DATA VISUALISATION

SUMMATIVE ASSESSMENT

Learning outcomes

Successfully completing this project will show you are able to:

× **Create a design that will be easily understood by all target audiences**

× **Produce UML diagrams to model the behaviour of the application**

× **Participate productively in Agile meetings**

× **Select appropriate framework or libraries for the brief and successfully implement them**

× **Use an API effectively to produce a web interface**

× **Use tools to manage project dependencies and tasks**

× **Research technical options for identified requirements**

× **Select appropriate user testing techniques to ensure stakeholders needs are met**

× **Develop a best practices document that ensures Javascript meets quality standards**

× **Contribute code written to an acceptable standard to a remote repository**

× **Use a project management tool to ensure on time delivery**

× **Demonstrate collaborative and/or leadership skills to manage a group web project using version control tools**

× **Apply professional best practices for using an online repository hosting service collaboratively**

Overview

Your task is to work as a team to build an application that is intuitive to use and displays data from an API in an easily understandable representaion. Before production, the behaviour of the application will be modelled and prototypes will be tested. The production of the project will be managed using agile methodologies. All contributed code will adhere to the team's best practices. Project dependencies will be managed and common tasks automated.

General requirements

1. Your proposal should adhere to Yoobee Best Practices, and in particular it must include:

× **research, comparison and justification of technical options, such as framework, libraries, plugins and third-party services**

× **behavioural models of the application using Unified Modelling Language (UML) diagrams**

× **analysis of data visualisation techniques**

× **usability testing results**

× **research to ensure that the API can fulfill the identified use cases**

× **a list of project dependencies and tasks to be automated**

× **a Javascript Best Practices document for the chosen Javascript framework or library and a Javascript Style Guide**

2. The application will be developed using an industry-standard Javascript framework or library.

3. Prototypes will be created to test usability and results will be documented

4. Data for the project will be retrieved from an API.

5. A task runner will be used to automate common tasks in the project and a package manager will manage project dependencies.

6. In each scenario, your tutor will act as the client. Please do not contact any external organisations.

Group project requirements

1. An individual grade will be given to each student. Each student will submit evidence of all the requirements specified in the brief.

2. The web proposal, development (with code attribution) and project management are group work.

3. The project will be stored on a remote repository and team members will regularly contribute to the code through pull requests. Code will not be merged until it meets quality standards in the team's Javascript Best Practices document.

4. Each team member will be responsible for attributing their own work according to best practices. Code that hasn't been attributed will not be marked.

5. During development, each member will complete a blog entry to record agile processes. Each entry will list what they did the previous day, what they will do that day, and any barriers for progress. The team will have a daily stand-up meeting.

6. The team will work together using a collaborative project management tool to follow an agile development process to produce deliverables on time.

7. It is the team's responsibility to manage the project. If a member is not meeting team expectations, leadership, collaboration and project management skills should be used to solve the problem.

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Deliverables

- ○ **Documentation in pdf format**
- ○ **Record of agile development processes**
- ○ **Javascript best practices documentation**
- ○ **Zip file containing the root directory of your project**
- ○ **Presentation file or link**

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Project scenarios

Choose one scenario from below:

Place finder app for a city council

Your local city council has contracted your team to build a single page application (SPA) that will allow visitors to the region to use a map-based interface to easily find destinations such as motels, restaurants and scenic spots. The user should be able to:

- × **view destinations**
- × **learn more about a destination**
- × **have the option to go to that destination's website**
- × **search destinations by category**
- × **find the way to the destination from their current location on a mobile device**
- × **visualise destinations based on the number of Instagram posts or Twitter mentions (this can be hard-coded into the JSON data)**

The city council don't yet have destination data available so you should provide placeholder data (for real destinations in your region) in the meantime. The council would like to make the code for this project available to the open source community but in doing so require the project to build without errors.

Prerequisites

- × **Google API key**

Behance portfolio for a design firm

The design firm you have begun working for has given your team a task of creating an app to show off the work of their designers. This work will be hosted on Behance so the app must consume data from the Behance API.

The firm wants a single page application (SPA) which integrates nicely into their existing site and use the existing header section with main navigation (so it is not necessary to build this).

Using the Behance API, the app should allow the user to:

- × **view a list of designers**
- × **view a designer's details**
- × **view a designer's list of projects**
- × **view a project's details**
- × **visualise the overall statistics of a designer's projects, including the number of views, appreciations, and comments**

Staff members' Behance IDs will be supplied at a later date, so you should use Behance users of your choice in the meantime. The firm would like to make the code for this project available to the open source community but in doing so require the project to build without errors.

Prerequisites

- × Behance membership
- × Behance API Key/Client ID

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Trending Data Visualisation for large screens

One of New Zealand's political parties wishes to have an engaging series of visualisations for display on big screens. The first set of visualisations would be for general display in their offices and would be used for insights into current areas of interest of the New Zealand public . Data would include trending topics relevant to the party.

They would also like a separate interface that could be used during general elections. This would be displayed on a large screen in the party's campaign room.

Mental Health Foundation of New Zealand

The Mental Health Foundation of New Zealand is a charity that works towards creating a society where all people enjoy positive mental health and well-being. As part of a campaign to promote mindfulness they wish to create a series of visualisations that reflect the current health of the nation based on third-party data.

Using external APIs, retrieve relevant data needed to create appropriate visualisations.

Possible API's
  × **Facebook**
  × **Twitter**
  × **Instagram**
  × **LinkedIn**

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