

RunForIT

13/03/2017

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Project Report

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Introduction

RunForIT was built focusing on personal and technical development of the author, throughout the project span I have encountered multiple problems and have found even more solutions to these problems. This project allowed me to increase my knowledge of JavaScript from basic to a comfortable usage of the language and its technologies. The main goal of the project report is to state all the things that I have learned, implemented in the final product, all the problems encountered and all the features that I have not have no time to implement or had good reasons to drop them.

Problems encountered

Version control/Backup

At the research phase I decided to choose dropbox for the cloud storage of my code, the reason why I chose Dropbox over git was that I wanted to gain some experience in a different service than previously used. During the development in iteration 2 all of my source code during synchronisation got corrupted which caused me to lose two weeks of progress. I managed to rollback one of my backups and go back on the schedule in couple of days. Since the corruption I uploaded all of my code into git, and managed to successfully use it for the rest of the project time.

Voice Synthesis/ Text-to-speech

During the research I identified three most promising solutions, one of them was Mozilla Speech Synthesis API (MSS), during the coding and localhost testing this solution was more than sufficient but once the app was deployed I learned that MSS had no reliable support for Android browser or iOS safari. MSS on mobile produced multiple bugs ranging from small (large text string automatically were being paused during playback) to more important ones like (text not being processed to voice at all, without any logical reason), this problem ended with changing my API to Google Translator Voice Synthesis API.

Facebook/Twitter share

This problem was completely my fault as I have not read the documentation well enough. For my iteration two presentation I have presented a functional facebook share but at the end of the project I have found out that when the application was built none of these two functionalities have been working correctly. The issue was that for the development I have used cordova 5.4.0 but the functionality required (inapp_browser) was only available in the newer version which only was published during the development. As this problem was identified late into the project time I decided to drop this idea as it felt the safer option to choose rather than updating such a big technology during the development.

Distance/Speed calculation

For the distance calculation I decided to use JavaScript implementation of the 'haversine' formula, which worked well but the speed calculation returned a calculation error margin of 15%-20%. As the display of correct speed was the important functionality of my application I decided to spend more time to improve my solution. After some research and tweaking of the algorithm I managed to reduce the error to 0%-5% which was satisfactory.

Review of the project

What I achieved

- Fully functional android/iOS application build in JavaScript
- Stable Client to Server communication
- Implement secure user data storage(email, password)
- Positive feedback on the functionality available
- Offline data in place (7/10 success ratio)
- Successfully implemented weather API into my project as suggested by one of the testing users
- Implemented event creation using Google map and markers
- Manipulate geolocation data to produce required information

What I didn't achieve

- Achievements
 - One of the reason why I did not managed to implement this functionality was that the problems that occurred during development felt more important to overcome than this functionality
- Spotify Player
 - Once iteration one was completed I asked the potential users what were their thoughts on the current state of the app, and asked them about my future plans for it. From this experience I learned that most of the users either use their own local music library to play during their trainings or they listen to audiobooks
- Satisfactory quality of User Interface
- Social login
 - Not implemented due to the cordova problem described above

Description of Learning

During the lifetime of the project I read multiple pages of documentation for multiple API and technologies that I planned to use in my project. At the start of the project I had no real experience with JavaScript or many on the technologies selected, but this was the approach that I decided to take. I focused more on learning new approaches rather than choosing the ones familiar to me, the app that I have chosen I could have built natively for android with no problem in half the time available but I would have very little knowledge gain out of it.

What exactly have I learned ?

- Comfortably code in JavaScript
- Understand keywords associated with JavaScript, HTML and its technologies
 - Controllers
 - Scripts
 - Events
 - Scope
 - Timers
 - doIfTrue loops
 - etc.
- Increased my expertise in technologies available
 - AngularJS
 - jQuery
 - Google APIs
 - Cloud services
 - Web development
- Applying feedback to my application
- JSON data manipulation
- Improved and develop my own research skills
- Improved time management
- Debugging and error logging
- Problem solving

What I would do differently

Looking back at the project there are many things that I would have done differently ranging from IDE to technologies used.

Database

Overall the database that I have chosen worked fine for me, but If time was not a factor I would have chosen something that gives me more freedom when it comes to the table manipulation

IDE

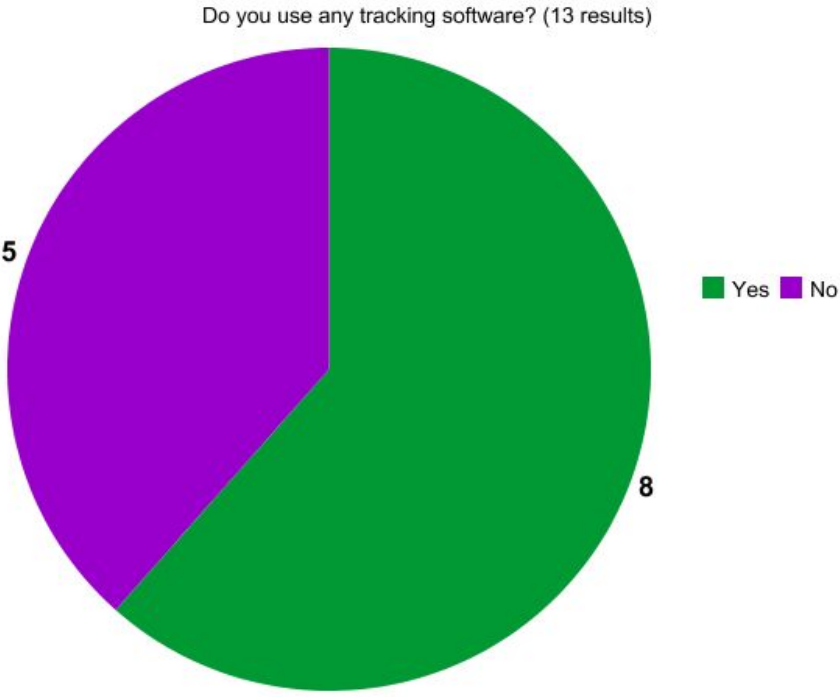
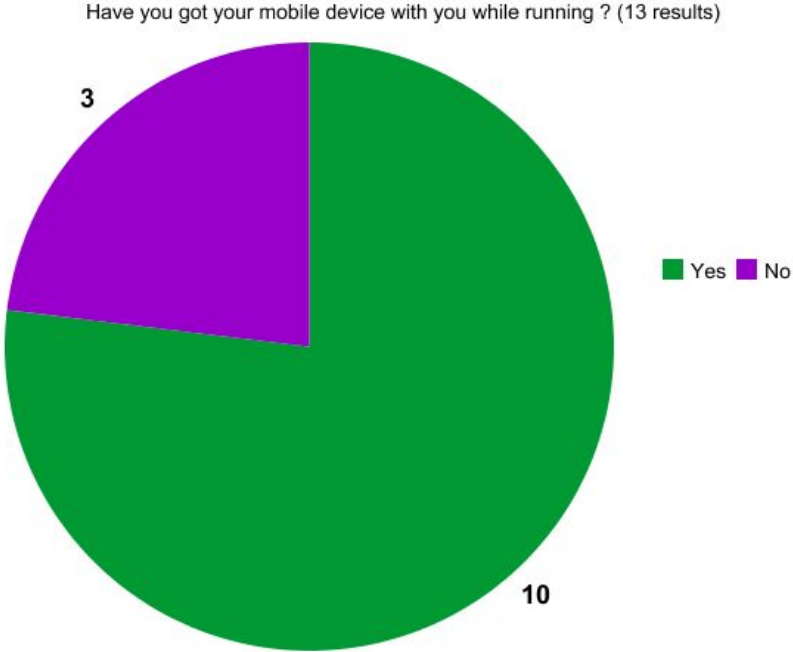
For my IDE I decided to go with Visual Studio 2015, which is a big and complex IDE. If I would be able to start from beginning I would have chosen a more lightweight solution(eg.ATOM)

Voice synthesis

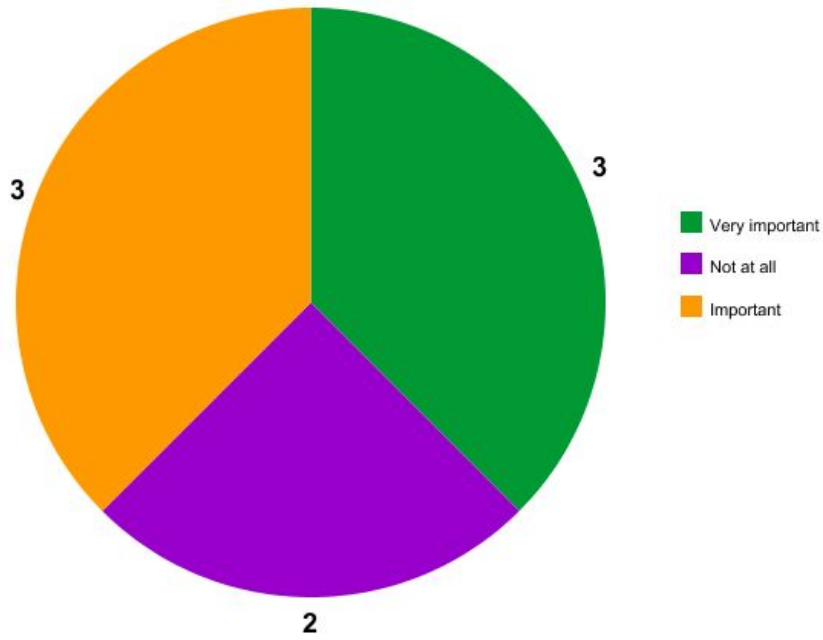
At the start of the project I decided to go with Mozilla Speech Synthesis API, which produced an important problem that was covered above. If I would have a chance to go back and change my approach I would go and chose either Google Translator API(subscription based) or ResponsiveVoice.js(Open source, native to javascript/html5)

Feedback

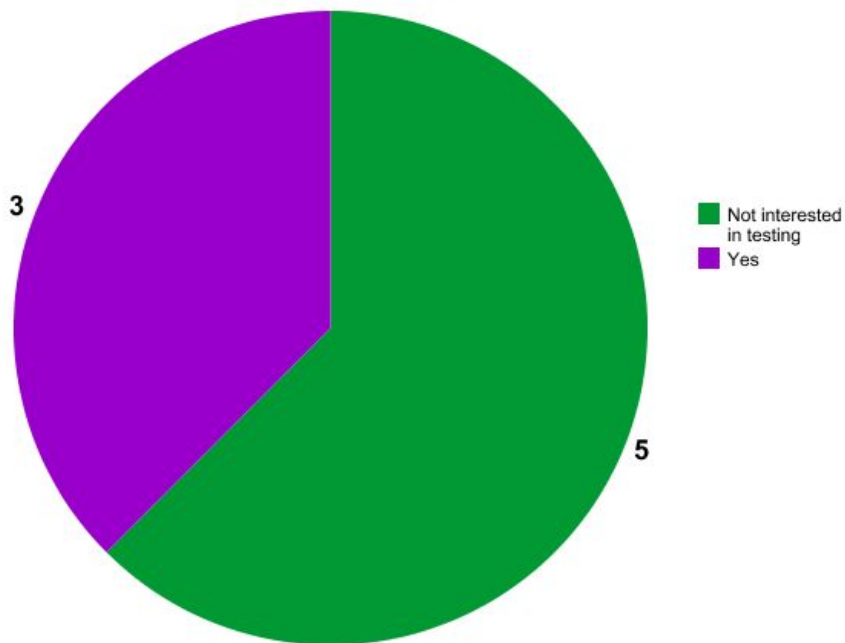
During development



How important is the user interface ? (8 results)

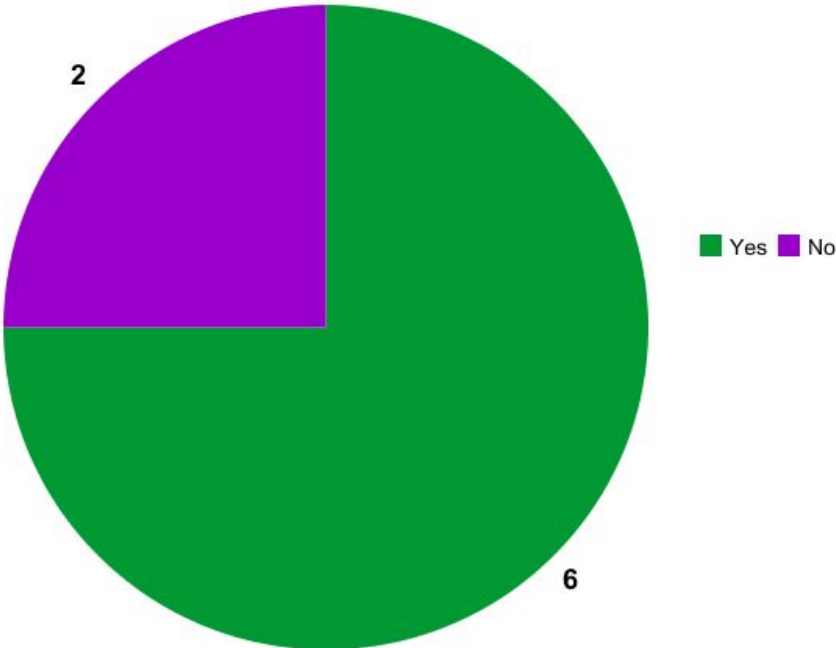


Would you consider testing RunforIT? (8 results)

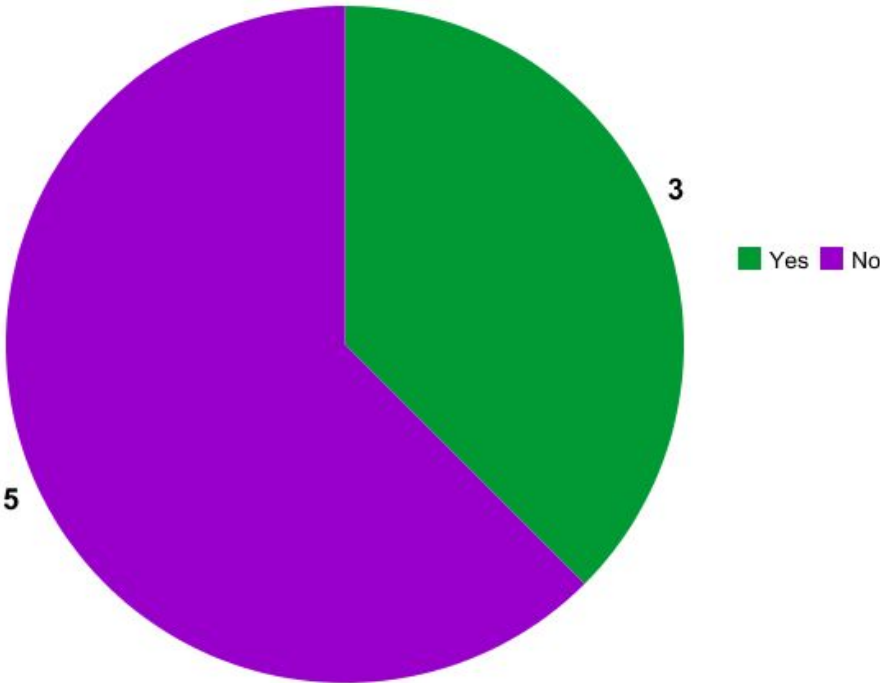


Final version

Are you satisfied with the range of the functionalites? (8 results)



Do you find the UI appealing ? (8 results)



Additional feedback

Some additional feedback that I have gathered from random set of groups

- There is a great gap between users who are for social logins and who are against them
- Responsiveness is important
- Built in spotify player was not a good idea
- Weather information would be a good addition