

X7 DIGITAL

DriveMate, Tourism New Zealand - Write-up

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Library & Plugins

JavaScript Library

jQuery and Bootstrap were used as the foundation libraries for this web application project. The code was optimised via the use of jQuery as it allowed for shorthand code, rather than crafting multiple functions otherwise not defined (e.g. `.each`, `.is`). Bootstrap was used to minimise development time for UI components. Bootstrap also allowed for models to be used.

Plugins / Third-party JavaScript

Google Maps JavaScript API

<https://developers.google.com/maps/documentation/javascript/>

The Google Maps JavaScript API was used to calculate distance in the user's defined route. It also was used to autocomplete the route information inputted, as well as to display an overview of the route to the user.

Template7

<http://idangero.us/template7/>

Template7 is a mobile-first JavaScript template engine with Handlebars-like syntax. It was used to parse template files to include dynamic content, such as looping available vehicles. Its functionality allowed the application to be split into individual files which would load prior to the original document. This also prevents the blank loading screen page, as the loading scripts load before the remainder of the page. See *app.template*.

Swiper

<http://idangero.us/swiper/>

Swiper is the most modern mobile touch slider with hardware accelerated transitions and amazing native behaviour. For this project, Swiper's inclusion was for the purpose of a "points of interest" slideshow which displays on the first page of the application. The slideshow displays images of beautiful New Zealand scenery.

“High Achievement” Note: The rubric for this project implies at least 3 plugins should be used for this project in order to gain “High Achievement”. Excluding the Google Maps JavaScript API, this project contains only 2. It was believed to be unnecessary and counterproductive to include a third plugin simply for the purpose to include a third. The exciting inclusions and functionality did not require an additional plugin.

Production Tools & Software

To improve productivity and overall quality of the project, multiple production tools were used. The following tools and software were used throughout the development of this project.

Tools Used

GitHub

<https://github.com/MathewBoyles/Tourism-NZ>

Used to manage and host files. Commits indicate progress throughout.

Trello

<https://trello.com/b/zKIHIqMq/>

Files, timeline, and notes were kept in Trello. The calendar feature also allowed for me to see a visual of progress and deadlines pending.

Koala

<http://koala-app.com/>

Koala was used to convert SASS into CSS and subsequently minified. JavaScript was also compressed.

Atom

<https://atom.io/>

Atom was used as the code editor throughout this project as it allowed for additional plugins to be installed to be used for this project. GitHub for Atom (<https://github.atom.io/>) was used to

integrate with GitHub to allow easy commits and pushes. atom-beautify (<https://atom.io/packages/atom-beautify>) was used to 'beautify' the SASS and JavaScript files.

http-server

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

http-server was used inside a node.js environment to allow a localhost server to be established. This was done to allow the application be tested locally as if it were hosted online. Due to Ajax functionality, the security policies in some browsers (including Google Chrome) prevented the application from being loaded offline via the file protocol.

JSHint

<http://jshint.com/>

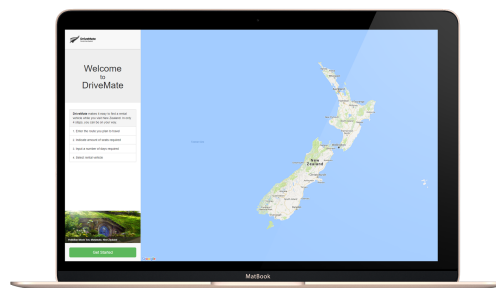
JSHint was used to check the quality of the JavaScript code, checking for errors in placement of statement, double semicolons, and more. Alternative linting tools were not able to be used as many of them are not up-to-date with latest JavaScript principles used for this project.

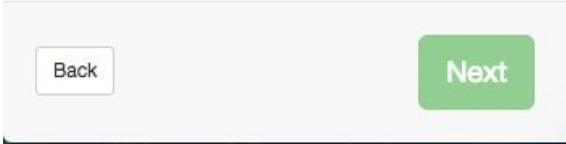
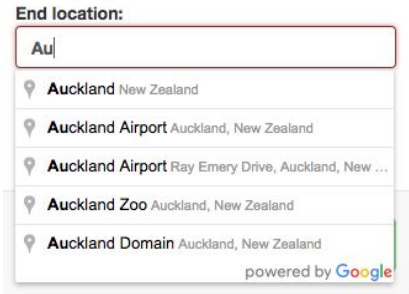


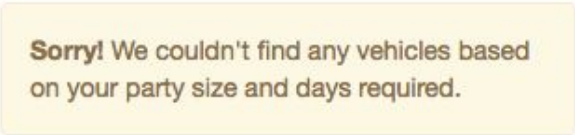
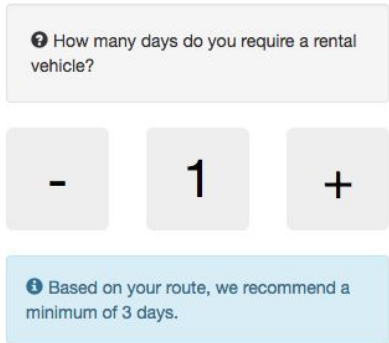
Functionality & UI

The JavaScript functionality and the interface have been developed to work in sync. Elements on the page are logically ordered and named to correctly reflect its position and/or purpose. JavaScript is updated upon content manipulation to ensure the functionality of buttons and other elements remain intact. Furthermore, content data is assigned to prevent elements being double-assigned tasks.

Validation

To ensure no errors occur during the use flow, validation was in place. The validation would prevent users proceeding forward without first inputting the data required.



	
<p>Each step uses the disabled button validation. The “Next” button will have a low opacity to indicate it is inactive until the step is complete.</p>	<p>The route select autocomplete is limited to New Zealand only, as rental vehicles may not be taken overseas. This validation is subtle but effective.</p>
	
<p>The ability to add an additional waypoint is disabled, and the button removed, when 20 waypoints have been included. This is to ensure Google Maps is able to calculate the route required.</p>	<p>If the user inputs a route of less than 50km, an error will display notifying them a rental is not available for their short travels.</p>
	
<p>An error will display if no rental vehicle is available based on the information given.</p>	<p>The minus button for days selection becomes redundant if the current value is 1. This prevents 0 or below being selected. It also becomes redundant if the value is 30, as that is the defined maximum days allowed.</p>

User Feedback & Changes

Preliminary user testing was conducted to gather feedback and bug reports for the project after the initial website was complete. The feedback led to a few minor changes occurring, which are reflected in the final project.

- All prices converted to display in 2 decimal places
- Logo size was increased to improve readability
- Party size selection now includes the integer next to the image
- The “Back” button was styled to improve visibility

Deadlines

Deadline	Result
[July 2nd] Route selection + Map	Partially delayed to allow time for template functionality and foundation to be correctly implemented. Completed - July 3rd
[July 3rd] Party count + Applicable vehicles	Achieved
[July 4th] Days required + Vehicle exclusion	Early - July 3rd
[July 4th] Fuel cost calculator	Achieved
[July 5th] Rental contact details	Early - July 4th
[July 5th] Language selection	Achieved
[July 6th] Points of interest	Early - 5th July
[July 7th] User test website	Achieved
[July 10th] Apply feedback changes	Early - July 7th
[July 10th] Complete website	Achieved - However, very small changes applied on July 11th. These changes are not to the overall functionality and are only to remove double-semicolons and reset.

[View GitHub Commits](#)

Error Debugging

Error	Resolution
<i>app.template</i> `element` not passing to success function	Enclosure created to house new success function. Said enclosure contains a `function.call` which passes necessary variables.
<i>Route selection</i> Autocomplete allows an invalid address to be inputted if a valid one has been previously entered.	Autocomplete resets when focused, forcing a valid input whenever in use.
<i>app.template</i> Templates containing inline templates within do not load in Firefox.	Identified as an issue with parsing script tags when importing in function. Temporary holding tag changed to div, rather than script due to Firefox being unable to find child nodes from inside script tags.
<i>app.selectVehicle</i> Error with price display. Parse error occurs when reopening a previously initialised modal.	New price moved to a new variable to prevent overriding the existing tag.
<i>app.selectVehicle</i> Price conversion to 2 decimal places causing an error when opening rental information modals.	The number is not an integer. Converts to an integer then converted to 2 decimal places.
<i>Days selection</i> Recommended days not automatically influencing days selection after a app.reload has been previously called.	app.reload now resets the days required to default. Previously did not reset days back to 1.
<i>app.template</i> js_compare returning an eval error when attempting to compute the requirement of "s" (day/days)	Object removed as it is no longer necessary. This is as recommended days will always be 3 or more.

Copyright

Object	Notice
<ul style="list-style-type: none">- Bootstrap- jQuery- Template7- Swiper	MIT License <ul style="list-style-type: none">- Free for personal and commercial use- No attribution required
Slideshow / Points of Interest Photos	Unsplash License <ul style="list-style-type: none">- Free for personal and commercial use- No attribution required
Party Size	CC BY-SA 3.0 <ul style="list-style-type: none">- Free for personal and commercial use
Vehicles & Agent Logos	Unknown <ul style="list-style-type: none">- Used under fair use. Real-world application may require relicensing.
Language Flags	Public Domain <ul style="list-style-type: none">- Free for any purpose- Attribution not applicable

Verified Compatibility

Browser	Version(s)
Google Chrome	Version 59.0.3071.115 (Official Build) (64-bit) on Mac OS X El Capitan COMPATIBLE Version 59.0.3071.115 (Official Build) (64-bit) on Windows 10 Pro COMPATIBLE Version 59.0.3071.125 on Android 6.0.1 COMPATIBLE
Firefox	Version 48.0.2 on Mac OS X El Capitan COMPATIBLE Version 54.0.1 on Windows 10 Pro COMPATIBLE

Safari	Version 10.0.3 on Mac OS X El Capitan COMPATIBLE
Opera	Version 46.0.2597.39 on Mac OS X El Capitan COMPATIBLE Version 46.0.2597.39 on Windows 10 Pro COMPATIBLE
Microsoft Edge	Version 40.15063.0.0 on Windows 10 Pro COMPATIBLE

