Unit:
Agile Development

Assignment title:
Application Development

20 Credit Version

Sample Assignment

Important notes

- Please refer to the *Assignment Presentation Requirements* for advice on how to set out your assignment. These can be found on the NCC Education website. Click on 'Policies & Advice' on the main menu and then click on 'Student Support'.
- You must read the NCC Education documents *What is Academic Misconduct? Guidance for Candidates* and *Avoiding Plagiarism and Collusion: Guidance for Candidates* and ensure that you acknowledge all the sources that you use in your work. These documents are available on the NCC Education website. Click on 'Policies & Advice' on the main menu and then click on 'Student Support'.
- You **must** complete the *Statement and Confirmation of Own Work*. The form is available on the NCC Education website. Click on 'Policies & Advice' on the main menu and then click on 'Student Support'.
- Please make a note of the recommended word count. You could lose marks if you write 10% more or less than this.
- You must submit a paper copy and digital copy (on disk or similarly acceptable medium). Media containing viruses, or media that cannot be run directly, will result in a fail grade being awarded for this assessment.
- All electronic media will be checked for plagiarism.

Introduction

Find My Builder (FMB) is an organisation in your area that matches up local tradespeople (builders, electricians, plumbers etc.) with clients who need work done to their homes or commercial properties in the local area. FMB has a basic website advertising their services, but all bookings are currently carried out via telephone. The company is looking to streamline their services, expand geographically across neighbouring towns and cities and plans to do this by means of enabling bookings via an app.

The mobile app should enable potential clients to enter their location, then choose what specific service(s) they require e.g. a window fitter, a fuse box replaced, a gas boiler service, and so on, their location, and when the job must be done by. The app should then be able to identify which tradespeople have the skills to do the job and who is available to do them before the deadline and offer a quote for the work. If the customer accepts the quote, the app should allow the customer to choose which day they want the work carried out, and to pay a 10% deposit and enter their details. The app will need to connect to a back-end database which stores details of staff, including their skills, and of bookings and payments. The database the company currently uses is a Microsoft Access database.

FMB want the app to be easy to use, noting that their customers have a wide range of IT skills. They are also keen for the app to take visual accessibility into consideration, using larger font sizes, good contrast and other techniques to ensure ease of use for older customers. They are keen for both trades staff, and a selection of their current customers, to be involved in the design and testing of the app to ensure that it will be straightforward for them to use.

Expert Solutions (ES) have a track record in the creation of database driven software applications and application development and have expressed in an interest in developing a proof of concept for this site. The construction agency has decided to contract ES on a "time and materials" basis for the development of their new desktop application and associated app.

The key deliverables associated with this application are as follows:

- Allow customers to register on the app
- Allow customers to view photos of previous work done by tradespeople
- Allow customers to select what trade they require
- Allow customers to select what type of job they require to be done
- Allow customers to select a date by which the work must be completed
- Identify which tradespeople have the skills required to do the work requested and are available to do the work before the customer's deadline
- Allow customers to choose which date the work will be carried out, from the available options.
- Calculate quotes for the price of the work based on the type of job and tradesperson(s) required.
- Allow customers to accept a quote
- Allow customers to make online payments for purchases

Understanding that you are new to this area, the CEO has asked you to put together a plan for a user focused investigation into the topic. You are expected to explain how this problem statement can be turned into a more rigorous requirement specification. You are

not required to write this specification document, only to come up with a plan for how it is to be developed. It is expected to be user focused and incorporate regular checks for approval with the agency management.

Given that you will be managing a new team, you can recruit your own team members. In particular, there will be a round of recruitment aimed at choosing the development team. As part of this recruitment, you will be expected to put together a set of four role specifications for the team you want to build. These role specifications should list key skillsets, expected weight of contribution to the project (full time or part time, or task-based contract), and previous qualifications and experience. When you have set out your person specifications, you should assign the hypothetical candidates to the sprints and timeboxes associated with your development methodology.

You have available a pool of testers and clients as part of the management team, and you will be expected to make reference to these when it comes to setting up your project structure. As with your staff, you can define the person you want for each phase and they will be recruited as needed. However, within *ES*, you will need to collaborate with a named person in the organisations structure.

Potential FMB Staff:
Below is a list of potential staff roles that could be used
- **CEO**
- **Head of Recruitment**
- **Head of Finance**
- **Head trades person (Joiner, Plumber, Electrician, Builder)**
- **Admin Manager**
- **Admin Assistant**

Tasks

Task 1 – 20 Marks

As you are new to both app design and software development within this business context, you are to critically discuss your chosen development methodology and explain why it is appropriate for a data-driven scheduling project like this application. Your report should

- outline the EIGHT (8) principles of DSDM Atern **and** evaluate how these principles will be applied to the project (16 marks)
- briefly compare and contrast agile development with traditional approaches and explain how agile methods can be used to effectively reinforce user feedback through the project (4 marks)

This task requires 850 words.

Task 2 – 12 Marks

Create the person specifications for the FOUR (4) hypothetical people you will look to recruit to the project. For each of these people, you should define:

- Skills
- Experience
- Weight of contribution

This task requires 650 words.

Task 3 – 9 Marks

You have been asked to explain the importance of the Business Ambassador role in the Solution Development team and have been asked to identify a suitable individual to perform the *Business Ambassador* role in the Solution Development Team.

Provide a response which:

- Explains the role of the Business Ambassador and why it is important. **(5 marks)**
- Identifies a suitable candidate for the Business Ambassador role (from those created in Task 2) and provide TWO (2) reasons why the selected candidate is suitable **(4 marks)**

This task requires 650 words.

Task 4 – 25 Marks

Produce an annotated diagram that shows the iterative involvement of: (1) each member of the team; (2) the tasks with which they will be set; and (3) how the software will be prototyped. The diagram should also show how users are to be incorporated into the process and which members of the construction agency will be involved.   Do this with relation to the Identify → Plan → Evolve → Review iterative development cycle.

Task 5 – 24 Marks
Part a) 20 marks
Provide a plan for the project, with the expectation this will be presented to the CEO. You should provide information on the following key elements:

- Timeboxes
- Estimates
- Expected sprints
- Anticipated deliverables

Part b) 4 marks
You should also provide a completed Project Approach Questionnaire that addresses each of the key elements and provides your view as to where the criteria have been met.

This task requires 850 words.

Task 6 – 10 Marks

Using the Rolfe, G., Freshwater, D. and Jasper, M. (2001) model, critically review the learning that you have undertaken in order to complete this assignment.

Based upon your learning, your reflection should include a description; an analysis and; an action plan in order to bring about improvements in the future.

This task requires 200 words.

The word limit for the entire coursework is (FOUR THOUSAND) 4000 words.
Task 4 diagram is equivalent to 500 words and the PAQ is equivalent to 300 words

Submission requirements

A word-processed document must be submitted incorporating the full documentation of all tasks of the assignment above. Diagrams created using alternative software should be converted into a suitable image file format (e.g. JPEG) and inserted into the document as images. The document should be submitted both in paper form and digital form. Digital copies should be on an appropriate medium (CD, DVD, USB flash drive, etc.).

Candidate checklist

Please use the following checklist to ensure that your work is ready for submission.

Have you read the NCC Education documents *What is Academic Misconduct? Guidance for Candidates* and *Avoiding Plagiarism and Collusion: Guidance for Candidates* and ensured that you have acknowledged all the sources that you have used in your work? ❑

Have you completed the *Statement and Confirmation of Own Work* form and attached it to your assignment? **You must do this.** ❑

Have you ensured that your work has not gone over or under the recommended word count by more than 10%? ❑

Have you ensured that your work does not contain viruses and can be run directly? ❑