Subsurface

iOS Companion App

Yousef Hamza - GSOC 2014

Personal information:

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Idea: iPhone Companion App

Brief info about me:

I'm second year Software Engineering Major, Straight forward 20 years old guy, With a genuine love for programming, iOS user and love problem solving participated in some programming competitions like ACM ECPC, IEEE Extreme, Google Code Jam and Facebook Hacker Cup, I studied programming a little before I go to college -my first programming language was C, Appreciate how programming can touch lives reach new people anywhere.

Summer Availability:

My summer will be dedicated for GSOC since I have no other commitments for the summer so far, Maybe just a couple of days vacation but that's it for the summer, the problem with the timeline this year is that it the mid-term evaluation will be in the last couple of days of the final exams, but will overcome it no problem there.

Syllabus courses:

Digital Design, Computer Networks, Computer Architecture, Operating Systems, Data structures and Algorithms.
This semester: Database Systems, Software Testing and Validation, Object Oriented Design, Design of compilers, Electronic Design Automation

Other Courses "out side College":
Programming Methodology, Programming Abstraction, Git Essential Training, Objective-C Essential Training, iOS Essential Training.

About the project:

I believe building a companion app for iOS is very very important for Subsurface to reach a way more wider user base since we are living in the mobile age and missing a huge platform like iOS is problem consider solving as soon as possible.

So my proposal for Subsuraface this year will not just implement an app that will not just be a way to gather geo locations and send it back to a web service backend, it will be more like a complete companion app -with laser focus on it's still a mobile app and the experience is very different there-.

What that means is that it will have a list of logbooks -synced or made on the app- but due to it's mobile nature it will have more utilities.

This is a very ambitious big project, Again very important for Subsuraface.
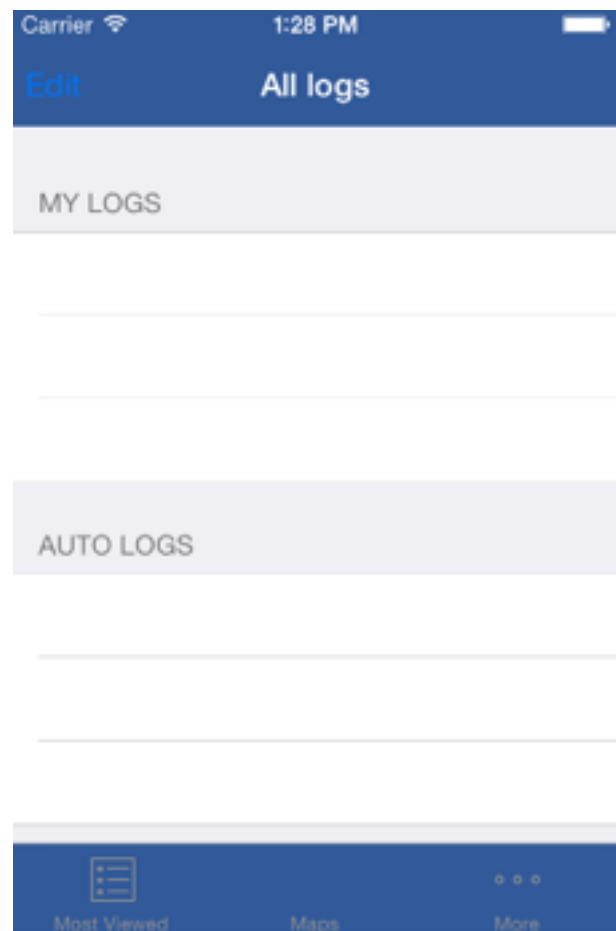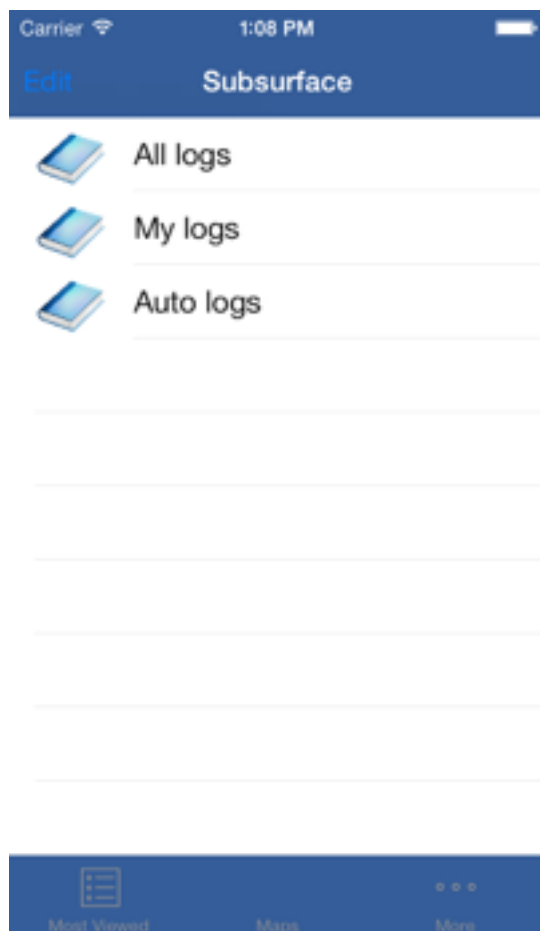
Technical Details:

The UI:

The main principle for the UI will be not forcing the mobile nature of the app and figuring out how to make it without disturbing that mature, And following Apple HIG.

Mainly the UI will be 3 parts:

1- The logs, list of the them and option to create new ones, automatically or with a form to enter info by hand.
Note: I'm still in the process of finding a fairly simple and mobile friendly way to implement the form to fill the info by hand.
More: I will make a custom cells for the the table views that shows both the logbooks and the logs

2- The maps section that works similar to similar to the locations like the older iOS photos app.
Note: Using Google maps or Apple maps -or any other if preferred- will depend on the community totally.

3- Settings page to control for the users if they want more control over the app if they want.
-It will be more like the Android app settings functionality-

The web service backend:

I will be straight forward at this point, what I know about this now is names and concepts, but I am and always been a self-learner, Actually due that I was always a step a head from my official department syllabus.

But this semester I have 2 big web projects so be the time coding starts I will have this covered totally.

Future proofing - Update to iOS 8- "Optional":

Since the WWDC'14 will probably be set in June and more probably they will announce iOS 8 BETA and iOS 8 SDK, and by my motivation for perfection the app will be updated for iOS 8, and the New hardware if Apple did something new with the next iPhone.

The plan:

Period	Column
Until 18th May	- Studying how to implement the web service backend and build a several prototypes for it. - Getting to know the community more and more and it's activities. - Getting to know the app functionality more.
Week 1	- Finishing all the details and the design decisions
Week 2	- Set the project classes and custom classes and complete UI of the App. - And share it with community and take their feedback
Week 3-4	- Implementing the Functionality of the app "The logbook, Custom cells, web service backend"
Week 5	- Testing the app and fixing it "UI bugs" and testing it on my iPhone for any real life bugs.
Week 6 **"Mid-Term Evaluation"**	- Setting the final touches on the app, check the mentors any additional last minute "enhancements" for the evaluation. - Share the app with the community and take their feed back.
Week 7 **"starting 28th May"**	- Implementing the map view for the app, and maps functionalities.
Week 8	- Will be testing/vacation, Take the app on a trip for my first dive and check it's functionality myself and fixing any bugs.
Week 9	- Translating the for Several language
Week 10	- Studying iOS 8 and update the app for any new features needed.
Week 11-12 **"Final Evaluation"**	- Checking final details with the mentor and the community for last enhancements. - Finish the app documentation and a tutorial page for first time users. - Submit the app to the App store
Beyond the scope of GSOC 2014	- Update the app to the next iPhone, maintaining the app and engage with developers who want to add features to it in the future.

Risk management:

If any surprises happen during those 12 weeks and we indeed need more time, the time will be cut off the update to iOS 8, and updating the app to iOS 8 will be set for later beyond the scope of GSOC 2014.

Subsurface Questions:

When did you first hear about Subsurface?
- Through Google Summer of Code 2014.

Do you have any diving experience?
- No, but I think if accepted I will have my first this summer.

What attracted you to Subsurface?
- For the most part the community! lovely, engaging and dedicated to the Application, I totally loved the community.

What other open-source tools do you use?
- LibreOffice, Eclipse IDE, Git, and several open source libraries.

Describe any participation by you in the Subsurface community
- I pointed 3 errors in the building process on the IRC, one fixed, one not added, one not fixed.
- Commented on a bug that I tried but I think it wasn't a bug after all "the AL100 Cylinder issue that the size is set to 12.6 liter"

Describe any contributions you have made to Subsurface development
- I currently working on the some bugs, I already built the app and familiar with the code, tried some bugs, one turned out to be correct after all.

In exactly two sentences, why should we pick YOU?
- I love the community, love the iOS, self learner, a motivation for perfection, willing to engage to the community beyond the scope of GSOC 2014, totally free for the project this summer.

Describe any plans you have for the summer in addition to GSoC.
- None.
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What programming projects have you completed?
- I've done many projects in College "C++, Java, verilog"
- Wrote a complete math calculator with a friend MathCalc "C++ and Qt"
- Contacts App in Java
- Several games in Java
- Simple iOS apps.
- "The biggest part of my programming!"Problem solving like"Code forces, Topcoder, SPOJ"

What are your favorite programming tools (editor, etc.)?
- My favorite programming language is C++/C "also like objective-C"
- My favorite editor "Eclipse" but Apple Xcode is great too.
- Git for version cotrol.

Describe any work on other open-source projects.
- So far this is my first open source project, my first countable engagement was on Subsurface due to it's lovely community.

List other GSoC projects you are applying to.
- None.