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ICOM3010

SELF DIRECTED STUDY

PhoneGap Exploration

# **Introduction**

My area of study that I have chosen to explore is the PhoneGap technology. PhoneGap is an open source framework that allows developers to create mobile apps for whichever platform they want, such as android, iOS, Blackberry, etc. while only using HTML5, CSS I believe this will be an interesting topic to explore and the rewards will be worth it at the end of the course.

I currently have basic knowledge of HTML5 and CSS and I am just starting to learn JavaScript so I feel that I will be able to gain valuable knowledge and experience with JavaScript while strengthening my HTML and CSS skills during my study. Over the course of my study I will complete a number of tutorials found online that will introduce me to PhoneGap, starting with the installation of the program, then the process of building an app and finally the process of using PhoneGap Build to compile the app and prepare it for publishing. After a couple of these tutorials, I should have enough of an understanding to be able to complete my own application. I will go into more detail about this app in the project summary section of this document.

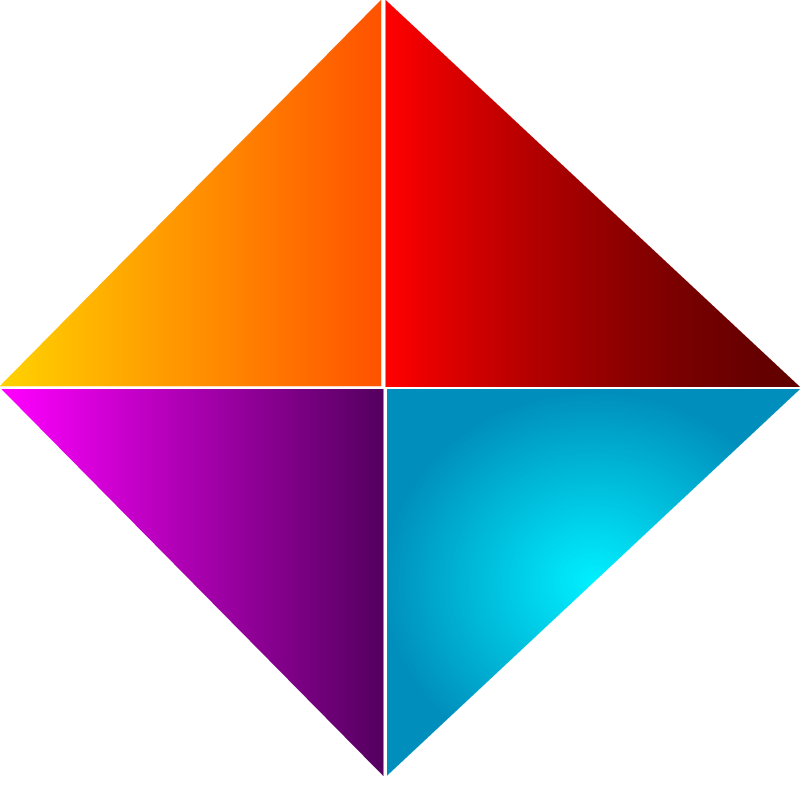
# S.M.A.R.T. Goals

**Goal #1:** Explore the PhoneGap framework and expand my current skills and knowledge of HTML, CSS & JavaScript by developing several small apps through tutorials by March 11.

**Goal #2:** Demonstrate my newly learned skills by bringing it all together and complete my own mobile game as a final project to be completed by April 14.

**Goal #3:** Keep track of my progress, achievements, & challenges in the form of weekly blog postings up until April 14.

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| --- | --- | --- |
| **Acronym** | **Description** | **Developing SMART Goals** |
| **S** | **Specific** | I want to explore the Phone Gap framework so that I can develop an app that can run on multiple mobile platforms. This will strengthen my HTML and CSS skills while also gaining more experience with JavaScript, as well as giving me an excellent piece to add to my portfolio. This will require me to dedicate a specific amount of time a week on learning the technology and implementing my knowledge into developing an application. |
| **M** | **Measureable** | To achieve these goals by the end of the semester I will have to dedicate 6 – 8 hours a week to work with this technology to ensure that I can have a solid understanding of the technology. Later in this document I will outline a timeline of work to be completed each week as a way of measuring the workload ahead of me. To keep track of my progress I will keep a blog of my weekly progress which will detail any accomplishments or challenges that I encounter each week. |
| **A** | **Attainable** | My goals are attainable as I will follow a strict schedule of learning, as well as setting milestones for me to accomplish each week. There are many resources and tutorials online that will help guide me through getting started with this technology and progressing through my learning plan. |
| **R** | **Relevant** | These goals are relevant as they will help me to improve on my existing skills while developing new skills at the same time. It will give me the opportunity to learn a new technology completely on my own which will be rewarding as it will help me determine my own process of self-learning. This will make me more valuable to potential employers once I get out in the field. I also feel that it will be useful to know how to use this technology in the future as I will be able to develop apps that can be deployable on multiple platforms without having to deal with multiple SDK’s and multiple files for each language. |
| **T** | **Time Bound** | There is a major time constraint on my goals as the final presentation is April 14. I will have to make sure that I have all of the learning completed well before this date in order to complete the app which is my ultimate goal. This means I have a lot of work ahead of me and I must make sure I keep myself on track for me to be successful. |



**THREATS**

* **Scope creep**
* **Strict deadlines**
* **Non–facilitated course - used to facilitated courses**
* **Many projects on the go at once – easy to get over focused on one thie - easy aced chnologyng**
* **No prior experience with iOS development**

**OPPORTUNITIES**

* **Experience gained from working with a new technology**
* **Excellent portfolio piece**
* **Ability to develop apps for multiple mobile platforms with HTML, CSS & Javascript**
* **Phone Gap is becoming more popular as it does not require the developer to use multiple languages to deploy the app across multiple platforms**

**Analysis**

**WEAKNESSES**

* **Time Management**
* **Procrastinator by nature – Must avoid this at all costs!**
* **Tend to overthink problems sometimes, leading to me believing the problem is more complicated than it really is**
* **Lack of confidence in my programming skills at times**

**S.W.O.T.**

**STRENGTHS**

* **Creativity and design**
* **Prior knowledge of basic HTML & CSS**
* **Very good at grammar, punctuation & formatting documents**
* **Work well under pressure and dealing with stress**

# Course Summary

As I mentioned in my introduction, I will be using HTML5, CSS & JavaScript in conjunction with the PhoneGap framework to develop my own app by April 11. I have had prior learning with HTML and CSS and enjoyed learning and using both. I am currently in the process of learning JavaScript in RIA and as well as Flash Game Project so I feel like I will get lots of practice with it and it is my goal to have a solid understanding of it when the semester is over. Using PhoneGap will be a completely new learning experience from which I will gain valuable knowledge, an excellent portfolio piece and the satisfaction of being able to explore and learn something new on my own.

I am very interested in mobile apps and games and would like to see myself working for a company in the future developing games. I had the opportunity to develop some small apps and games in other classes during the length of this program which I enjoyed. I especially enjoyed Android development and for my final project I was able to develop my own game, Defuse the Bomb. This semester I am given the opportunity twice to develop my own game, one for Flash Game Project and one for this course. This will give me more knowledge and experience that I will need to pursue a career in game development. The fact that both Flash Game and this course are self-directed learning opportunities will also be a great benefit as it will help me to apply my own learning styles in order to teach myself what I need to be successful in both courses. Over the course of my study I will keep weekly blog posts detailing the work I complete each week, challenges I faced, accomplishments and a general overview of what I have learned. I will be expanding on an earlier blog page that I started last semester. It can be found at the following link: <https://pjbutlersblog.wordpress.com/>

The final application I plan to complete will be a mobile game where the user will control their own virtual ant’s nest, with the ability to expand the nest and gain more ants by spending coins. The user will gain coins every 60 seconds. The amount of coins will be determined by how many ants the user has in their nest. It will have a lot of potential for growth in the future, but for the purpose of this study I am aiming to have a well working application that is playable and scalable by the end of the study.

# Resources

I have found many tutorials and resources online to help guide me through my learning process. I also have a PDF version of a textbook, Beginning HTML5 Games with CreateJS, that will help me with developing my JavaScript skills and knowledge. Finally, if I run into a major problem that I cannot solve on my own, I can go to Sean Morrow for advice or guidance.

List of URL’s to tutorials and online resources:

**Preparing workflow, editors, emulators, etc.:**

[**http://www.tricedesigns.com/2013/01/18/my-workflow-for-developing-phonegap-applications/**](http://www.tricedesigns.com/2013/01/18/my-workflow-for-developing-phonegap-applications/)

**Phone Gap getting started:**

[**http://phonegap.com/blog/build/getting-started-with-phonegap-and-phonegap-build/**](http://phonegap.com/blog/build/getting-started-with-phonegap-and-phonegap-build/)

**Complete Phone Gap tutorial here:**

[**http://www.raywenderlich.com/30734/phonegap-tutorial-a-cross-platform-zombie-app**](http://www.raywenderlich.com/30734/phonegap-tutorial-a-cross-platform-zombie-app)

**Install xcode on windows via virtualization:**

[**http://www.sysprobs.com/guide-install-xcode-6-on-windows-7-or-windows-8-8-1-testing-purpose**](http://www.sysprobs.com/guide-install-xcode-6-on-windows-7-or-windows-8-8-1-testing-purpose)

**Storage tutorial:**

[**https://www.binpress.com/tutorial/local-storage/106**](https://www.binpress.com/tutorial/local-storage/106)

**Hello World app & setting up for android development:**

[**http://code.tutsplus.com/tutorials/creating-an-android-hello-world-application-with-phonegap--mobile-2532**](http://code.tutsplus.com/tutorials/creating-an-android-hello-world-application-with-phonegap--mobile-2532)

# Learning Plan

|  |  |  |  |
| --- | --- | --- | --- |
| **Semester Week/Task Group** | **Content/Topic Description** | **Goal Progression** | **Resources** |
| Task Group 1  Week 4  Jan. 25 - 29 | * Create Github repository * Installation and initial exploration of PhotoGap * Installation and exploration of the PhoneGap emulator * Installation and exploration of PhoneGap Build * 1st Blog posting due | Goals # 1, 3 | \* <http://phonegap.com/blog/build/getting-started-with-phonegap-and-phonegap-build/>  \* |
| Task Group 2  Week 5  Feb. 1 - 5 | * Explore developing on iOS * Explore developing on Android * Select desired platform to further develop with and set up workstation accordingly * Prepare my workflow with the help of an online guide * Create my first Hello World app for PhoneGap * 2nd Blog posting due | Goals # 1, 3 | \*[**http://www.tricedesigns.com/2013/01/18/my-workflow-for-developing-phonegap-applications/**](http://www.tricedesigns.com/2013/01/18/my-workflow-for-developing-phonegap-applications/)  \* |
| Task Group 3  Week 6  Feb. 8 – 12 | * Re-design a Java dice rolling app using HTML, CSS & JavaScript * Re-design a Java fraction adding app using HTML, CSS & JavaScript * **Progress meeting #1** * 3rd Blog posting due | Goals # 1, 3 | \* dice rolling app & fraction adder app developed in Java |
| Task Group 4 Week 7  Feb. 15 – 19 | * Explore methods of storing data of applications * Create an app that saves user data using two types of storage * Design concept art for final project * 4th Blog posting due | Goals # 1, 3 | **\*** [**https://www.binpress.com/tutorial/local-storage/106**](https://www.binpress.com/tutorial/local-storage/106) |
| Task Group 5  Week 8  Feb. 22 - 26 | * Create a zombie checklist app with the guide of an online tutorial * 5th Blog posting due | Goals # 1, 3 | **\***[**http://www.raywenderlich.com/30734/phonegap-tutorial-a-cross-platform-zombie-app**](http://www.raywenderlich.com/30734/phonegap-tutorial-a-cross-platform-zombie-app) |
| Task Group 6  Week 9  Feb. 29 – Mar. 4 | * Develop a random compliment generator * 6th Blog posting due | Goals # 1, 3 | \* Random Insult Generator developed in Java |
| Task Group 7  Week 10  Mar. 7 - 11 | * Begin visual design for final project – sprite sheets, animation design, etc. * **Progress meeting #2** * 7th Blog posting due | Goals # 2, 3 |  |
| Task Group 8  Week 11  Mar. 14 - 18 | * Final Project work week {develop and design Ant class,   design Ant movement & functionality}   * 8th Blog posting due | Goals # 2, 3 |  |
| Task Group 9  Week 12  Mar. 21 - 25 | * Final Project work week {develop coin collection and spending functionality, develop purchasing new ants and nest floors functionality} * 9th Blog posting due | Goals # 2, 3 |  |
| Task Group 10  Week 13  Mar. 28 – Apr. 1 | * Final Project User Testing * Implement Changes/Fixes determined through User Testing * 10th Blog posting due | Goals # 2, 3 |  |
| Task Group 11  Week 14  Apr. 4 – 8 | * Final Project finalization work week * 11th Blog posting due | Goals # 2, 3 |  |
| Task Group 12  Week 15  Apr. 11 - 14 | * Final Presentation & Reflection * Final Blog posting due | Goals # 2, 3 |  |

I have planned some weeks to be lighter than others to accommodate for heavier workloads in other courses during these weeks.

# Gantt Chart

# Conclusion

I am looking forward to exploring PhoneGap in a self-directed setting and being successful in my pursuit of enhancing my programming knowledge and adding to my skill set. My method of self-motivation will include rewarding myself when I complete a milestone. Rewards could include a gaming session at the end of each week as a method of unwinding from the week. Another method of self-motivation is the desire to be able to develop my own apps on the side after I finish the course and get out into the industry, as well as the satisfaction of having my diploma and a rewarding career at the end of the course.

I will demonstrate my accomplishments during my final presentation with a collection of completed challenges, a working game of my own design and a series of blog posts detailing my progress in my self-directed study. I plan to have my final project ready to deploy on the platform of my choosing, whether it is Android or iOS. That is still to be determined, pending further research.

Once I am finished my course and out in the field, I will find more languages and/or technologies that interests me and develop a new personal learning plan, much like this one, and make it a goal to learn the new information. This will help to keep me up to date with new and trending technologies and ensure I can adapt with the field. My career path will no doubt also have an impact on the areas I choose to explore; as I will want to pursue technologies and languages that relate to the company I will be working for. This will make me a much more valuable employee and therefore an asset to the company.

Another opportunity I have to further my learning is a possible collaboration with a friend who is also a programmer, already in the industry in Vancouver. With GitHub and project management resources like Trello, it is getting easier for developers to collaborate on projects together, even over long distances. He has recently expressed an interest in developing apps on the side for fun and this could be a great opportunity to share knowledge with eachother and possibly develop some excellent projects together in the future.