

Initial Plan

Web App to Visualise Aftermarket Car Modifications

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One Semester Individual Project, 40 Credits

Project Description

I aim to build a web based application, where a user can select a vehicle, choose aftermarket parts and view a 3D model of that vehicle including any chosen parts. Aftermarket modification is extremely popular among motoring enthusiasts however it's not always easy choosing the parts you want to buy. Shops and websites generally have low resolution images of a vehicle or pictures of the parts on their own and it is very difficult to build a complete image in your head, this also makes it more difficult to mix and match parts and make a completely unique look. In the US and in Japan there are workshops dedicated to aftermarket modification however in the UK there are very few and I believe this is partly due to the lack of examples to compare your own car to. Some parts can be expensive and as with anything it is much harder to commit to spending money when you are unsure what the finished article will look like. This project is inspired by video game car builders the likes of need for speed and gran turismo, however I will be focusing solely on external modifications and the visual aspect, not performance parts. I intend to build a 3D model of at least one vehicle in its factory standard view. To research and model real aftermarket parts that are available to buy, and to then be able to choose these parts from a list and generate a full 3D model of that vehicle with that new part. Once the user is happy with their model I intend for them to be able to generate a list of these parts. I believe a successful app of this nature could give a major boost to the aftermarket industry in the UK.

Project Aims and Objectives

- Build a web app
 - Responsive design for desktop and mobile
 - Good visuals
 - Easy to navigate
 - Easy URL
- 3D model of a vehicle
 - Look at CAD or other software to see what works best
 - See how best to integrate model into webpage
 - Use my own car as an example, add others if possible
- 3D model of parts
 - Look at real parts that are available
 - Give at least 2 options for each area
 - Sideskirts, front and rear bumper, spoiler, wheels, bonnet
- View 3D preview
 - Load model of car and combine with new part
 - Allow for multiple parts to be added
 - Be able to easily switch between parts

Work Plan

I have approximately 12 weeks to complete the project and will divide up the work accordingly.

I have arranged to have meetings with my supervisor on a Monday on a fortnightly basis starting in week 2.

Week 1 – Research into 3D drawing applications and evaluate which is the best to use for my application and which will be easiest to integrate into a website. Look at domain names and try and get an appropriately named URL and a name for the website.

Week 2 – Build a template for the website. Choose modelling medium.

Week 3 - Start to build 3D model of first vehicle and integration with website.

Week 4 – Continue work on 3D model.

Week 5 - Research into available parts and build 3D models of the parts, trial how best to add parts to the main 3D model.

Week 6 - Continue to build and refine website. Depending on difficulty have one finished vehicle or at least a solid base on which to continue.

Week 7 – Depending on difficulty of drawing, continue with first model/start a second model.

Week 8 - Continue to work on website and integration of 3D models, start working on responsive css for desktop and mobile optimisation.

Week 9 – Finalise 3D models and parts integration and test adding and removing parts.

Week 10 – Finish website design, start writing up final report.

Week 11 – Work on final report and finish functionality of website with working models and testing.

Week 12 – Finish writing up report and final testing of finished project.