Unitec
NEW ZEALAND
Te Whare Wānanga o Wairaka

Department of Computing

Assignment One: Draw App

Total Marks: 100

Course Weighting: 40%

Due Date: 9:30am, 14th Sept, 2016

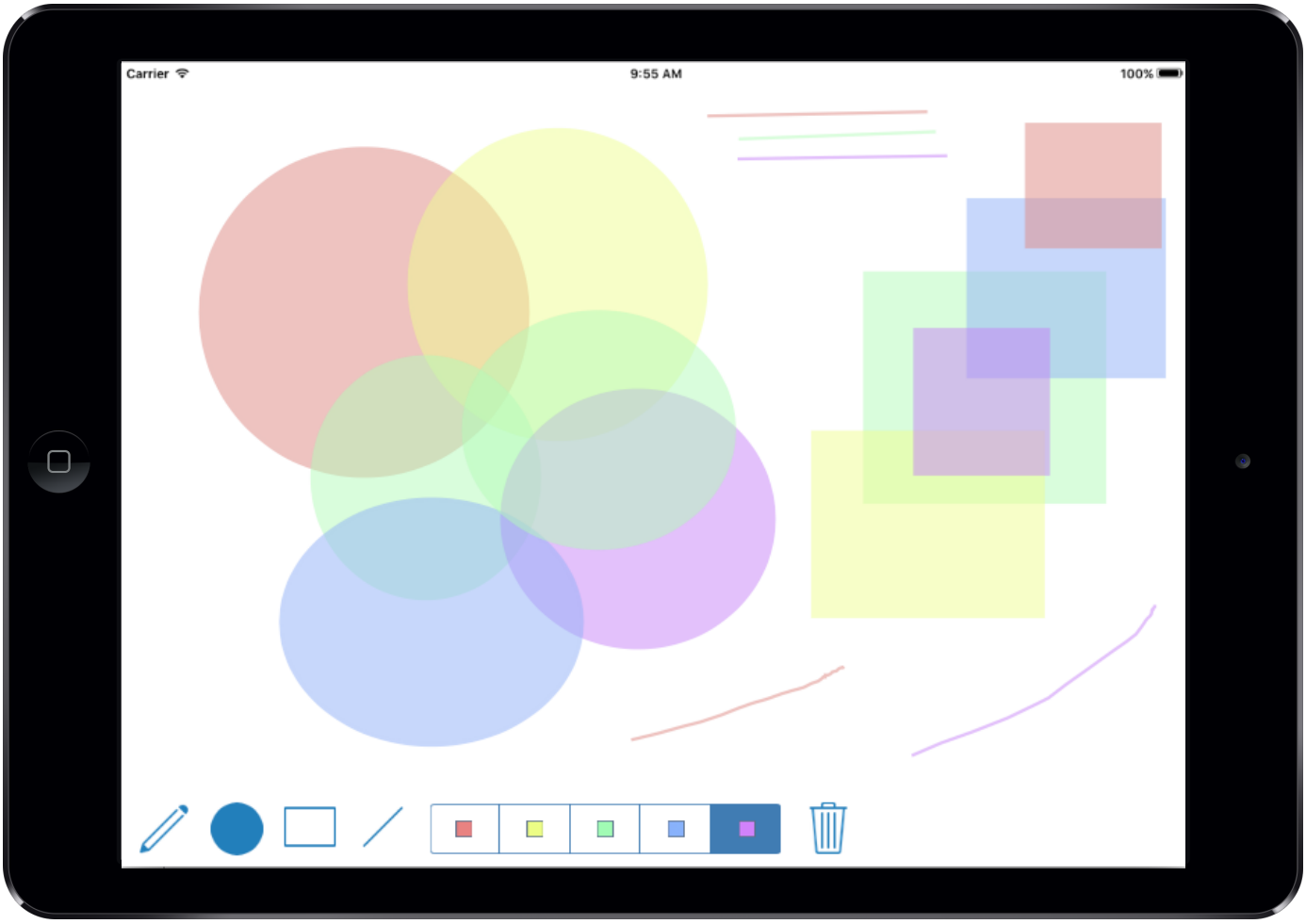

Figure 1: Main App Screenshot on iPad

Figure 2: Confirmation message box pops up after tapping the trash bin button

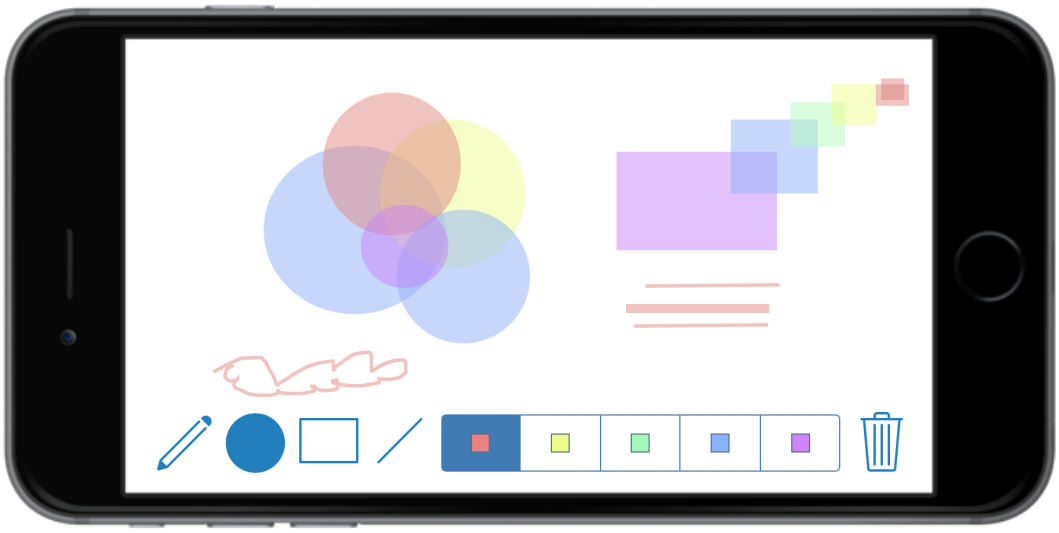

Figure 3: Main App Screenshot on iPhone

CONTENT

Objective

Develop an iOS application which allow users to draw pictures using pan gesture. The basic functionality of the app will allow users to select different types of shapes (e.g. eclipse, square, line and free style) to draw with, and will allow them to select colours using the palette selectors - as shown above in figure 1, 2 and 3. The screenshots are for your reference only. You are encouraged to design your own User Interface.

Important notes:

Zero mark will be given for **any** of the following situations:

1. The app fails to compile;
2. Not use UIbezierpath and CAShapeLayer to implement draw functions.
3. Any source code are copied from GitHub sample applications.
4. Any source code are copied from others.
5. Not use Xcode to develop the app.

Suggest to use Swift

Part A: Basic Functions 40%

Implement the following basic system components:

6. Palette selection tools: allow users to select the colour of the drawing object. The number of palette options should be appropriate and should at minimum include Blue, Pink, Black, Orange and Brown.
7. Shape tool: allow users to select shapes: eclipse, line, square and free style.
8. Trash bin button: allow users to clear the drawing board. Tap trash bin button to pop up a confirmation message box. Tap “Delete All” button to delete everything in the board. (Figure 2)
9. Pan gesture drawing - implement functions to allow users to draw on screen using their fingers.

Part B: Quality 20%

Marks will be awarded for implementation quality as follows:

1. User interface design - simple and neat, ease of use, consistency, attractiveness.
2. Architecture - design pattern, separation of classes, separation of resources.
3. Code - method size, method cohesion, comments, class naming, method naming, easy to maintenance, extensibility, neat, readable.
4. App is working properly without any crash, exceptions and warnings.

Part C: Advanced Functions 34%

1. The app is working for all different screen sizes of iPad: iPad Pro, iPad Air 2, iPad Air, iPad mini, iPad 2 and different sizes of iPhone: iPhone 5, iPhone 5s, iPhone 6, iPhone 6s, iPhone 6 plus, iPhone 6s plus.
2. Add more shape objects. E.g triangle …
3. Allow users to change the line of width.
4. Allow users to save a drawing to photo album.
5. Add eraser function.
6. Set image for selected/highlighted state (all buttons).
7. Make the background of shape objects transparent.

* Note: not all extensions need to be completed. Please feel free to add your own functions.

Part D: Documentation 1% (max 200 words).

Your documentation should include the following information:

1. Which design pattern did you use? E.g model view controller. Give brief explanation for each component.
2. Any advanced functions (Part C) did you implement?
3. Any third party libraries did you use? You are NOT allowed to use any third party libraries for all basic functions in Part A. If you used for Part C, please mention what they are, why you have to use them and the links of the libraries. We encourage you to implement advanced functions by yourself.
4. Any known bugs or issues in your app?
5. Anything could do better?
6. How many hours did you spend on this app? What computer science papers have you done before and what computer science papers did you enrol this semester?

Part E: Presentation 5%

1. Prepare powerpoint or Keynote.
2. Get your source code ready before the class (Sept 14) and copy your whole project to my teaching iMac.
3. Build your project using Xcode and demo your app through simulator.
4. Demo your storyboard.
5. Demo your code and introduce the classes you created.
6. Show what worked, what did not work.

7. What could have been done better.
8. Anything new you learned.
9. Any techniques you used.
10. Question time.
11. Everyone will have 15 minutes (your demo time) + 5 minutes (you answer questions from other students).

SUBMISSION DETAILS AND MARKING CRITERIA:

This is an individual assignment. You must work on the individual tasks by yourself and all work on these tasks must be your own. Your final submission should contain the following:

- A zip file which contains your program source code and a small text file (.txt) explaining what extensions you have done in bullet points
- Do NOT embed your program code in a Microsoft Word document, otherwise you will get zero.

MARK SCHEDULE

Sections	Marks
Basic Functions	40%
Quality	20%
Advanced Functions	34%
Documentation	1%
Presentation	5%
Total	**100%**

IMPORTANT:

Your app will be tested on the simulator below. This is the only device your application will be tested on. You should ensure that it runs as expected on the stated simulator:

- iPad 2
- iPad Air
- iPad Air 2
- iPad Pro

- iPad Retina
- iPhone 5
- iPhone 5s
- iPhone 6
- iPhone 6 Plus
- iPhone 6s
- iPhone 6s Plus

LATE ASSIGNMENTS:

- Assignments submitted after the due date and time without having received an extension through Special Assessment Circumstances (SAC) will be penalised according to the following:
- 10% of marks deducted if submitted within 24hrs of the deadline
- 20% of marks deducted if submitted after 24hrs and up to 48hrs of the deadline
- 30% of marks deducted if submitted after 48hrs and up to 72hrs of the deadline

  No grade will be awarded for an assignment that is submitted later than 72hrs after the deadline.

  Students submitting assignments after the due date and time will be ineligible to resubmit a failed assignment.

SPECIAL ASSESSMENT CIRCUMSTANCES

A student, who due to circumstances beyond his or her control, misses a test, final examination or an assignment deadline or considers his or her performance in a test, final examination or an assignment to have been adversely affected, should complete the Special Assessment Circumstances (SAC) form available from Student Central.

Within any semester, a student may have only one SAC per course.

When requesting an SAC for an assignment, the SAC form must be submitted (along with work completed to date) within the time frame of the extension requested; i.e. if the Doctor's certificate is for one (1) day, then the SAC form and work completed must be submitted within one (1) day.

ASSIGNMENT HAND-IN

Your assignments are to be submitted electronically on Moodle by the due date/time.

HAVE A QUERY? WANT TO IMPROVE YOUR WORK?

You could:

- Talk it over with your lecturer or programme director.
- Visit Te Puno Ako or Maia for learning advice and support.
- Visit the Centre for Pacific Development and Support.
- Contact USU Advocate for independent advice.
- For contact details and more information, go to www.usu.co.nz

DECLARE

This is an individual assignment. You must work on the individual tasks by yourself and all work on these tasks must be your own.

Please sign the statement below to declare that this assignment submission is your own work and hand in the signed statement with your assignment. Failure to sign and include this statement may mean your assignment is not marked.

Mobile Software Development ISCG7436

Assignment 1

I declare that the individual part of this assignment submission is my own work. Where I have incorporated work by other people, I have correctly acknowledged the source in my assignment.

Student Name ……..

Student ID ……..

Date .....