BSc in Software Development

Year 3

***PROFESSIONAL PRACTICE IN IT***

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*<Github Link* [*https://github.com/MatthewLally/EventPlannerProject*](https://github.com/MatthewLally/EventPlannerProject) *>*

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# Introduction

My Application is an event planner application that allows users to create an account, log in to this account once successfully set up and add, delete and edit their events. This application was designed using the ionic framework. I decided to use this framework as I had previous experience using it from my second year module Mobile Applications Development and I enjoyed working with the framework.

**Aims:**

* My aim for this project was to create an application that accessed an SQLite database and synced with a Couch DB data. I wanted this application to have CRUD functionality and I believe I succeeded in this.

**Objectives:**

* Learn more about Ionic.
* Learn more typescript.

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# System Requirements

* Node Js Installed version 4.2.6
* NPM Version 4.2.0
* Ionic Version 2.2.1
* Cordova Version 6.5.0
* After installing the above run the following commands in a command window
* npm install @types/pouchdb --save --save-exact
* Open a command window in the server folder and type npm install
* Have couch db set up and running on port 5984
* Then finally in a command window type : npm install -g add-cors-to-couchdb
* add-cors-to-couchdb

# Technologies used

I used the following technologies:

* Visual Studio Code
* Ionic 2 Framework
* Couch DB
* SQLite

**Visual Studio Code:**

I decided to use Visual Studio Code as although I had no prior experience with it, from a quick google search it seemed to be best code editor for Typescript. I was happy I decided to use it as it was very easy to use and had a very clean interface

**Ionic 2 Framework:**

I decided to use the Ionic 2 framework for a number of reasons. I had prior experience with the framework in my Second Year Module Mobile Applications Development. I enjoyed the framework and although I had previously only worked with Ionic 1 I decided to give Ionic 2 a try as it seemed the most popular framework for developing mobile applications in HMTL 5.

**SQLite:**

I decided to use SQLite as it appears to be one of the most popular no sql databases currently used. I found the SQLite statements very easy to understand and had prior knowledge of working with SQLite from my third year modules Data Representation and Querying and Mobile Applications Development 2.

**Couch DB:**

I decided to use Couch DB as the server the SQLite database synced with. Couch uses an HTTP REST-based interface. This is very intuitive and very well designed. This allows you to write JavaScript-based apps that call directly into the DB from the client's browser. This worked perfectly with my application

# How the application works

My application is relatively simply to use. When the application is first loaded up the user is presented with a login screen. From here the user can go to an about page , which tells them more about the application, a sign up page where the user can sign up or the user can log in using their credentials. The login is managed by the super login package which managers user authentication. Once successfully the logged in the user is greeted with the home page of the application. From here the user can log out, by clicking the power icon or they can add an event using the plus icon. When the user adds an event it is saved to a pouch dB database which syncs with a cloudb database. The user can edit or delete events from this page also.

The application also has some rules for when you are creating a user. You cannot use the same email address for two different users and the users password must contain six characters or more. The same username cannot be used twice.

# How to run my application

To run my application do the following:

* Look at the system requirements and have correct node, npm, angular and ionic versions installed on the machine
* Download the zip folder of this application from the github link above
* Open a command prompt window in this folder and the server folder
* In the server folder type node server.js
* In the main folder type ionic serve
* Look at the system requirements and make sure you have all these things installed and ready and the application should run on the local host

# References

<https://www.joshmorony.com/building-a-review-app-with-ionic-2-mongodb-node/>

<https://www.joshmorony.com/part-2-creating-a-multiple-user-app-with-ionic-2-pouchdb-couchdb/>

<https://scotch.io/tutorials/creating-a-single-page-todo-app-with-node-and-angular>

<https://www.joshmorony.com/build-a-todo-app-from-scratch-with-ionic-2-video-tutorial/>

<https://gonehybrid.com/how-to-use-pouchdb-sqlite-for-local-storage-in-ionic-2/>

<https://www.npmjs.com/package/server-js>

<http://ionicframework.com/docs/>

<https://pouchdb.com/2015/02/28/efficiently-managing-ui-state-in-pouchdb.html>

<https://github.com/colinskow/superlogin>

https://docs.angularjs.org/api/ng/directive/ngModel

# Known Bugs

The main bug I noticed in this project where that the Couch dB server can sometimes be slow in replying to the requests made to it. This is a big problem as it can negatively affect the users experience when using the application. Another bug I have experienced with this application is that when creating a new user the user will create successfully but then the application will crash. This however does not happen every time.

# Conclusions

I believe that this project was a good learning experience for me as I have improved my problem solving skills, research skills and built confidence in my ability to work as an individual on a project. I have also gained knowledge in how a client server application works and the technologies necessary to create an application like this.

I have also learned how to create appealing interfaces using HTML 5 and SCSS. The research and problem solving skills that I have gained through the development of this project will benefit me on future college projects and assignments.

# Recommendations

For the most part I am happy with this project. However I do have some recommendations. If starting again I would concentrate more on the home page once you log in. I feel I have made two very good pages in the login page and the sign up page. However I feel once the user is logged in the add event page is quite bland and is a let-down. If starting again I would concentrate more on this page although I feel the CRUD functionality on this page does work well. I feel I spent too much time figuring out how to set up the SQLite database and sync it with the couch db server. If starting again I would not of spent so much time doing this.