

# **Assignment**

# **Real World Application**

## ***for a local organisation or business***

<b>ID</b>	T3-1
<b>Title</b>	Real World Application for a local organisation or business
<b>Course</b>	CA FastTrack Bootcamp (DIT)
<b>Term</b>	3
<b>Date</b>	Fri, 29-June-2018
<b>Revision</b>	2

## 1. Background

A full stack developer needs to be able to demonstrate they can build a complete application from design through to deployment for a commercial client (using appropriate tools and methodologies).

This project covers off many Diploma units of competency required for accreditation.

## 2. Description

You are to design, build, deploy and present a web application (app) built for a real world customer.

Find a business or organisation (preferably near Coder Academy) to build an app for.

Meet with the business owner or organisation manager to find out what challenges they face. Find a problem that you can solve with an app and present your ideas to the client.

The project must be completed in the assigned groups.

### 2.1 Coder Academy as a client

If you have difficulty finding an external client, you can request Coder Academy to be your client. Sample projects that may be available include,

- a. A job board - a place for companies and startups to list jobs that will be available to Coder Academy students.
- b. A financial news community site (think Hacker News)
- c. An automated internship application
- d. Ask your Educators about business challenges to come up with your own idea.
- e. Your Educators will act as the client for these projects.

### 2.2 Setting expectations with your clients

- a. When approaching your client, be upfront about this being a project you are doing as part of your Diploma.
- b. There is to be no expectations on you, the students, to deploy the application for use of the client. Make sure the client is aware of this and that it is agreed upon.
- c. There is to be no confidentiality agreement to be entered into.

### 3. Assignment Structure

This assignment is divided into three parts,

- Part A - Questionnaire
- Part B - Complete Project
- Part C - Presentation

Each part has its own requirements and due date. Refer to the following sections for details.

## 4. Part A - Questionnaire

Part A focuses on your research, pre-planning and design documentation.

### 4.1 Deadline

Your educators will provide you the deadline for this Part A.

### 4.2 Deliverable

Create a **Readme** (in markdown format) and answer each question below,

1. Who is your client?
2. What is your client's need (i.e. challenge) that you will be addressing in your project?
3. Describe the client's current setup and data.
4. Describe the project will you be conducting and how your App will address the client's needs.
5. Identify and describe the software (including databases) to be used in your App.
6. Identify and describe the network setup you will use in your development.
7. Identify and describe the infrastructure (i.e. hardware) that your App will run on.
8. Describe the architecture of your App.
9. Explain the different high-level components (abstractions) in your App.
10. Detail any third party services that your App will use.
11. Identify the database to be used in your app and provide a justification for your choice.
12. Discuss the database relations to be implemented.
13. Provide your database schema design.
14. Provide User stories for your App.
15. Provide Wireframes for your App.
16. Describe the way Tasks are being allocated and tracked in your project.
17. Discuss how Agile methodology is being implemented in your App.
18. Provide an overview and description of your Source control process.
19. Provide an overview and description of your Testing process.
20. Discuss and analyse requirements related to information system security.
21. Discuss methods you will use to protect information and data.
22. Research what your legal obligations are in relation to handling user data.

Answers to these questions will help form part of your documentation for Part B.

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### 4.3 Submission

- This part (Part A) must be submitted via Canvas
- Each team member must do their own submission
- Your submission is to be 1 zip file with the following guidelines,

#### 4.3.1 Filename

Use the following convention to name the zip file,

Filename Template	Example
<FullName>_Assignment_T3-1_PartA.zip	Student name: Luke Skywalker Submission filename: LukeSkywalker_Assignment_T3-1_PartA.zip

#### 4.3.2 Contents

Your zip file must contain the following folders/documents,

Folder	Contents
Doc /	<ul style="list-style-type: none"> <li>• <b>Readme.md</b>: This file must include, <ul style="list-style-type: none"> <li>◦ Answers to all questions specified above</li> </ul> </li> <li>• All asset files embedded in the Readme file (e.g. images, etc)</li> <li>• All documentation in this folder must be in either pdf, jpeg, png or markdown (md) format</li> </ul>

**Note: All links to online material should have corresponding screenshots included in submission.**

## 5. Part B - Project

Part B focuses on your entire project, including source code and documentation.

### 5.1 Deadline

Your educators will provide you the deadline for this Part B.

### 5.2 Deliverable

In addition to your project source code and assets, all the sections below should be addressed in your main Readme document.

#### 5.2.1 Project Management

Demonstrate your ability to satisfy your client with the quality of your work and high level of service.

- a. Record interactions with your client in a diary format
- b. Plan information gathering activities to determine project requirements, constraints and risks
- c. Develop project charter, including preliminary statement of project scope and obtain sign-off
- d. Prepare project work breakdown and schedule
- e. Allocate roles and responsibilities to team members, based on project solution requirements
- f. Monitor each other's assigned work
- g. Reassess ongoing project scope changes, risks and issues
- h. Manage system testing and hand over activities. Prepare maintenance or support plans for client
- i. Obtain final project sign-off
- j. As a team, conduct post project review
- k. Create a questionnaire for the client to ascertain the satisfaction with your products and services

#### 5.2 Application Design

Demonstrate your ability to break down the problem and design a solution.

- a. A 350 word summary of your application including problem definition and solution
- b. Review the conceptual design with the client and edit based on their feedback
- c. User stories for the whole application
- d. A workflow diagram of the user journey/s

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- e. Wireframes for all main pages of your app
- f. Entity Relationship Diagram (ERD)
- g. Project plan and effort estimation

### 5.3 Tools & Methodologies

Demonstrate your project management skills,

- a. **Trello** or similar project management tool to be used for Kanban process to track progress of build
- b. **GitHub** Demonstrate use of frequent commits, feature branches (based on user stories), pull requests and merges
- c. Use **Agile** development methodologies
- d. **Code review**. Demonstrate that you have had your code reviewed by other students and that you have provided a code review for others
- e. Show evidence of **client communication**, e.g. meeting minutes, emails, or other communication tools

### 5.4 Technologies

At a minimum use the following technologies,

- Mongo / Mongoose
- Express
- React.js
- Node.js

## ASSIGNMENT T3-1: REAL WORLD APPLICATION

### 5.3 Submission

- This part (Part B) must be submitted via Canvas
- Each team member must do their own submission of the entire project
- Your submission is to be 1 zip file with the following guidelines,

#### 5.3.1 Filename

Use the following convention to name the zip file,

Filename Template	Example
<FullName>_Assignment_T3-1_PartB.zip	Student name: Luke Skywalker Submission filename: LukeSkywalker_Assignment_T3-1_PartB.zip

#### 5.3.2 Contents

Your zip file must contain the following folders/documents,

Folder	Contents
Src/	Source code for your entire app in the original file structure and all required assets/resources
Doc/	<ul style="list-style-type: none"> <li>• <b>Readme.md</b>; This file must include, <ul style="list-style-type: none"> <li>○ A link to your Github repo</li> <li>○ A link to the published project</li> <li>○ Documentation (per Sections above)</li> <li>○ Evidence of your design process</li> <li>○ Database Entity Relationship Diagrams</li> <li>○ Wireframes</li> </ul> </li> <li>• All documentation in this folder must be in either pdf, jpeg, png or markdown (md) format</li> </ul>

**Note: All links to online material should have corresponding screenshots included in submission.**



## **6. Part C - Presentation**

Part C focuses on presentation of your project.

### **6.1 Deadline**

Your educators will provide you the deadline for this Part C.

### **6.2 Deliverable**

In your designated groups you are to deliver a 7 minute presentation to the class.

The presentation should include:

- a. A walk-through of your design decisions and documents
- b. A review of your build process - challenges, favourite parts
- c. A walk-through of your live app and pointing out its features
- d. Answer any questions from students or teachers.
- e. Use this presentation as an opportunity to pitch your ideas to 'investors'.