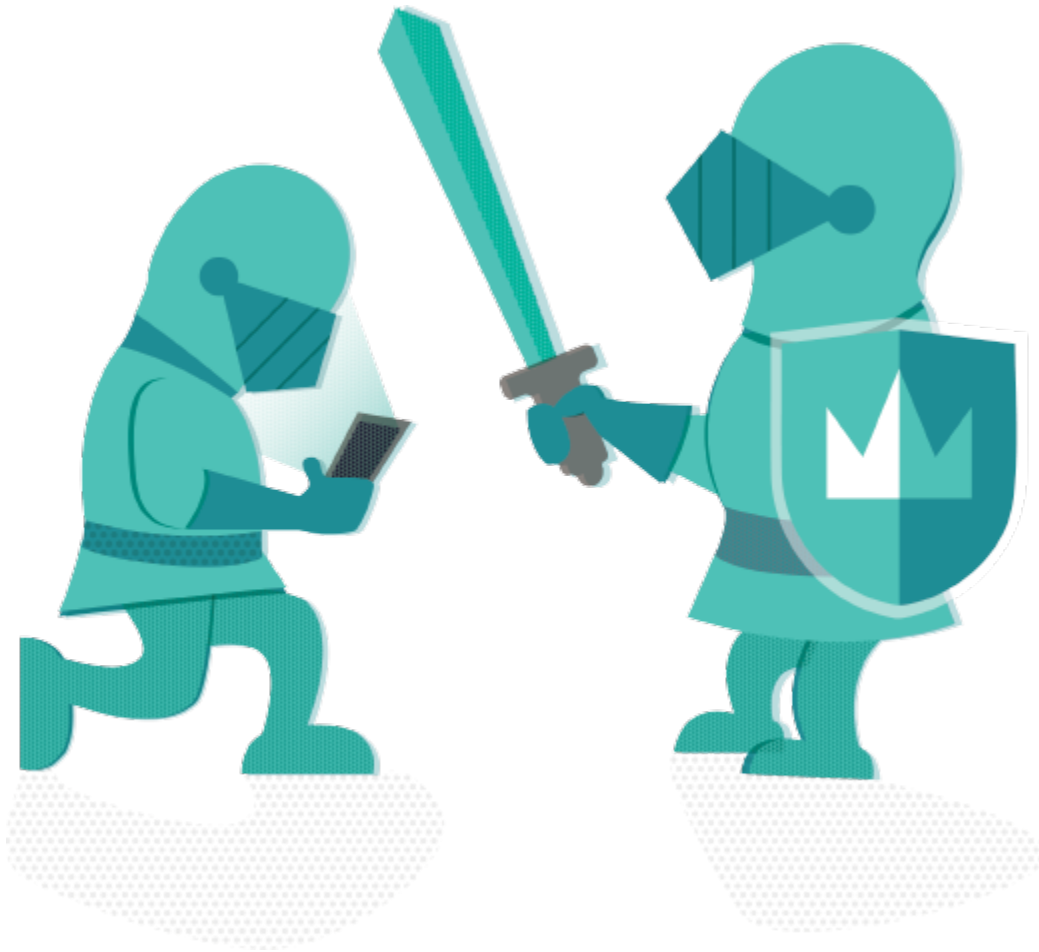


Quest Engineering Challenge



Last Updated: August 18, 2014

Project Overview

Objective

Once upon a time, a brave hero could simply go to a town center to discover a list of quests with which to feed himself. Unfortunately, as with all things, as the world becomes more complicated, the life of a hero becomes more difficult and busy. Today, it is a heroic quest to simply even find the town center. We have been tasked with simplifying this process.

As a potential Mobile Master, your duty is to construct a solution for this terrible injustice in the form of a 21st century Quest-Board. Here, damsels in distress, kings under siege, and townsfolk threatened by dangerous beasts will make their quests available to all the great heroes of the world. By connecting heroes with quest-givers, you will not only improve the lives of citizens in our great kingdom, but also the lives of heroes whom we rely upon.

Outline

This task has been split into six levels, outlining specific requirements which must be fulfilled to continue. However, you are not limited to these requirements. You are encouraged to improve your solution in any way you deem fit.

You will need to create a hosted git repository where you will be expected push your code so we can track your progress. At minimum, you must commit and push your code upon completion of each level so that it may be evaluated. A few things to note:

- While each level outlines the Minimum Viable Product requirements (and some potential enhancements) at each stage, these are not limitations. Any work above-and-beyond the given task will be evaluated.
- You are not necessarily expected to finish the entire project. Time considerations such as work, class, or other life concerns will be taken into account when evaluating how far an applicant has made it into the project.
- You are not necessarily expected to have the knowledge to complete this project—this is simply a test so that we may better know your level of experience. In many cases, the tasks covered in this project will be explicitly discussed in training, as these are challenges we encounter on a regular basis.

Contacts

Should you have any technical questions (Link Issues, Challenge Questions, Etc...), please contact one of the following Master's of their craft.

- Android - android.challenge@myriadmobile.com
- iOS - ios.challenge@myriadmobile.com

Challenge Submission

To submit your challenge, please send an email with a link to your public repository to the email address listed below. Once your email is received, the code shall be reviewed by our in-house Mobile Master's

- Jon Walters - careers@myriadmobile.com

Level 0: Let The Games Begin!

Your Task:

Android	iOS
<ul style="list-style-type: none">• Create a new Android Studio Project<ul style="list-style-type: none">• Minimum SDK of 4.0• Pick a cool app icon!• Create a git repository (Bitbucket, Github, etc) and push your initial commit!<ul style="list-style-type: none">• Clearly display your full name either on the account or in the top level README file	<ul style="list-style-type: none">• Create a new Xcode Project• Create a git repository (Bitbucket, Github, etc) and push your initial commit!<ul style="list-style-type: none">• Clearly display your full name either on the account or in the top level README file

Mission Inventory:

Android	iOS
Welcome Letter: <ul style="list-style-type: none">• https://staging.myriaddevices.com/dropfiles/challenges/android/level_0.zip	Welcome Letter: <ul style="list-style-type: none">• https://staging.myriaddevices.com/dropfiles/challenges/ios/level_0.zip

Hard Mode:

- Great commit messages make life better for everyone.
- Commit small, commit often.

Android
<ul style="list-style-type: none">• Support older platforms; some people just like Gingerbread, i guess!

Level 1: Wireframes

Your Task:

Construct an interface that meets the following conditions:

- Composed of **three** pages:
 - **The First** will be a login page, containing fields for the username and password, as well as a button to trigger the login.
 - **The Second** will be a page to present the list of quests provided.
 - **The Third** will provide detailed information about particular quests from the list referenced above.
- The user must be able to enter the username “**lancelot**” and the password “**kingArthur**” in their respective fields at which point the login button will transition to the second page.
- Incorrect input will result in some indication that the provided information was incorrect.
- Upon selecting a quest from the list on the second page, it will transition to the third page, displaying the corresponding details from the provided information.

Android	iOS
Page means Activity	Page means ViewController

Mission Inventory:

Android	iOS
Example Wireframes for this UI: https://staging.myriaddevices.com/dropfiles/challenges/android/level1wireframes.zip Short List of Quests: https://staging.myriaddevices.com/dropfiles/challenges/android/quest_list.txt	Example Wireframes 1 https://staging.myriaddevices.com/dropfiles/challenges/ios/level1wireframes.zip Short List of Quests: https://staging.myriaddevices.com/dropfiles/challenges/ios/quest_list.txt

Hard Mode:

- In some cases, the wider screen in landscape provides a better layout for some information. Experiment with landscape orientations and supporting rotating between portrait and landscape.

Android	iOS
<ul style="list-style-type: none">• Make the layout readjust when the keyboard pops up.• Use Fragments instead and only have one main Activity. Come up with a tablet friendly interface.	<ul style="list-style-type: none">• Leaving the user unable to dismiss the keyboard often results in frustration and hidden content. Experiment with ways to allow the user better control over the keyboard.

Level 2: Settings

Your Task:

- Add a new page for “**Settings**” with fields for Name, Location of Origin, and the ability to select either **Evil**, **Neutral**, or **Good** as alignment.
- Setting alignment filters the data in the quest list page, so that upon returning to that list, the only quests seen are those for the alignment specified. Neutral alignment, which should be the default, can see both Good and Evil quests.
- Add a button in the quest list page to access the new settings page.

Android	iOS
<ul style="list-style-type: none">• Add and implement a “Remember Username” checkbox on the login screen	<ul style="list-style-type: none">• Add and implement a “remember username” switch on the login view controller

Mission Inventory:

Android	iOS
Example Wireframes for this UI: https://staging.myriaddevices.com/dropfiles/challenges/android/level2wireframes.zip	Example Wireframes 1 https://staging.myriaddevices.com/dropfiles/challenges/ios/level2wireframes.zip

Hard Mode:

Android	iOS
<ul style="list-style-type: none">• Experiment with other settings the user might want to save.• Instead of using the wireframe layout for Settings, try making it look like other settings seen in Android.<ul style="list-style-type: none">• Why would it be ill-advised to actually use the Preferences framework in our case?	<ul style="list-style-type: none">• Experiment with other settings the user might want to save.• Try to present/dismiss settings modally, as it isn't usually the sort of page that would necessarily be part of the navigation stack.

Level 3: Maps

Your Task:

- Our hero needs to know where his quests must take place: Add a MapView to the Quest Detail screen, and display the Quest Giver, and Quest Objective locations on the map.
- The map must display both points.

Android

- Use Google Maps V2, since V1 is deprecated

Mission Inventory:

Android	iOS
Example Wireframes for this UI: https://staging.myriaddevices.com/dropfiles/challenges/android/level3wireframes.zip	Example Wireframes for this UI: https://staging.myriaddevices.com/dropfiles/challenges/ios/level3wireframes.zip

Hard Mode:

- Experiment with custom Markers for quest-giver and quest objective.
- MapViews can display data in a variety of ways—experiment with different map types and options.
- Auto-zooming to fit the content makes it far easier to see where the locations on the map are.
- Go to the Maps app when the user clicks on a Marker

Level 4: Login API

Your Task:

- Sign up for an account at parse.com. Create a new Application. Data is provided in the link below.
 - Import "_User.json" as a User instead of a Custom class.
 - Import "Quests.json" into a Custom class named "Quests".
- Use the Parse app to process authentication for the login page—no longer accept the hard-coded values, and instead use the web service to validate entries.
- Implement a hero-registration page that accepts: **Username, Password, Name, and Alignment**. Use Parse to process the registration.
- Add a registration button on the main login page to allow new heroes to sign up!

Mission Inventory:

Android	iOS
JSON data for importing: https://staging.myriaddevices.com/dropfiles/challenges/quest_challenge_data.zip Example Wireframes for this UI: https://staging.myriaddevices.com/dropfiles/challenges/android/level4wireframes.zip	JSON data for importi https://staging.myriadk Example Wireframes 1 https://staging.myriadk

Hard Mode:

- Attempt to auto-login after registration
- A huge number of apps implement login through social media. See if you can implement Facebook or Twitter login for our heroes

Level 5: Data API

Your Task:

- You must now populate the quest data with information provided from the parse database set up above. This includes the original list, as well as quest details. At this level, you can ignore the images.
- Add an **“Accept”** button to the quest detail page, which enable the hero to “accept” a quest, marking it as such on parse.
- The main quest list should display only relevant quests which have not already been accepted.
- Add a way for our hero to view available, accepted, and completed quests.
- When selecting an accepted quest, replace the **“Accept”** button with a **“Complete”** button, which will mark the quest as complete!

Mission Inventory:

Android	iOS
Example Wireframes for this UI: https://staging.myriaddevices.com/dropfiles/challenges/android/level5wireframes.zip	Example Wireframes 1 https://staging.myriaddevices.com/dropfiles/challenges/ios/level5wireframes.zip

Hard Mode:

- People tend to think apps are more responsive when network calls don't prevent the user from interacting with the interface. Try to move all the network calls to the background, and indicate to the user when the data is being loaded

Level 6: Images

Your Task:

You are now tasked with integrating images into our app!

- For Quests, display the image from parse in the quest list item.
- On the detail pane, display the image of the quest-giver, and the quest-location on the relevant locations on the map!
- Add the ability to take a picture on the registration page, and associate it with a user/hero!
- Display that image somewhere on the quest-list screen after logging in.
- **Note:** all of these should be loaded asynchronously so that the user isn't kept waiting. This means that you also likely should have some way of indicating that an image is not yet loaded or not available.

Mission Inventory:

Android	iOS
Example Wireframes for this UI: https://staging.myriaddevices.com/dropfiles/challenges/android/level6wireframes.zip	Example Wireframes 1 https://staging.myriaddevices.com/dropfiles/challenges/ios/level6wireframes.zip

Hard Mode:

- Facebook made it fairly standard to put user images in circles, and other images in squares. See if you can clip the images so that they're round!
- Add animations to transition from the placeholder to the downloaded image