Assignment 1

Developing a Distributed Application

Assessors: **Ryan Attard**
Assessment Type: **Home assignment**

Assignment Guidelines

Read the following instructions carefully before you start the assignment. If you do not understand any of them, ask your invigilator.

- This assignment is a HOME assignment and deadline is 15/4/2019.
- Fill in the assignment Cover Sheet and Answer Sheets appropriately.
- Copying is Strictly Prohibited and will be penalised according to disciplinary procedures.
- Assignment carries 48 marks;
- Answer all questions.

Read the requirements carefully and implement accordingly:

Create a Web API which connects to a weather service[1] and retrieves filtered weather data and represent it to your clients in a single page angular application. Thus the main features in the web api should be

1) Retrieve weather data once a day/hour from the api you choose and store it in a database of your choice
2) Allow the users to register their details
3) Allow the users to login with your web api; when this is done an access token shall be passed every time with every request.
4) Allow logged in users to select what information they want to see when logging in for example wind speed, wind direction, humidity, temperature, etc and then when calling the api service to retrieve this info return only the selected information
5) Allow logged in users to choose whether they want to see the temperature in Degrees or Fahrenheit: use a 3rd party service to calculate this conversion (either in the client app or directly from the web api)
6) Allow logged in users to select whether they want a more personalized feature where any change in weather data alerts is to be sent directly as a sms[2] to their mobile number. This feature has to be selected against payment. Payment can be done via PayPal express checkout.
7) Upload and deploy your website online. You may use this link[3] for hosting.

In the client application the above should be presented in a clear way however you must make sure that you never expose your source of weather data in your client application.

Marking Scheme:

Criterion	Grading Description	Points Achieved	Max Points
SE1	Construct a solid and robust Service Oriented Architecture which is made up of a backend Web Api and a front end angular app		10

[1] It can be any free weather service of your choice or https://openweathermap.org/api
[2] Use SMS web apis that give you some smses for free such as https://my.textmagic.com/login or http://www.abctext.com/about/sms-overview.aspx
[3] Link if not displayed on doc: http://www.myASP.NET/index?r=100572350

AA2	Create a web service (Web API) with all the above mentioned requirements: 1. – 1pt 2. – 1pt 3. – 2pts 4. – 1pt 5. – 2pts		7
AA3	Use Local Storage to store the access token when logging in		7
AA4	Demonstrate proof that you know how to upload and deploy the Web API on an online server.		7
AA5	Be able to interact successfully with an SMS api that sends out smes as requested in feature no. 6		7
SE3	Implement successfully the Paypal express checkout for feature no. 6		10
Total:			48