The University of Western Ontario

Faculty of Engineering

Department of Electrical and Computer Engineering

**Software Engineering for Human-Computer Interface Design**

***Simple SketchPad Drawing Project: Online Assignment***

The following itemized requirements are an informal representation of a set of assignments that comprises the design of a simple sketch drawing program (along with an implementation that can be targeted to any platform of the students` choice). The program layout should consist mainly of a 2D drawing space along with the ability to select basic modes as follows:

- A mode to draw sketches using scribbled freehand lines

- A mode to draw straight lines

- A mode to draw rectangles

- A mode to draw ellipses

- A mode to draw special cases of these (squares and circles)

- A mode to draw polygons (open and closed polygons)

In addition, the user should be able to select a colour for any of the graphical objects that are about to be drawn. Furthermore, the user should have a selection method so that they can identify an object that has already been drawn and perform the following operations:

- Move the selected object to a new location

- Cut the object from the drawing (delete a graphical object)

- Paste the selected object (copy and paste) to a new location

Advanced versions of the program may also have the following functionality:

- Group the object with another object (possibly creating groups of arbitrary objects)

- Ungroup a set of objects that have been grouped

Very advanced versions of the program could contain the following additional functions:

- Undo (and Redo)

- Save (and Load) a partially completed drawing

The report for this assignment should include the following design artifacts:

- Statecharts for the designed interactive functions

- Object diagram representing the Software Architecture and any Design Patterns

- The source code and deployment specific files

- Be prepared to demo, if asked, to show the functionality (either live using zoom, or upload a video demo)

The due date will be governed by an online Quiz/Assignment using the OWL system, where you will answer some questions about your design, after which you will be prompted to upload your files to your dropbox.