Department of Computer Science

Syllabus - COMP 125
Visual Information Processing – Mobile Apps with Google Android using App Inventor
Dr. William L. Honig

Catalog Description

An elementary introduction to programming using a language such as Visual Basic. Topics include variables, formatted input/output, arrays, looping, conditional execution, subroutines, functions, computer graphics, animation. Applications to other disciplines are stressed.

Prerequisites and Key Information

None

Comp 125 is a core course in the Quantitative Analysis Knowledge Area. This course supports the following Skill Area Learning Objectives: Quantitative and Qualitative Analysis and Research Methods.

This section of Comp 125 is an experimental course using a new technology: we will use Google's App Inventor to develop thinking and analysis skills by creating small mobile phone applications that run on the Android operating system. App Inventor is intended to make the art of programming accessible to everyone – even those without any experience or interest in programming. No Android phone is required; apps run on an emulator. App Inventor allows you to use visual tools and intuitive graphical methods to create your own apps without needing a programming language at all!

Special Course Requirements

1. Comp 125 classes will expect a basic user level knowledge of personal computers, file structures, email, discussion boards / chat services, the internet, and installing applications on your own computer.
2. The course may include some programming assignments done with another person or small team ("Pair Programming" or "Team Programming").
3. The course will use Sakai to organize materials. You will generally submit your assignments in Sakai. If you are not familiar with Sakai see http://www.luc.edu/itrs/teachingwithtechnology/sakai/sakai-student-tutorials.shtml
4. The course will use several applications provided by Google. You will be required to use or create a Google account. You may use an existing google account or create one with

your Loyola email address as the name (LUCNetid@luc.edu). Although we will use google accounts, you still must be sure to receive and read your Loyola email; the university and I will use that to reach you.

5. For more information on Google App Inventor, now hosted by MIT, see
   http://experimental.appinventor.mit.edu/about/

6. You do *NOT* need to have your own Android phone. The Google tools include an emulator of a phone that runs on a PC. However, if you have a compatible Android phone you will be able to use it to run your apps. Certain kinds of app (e.g. using GPS) work only on an actual phone and not on the emulator.

7. The instructor will be using a Windows computer; App Inventor runs on Linux and MacOS computers as well. You can use these operating systems but you will need to be prepared for dealing with possible differences, installation issues, and other problems with less direct assistance.

8. Special technology considerations for the online session:
   a. Online courses will meet fully online using both asynchronous (you pick the time) and synchronous (everyone online at the same time) sessions.
   b. Students are required to have a reasonably modern personal computer and high speed internet access available at all times (going to an Internet café or Starbucks will not work).
   c. The course will use Adobe Connect to present materials and conduct some parts of the class. You must test your computer and network and be sure they are compatible at
   https://connect.luc.edu/common/help/en/support/meeting_test.htm

6. Special teaching and learning considerations for the accelerated "JTerm" online session:
   a. Students must be able to clear their schedules for two weeks to fully participate and complete assignments.
   b. Students must plan to spend considerable time on this accelerated course. Approximately four hours a day will be spent in structured course activities. Additional time will be needed each day for readings, doing research on the web, working on projects, reviewing past materials, and making sure you keep moving at the fast pace of this course. It is reasonable to expect to spend a total of 8 to 10 hours every day on the course; some students may need more than this amount of time.
   c. The course will use both weekdays and weekends and is planned to meet for 12 days without a break.
   d. Students must believe they are able to successfully absorb a large amount of information and use it effectively in a relatively short period of time.

Textbooks

Required

Title: *App Inventor: Create Your Own Android Apps*
Author: David Wolber, Hal Abelson, Ellen Spertus, and Liz Looney
Publisher: O'Reilly Media, 2011
ISBN 978-1449397487

Academic Honesty

Students are expected to have read the statement on academic integrity available http://www.luc.edu/academics/catalog/undergrad/reg_academicintegrity.shtml. This policy applies to the course. The minimum penalty for academic dishonesty is a grade of F for that assignment. Multiple instances or a single severe instance on a major exam or assignment may result in a grade of F for the course. All cases of academic dishonesty will be reported to the department office and the relevant college office where they will be placed in your school record.

Academic dishonesty includes, but is not limited to, working together on assignments that are not group assignments, copying or sharing assignments or exam information with other students except in group assignments, submitting as your own information from current or former students of this course, copying information from anywhere on the web and submitting it as your own work, and submitting anything as your own work which you have not personally created for this course. If you do wish to use materials that are not your own, please check with me ahead of time and cite you source clearly. **When in doubt, ask first!**

Course Objectives and Goals

Upon the successful conclusion of the course, the student will be able to demonstrate these Loyola Core Knowledge Areas and Skills Development in the ways shown:

1. Represent and interpret quantitative information symbolically, graphically, numerically, verbally, and in written form using mobile phone applications. Understand how key graphical and functional aspects of mobile applications are defined, created, and tested.
2. Demonstrate knowledge of the operation, application, and limitations of technologies important to his/her discipline. Show the ability to define computational tasks and create mobile applications to implement them. Students will become better equipped to judge when to develop custom computer programs.
3. Select tools of technology appropriately in decision-making or to solve a problem. Understand the capabilities and limits of mobile applications and the Google AppInventor approach to app development.

Course Grading

Your grade will consist of these components with relative weights as follows (I reserve the right to adjust the percentages in **your favor** if circumstances warrant). See in addition the section on Timely Completion and Academic Honesty.
1. Assignments – Programming and other assignments (40%). Programs will be graded on correctness of operation and style (design, understandability). No points for programs that do not run in the correct version of the tools used in class. Non-programming assignments, and in class assignments, if any, covering any topics in the course. These assignments will be graded based on completeness and other criteria defined in the assignment.
2. Labs – Hands-on work usually online (15%). Labs will be graded on completeness and correctness and must be completed during the assigned time for points.
3. Participation (5%). All students are expected to attend all class sessions (face to face and/or online synchronous sessions) in person for the full time period. The

participation grade will be based upon attendance and contributions to discussions in these sessions, and full, enthusiastic involvement in the hands-on computer work, and your regular and specific discussion board contributions and commentary. Attendance will be taken in class sessions (including online sessions).

4. Presentations (15%). Presentations as assigned, including individual and group work. Presentations require prior planning and presentation materials. Presentations will be graded on completeness, the success at meeting the assigned topic, and the ability of the presentation to work with the indicated tools.

5. Examinations and Quizzes (25%). One midterm and one final examination scores. The final exam will be a larger part of the grade than the midterm exam (the final will be worth roughly twice as many points as the midterm exam). In class quizzes, generally unannounced. A pop quiz may be given in class at any time without prior notice; it may cover any topic in the course to date. This approach serves to encourage you to keep up-to-date on study assignments. There will be no "make-up" quizzes or exams unless you have made prior agreed to arrangements to be excused from class that day.

Your total points will be converted to a number in the range of 0 to 100 based on the percentages above for each type of assignment. Calculations will round fractional percentages below .500 down to the full number. I reserve the right to adjust this grading scale in your favor if it is warranted.

	95-100 = A	90-94 = A-
87-89 = B+	82-86 = B	79-81 = B-
76-78= C+	71-75 = C	68-70 = C-
65-67 = D+	60-64 = D	
59 and lower = F		

If for any reason you do miss a class session, it is your responsibility to determine what you missed, locate any handouts, determine any changes in assignments, course plans, or schedules, etc. It is not my obligation to help you make up for missing class.

Grades on each assignment are posted in Sakai. Sakai also allows you to see your current total and an estimate of your current grade (weighted as above). Points on assignments and grading comments are to be reviewed promptly by the student. To encourage your use of the grading comments to improve learning, requests for further explanation or adjustments to your score must be made no later than two weeks after the points are posted; after that time the grading is final and cannot be changed.

Please do not ask for "extra credit" to improve your grade as this is neither practical in the course nor fair to your fellow students. I will be happy to discuss your performance in the course with you at any time, including discussing possible grade based on performance to date and ways to improve your performance during the remainder of the course.

Timely Completion

The student is expected to complete all assignments, readings, and projects on time. In computer systems in the "real world", there is always strong emphasis on getting projects

done on time. Use class to develop your own skills at timely completion. Personal and team programming projects and other assignments will be due as described at time of assignment. See the class schedule for advanced planning.

Late assignment submission is strongly discouraged.
1. Each student will be allowed up to **TWO** (2) late assignments of their choice. Think of this as having two "Late OK" passes. These passes may be used for programming and non programming assignments (not for quizzes, exams, presentations, labs). Late Passes allow you to turn in the assignment up to 48 hours after the due date. Late passes are used by noting your intent to use one in Sakai **before** the due date and then sending me the assignment in email and saying you wish to use a Late Pass.
2. No assignments will be accepted after the due date unless you are using one of your late passes. You must indicate you are using your late pass in Sakai before the original due date and turn in the assignment within 48 hours of the original date. Once your Late Passes are used no more assignments will be accepted after the due date.
3. Assignments are generally submitted in Sakai. You will not be able to submit assignments after the due date and time. Please plan ahead and be sure you complete the submission of the assignment on time.

You are welcome to ask questions on all assignments and course work, seek additional information on the assignments, and offer observations on the assignments to me either in or outside of class. To discourage procrastination, no questions on the assignment will be answered immediately before the assignment is due – please plan your work ahead and do not wait for the last minute to begin work!

Office Hours, Discussion Board, and Help

See my web page at http://cs.luc.edu/whonig/. There will be both traditional office hours and online interactions with me and other students in the discussion boards. If these times do not work for you, please let me know so adjustments can be made. Additional times are available by appointment.

There will be organized discussion sessions to encourage exchange of ideas and for interactions between students. These discussions will use Sakai or other online tools. Participation in the discussion boards for the class will count as part of your class participation grade. The purpose of these boards is for students to exchange questions and ideas. Help other students and share your insights. Asking things like "What's the answer to homework number 3?" is not allowed (obviously). However, you are encouraged to ask for help on details and things that stump you. For example, "Anyone know how to find the average of a variable length list of numbers? I need to do that as part of my programming project 4". Students are expected to both post questions and answer those of others in the discussion board. As a guide, you should be posting valuable new items and answering others helpfully at least three to four times for each class session.

Continuous Improvement

I believe in a personal quality process of continuous improvement. Anything can be improved by applying the quality process of "Plan, Do, Check, Act" (PDCA). To improve the course and the learning of these computer science concepts, I welcome your feedback, comments, suggestions, and complaints at any time.

In support of this PDCA process, I may ask you to participate in surveys during the course. These surveys will measure student impressions of the course; when time permits I will share the results with the class. Your inputs on these surveys are anonymous and in no way affect your grade.