

# Assignment 1 -- MiniJournal

## CAP6105 – Fall 2013

**Due: 9/11/13 11:59pm**

Since this is a graduate level course, I expect a certain level of sophistication in terms of your creativity and your ability to write software. I will not spoon feed you as in an undergraduate course. Thus my assignment descriptions will be fairly brief and I expect you to use your judgment to fill in the details. This first assignment is a warm up exercise. You will be creating a simple version of Windows Journal and the goal of the assignment is to get you acclimated to Visual Studio, C#, and Windows Presentation Foundation.

### **Requirements**

The main goal of your MiniJournal application is to let users take notes and make drawings using a pen-based interface.

#### UI Design

One of the key aspects of this assignment is you are to determine whether to use the pen or multi-touch input for invoking functionality. Try to choose pen or multi-touch based on what would seem natural. For example, you probably would not want to use multi-touch for writing. However, selecting and moving blocks of ink around may be better suited to multi-touch. You must use both modalities in some way.

The application should contain the following functionality:

#### Basic Application Functionality

1. Load and Save notes.
2. Let the user choose a blank or graph paper background
3. Import an image as a background.
4. Exit the application.

#### Pen Functionality

1. Let the user choose 5 different pen colors
2. Let the user change the pen to a highlighter with 3 different colors.
3. Turn the pen into an eraser. Let the user erase on the stroke and point level.
4. Have a selection mode so users can lasso ink and move/scale it on the page.

#### Advanced Functionality

1. Using the Ink Gesture Recognizer, let users scratch out ink to erase it from the page.
2. Using the Ink Recognizer (Handwriting recognition), let users lasso a word/s and convert it to text.
3. Provide a mechanism so InkAnalysis can be turned on or off so users can see when they are writing text or making shapes such as circles, squares, and triangles. As extra credit you can convert the shapes to 3D (i.e, spheres for circles, cubes for squares, and

pyramids for triangles). Do not worry about what the third dimension should be. Simply use a default.

### Symbol Collection Functionality

As part of MiniJournal, provide a separate window or control that lets a user enter a symbol  $n$  times. For now, allow users to enter the symbols 0,1,2,3,4,5,6,7,8,9,+,-,\*, and the square root sign. The user should be able to save the ink so it can be used in later assignments (Wink!). You should be able to enter the symbols using the stylus and with your finger.

Note that you do not need to make a gestural interface for this assignment. The only gesture you will need to deal with is the scratch out gesture. Utilize the tools that WPF gives you. Take a look at Windows Journal on a tablet and use that as a template for your UI design.

## **Deliverables**

You must submit a zip file containing your source and any relevant files needed to compile and run your application. Also include a README file describing what works and what does not in your application, any known bugs, and any problems you encountered. To submit, you can email me your zip file. As an alternative you can put your code into the cap6105/fall2013 directory on the isuelab drive.

## **Grading**

Grading will be loosely based on the following:

80% correct functionality

20% documentation