progress Report 3**

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

I added collision for every object in the game except for fireballs and sorcerers because I don’t want friendly fire. The bounds checking for the hero changes depending on what state he’s in. For example when he’s blocking I decreased the rectangle so the fireball hit exactly onto the shield and onto the back. This can be found in the hero, fireballs’ and sorcerers’ classes and getBounds method and in the PanGame class and checkCollisions method. I don’t have a method for changing the image every time you press a key. In the main class I added death and win cards. I now have a second stage in the game that changes the background and cloud positions; it also adds the second enemy which is the knight. The knight attacks on a timed schedule and blocks after you attack, so that you cannot continually stab him in a short amount of time. This can be found in the Knight and PanGame classes. You can now pause the game by pressing P; this can be found in the Hero class, KeyListener method and the PanGame class, KeyReleased class.

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

A major challenge was adding the second enemy. I had a separate panel for it and the movement stopped working and the game slowed down heavily because the first panel was still in memory even though I tried to remove it. So I put it into the same panel as the sorcerer and worked out very well. I have Booleans as to what stage you’re on and it changes what is drawn to the panel and allows movement to work. Pausing the game was slightly difficult because most of the methods are called when the timer ticks, which wouldn’t work for pausing because it stops the timer. The KeyListener is independent from the timer so I was able to unpause from there.

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

I removed that the knight will in a separate method.

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

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

Actually benefitting from using 2D arrays with the images.

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

Mr. Grondin.

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

Instead of calling a method every time I had to change the image when the player pressed a key or stopped moving I had two variables, n1 and n2. I just changed the value of those variables to change the images. arBImgHero[n1][n2]. When facing left I would just do n1 +1 instead of having to check if its facing left or right every single time I changed the image.

**Describe any challenges that you enjoyed in integrating this scratch code into your major project:**

No real challenges.