Tools and Technologies

There are several software entities and tools required for this project. Here are a few that we have predicted we will need:

- Graphics editing software (e.g. Adobe Illustrator)
- Video editing software (e.g.Sony Vegas)
- API and request testing software (e.g. Postman)
- All main Voice module interfaces (e.g. Google Assistant, Amazon Alexa, Apple Siri)

The graphics editing software is required for mockups of the logo and for non-video advertisements. Video editing software is required for refinement of video advertisements of differing lengths (5 seconds, 30 seconds and 2 minute video advertisements). API and request testing software is also needed to be able to firstly test that Melbourne Data servers are working, and to also test that the servers that we hopefully run work as expected. Voice module interfaces will be required for testing the viability of the Free Parker service on each native OS.

Assuming this project is run as a proper business, corporate software licenses will be needed. Adobe Illustrator and Sony Vegas both require licences to be used for corporate reasons.

Specific hardware needed is any devices needed to be able to test fully the functionality of Free Parker. This includes mobile phones that use the relevant Voice module interfaces, such as several android phones for testing Google Assistant viability, several Apple devices, for testing Siri, and also perhaps some Amazon Alexa devices such as Amazon Echo Dot to accommodate the Alexa testing.

Nikita had experience in using some video editing software, but only enough to mock up low fidelity advertisements.

Plans and Progress

The project began as an idea I had while driving and looking for parking. As a university student who lives a fair distance away from the city, my usual daily routine is to drive to the train station and then take the train in to the city. If I have to be in the city in the morning, it gets quite difficult to find a train station that is not already fully occupied by parked cars. If a train station is fully occupied, then I will have to drive to the next train station in the line, continuing down the train line until I find a train station that has parking. With this entire process being so long and tedious, I thought that a great idea

would be to implement something that can let you know where you would be able to park, based on current and also previously recorded free spaces available.

Our project as a team originated as part of assignment 2 - where we had to share our projects around. As a team, we decided we would choose my project. We thought about possible ideas to expand upon this, such as instead of a using a voice interface module as our medium for the service, to instead be just a normal smartphone application. We decided against this due to using a phone and its screen while driving in a car is dangerous. We believed that our competitive edge in the industry is the fact that this is a voice module, able to be used while driving - especially with the voice interface itself being a very new and innovative way to communicate with your devices.

After assignment 2, all of the team then had a very good idea of what the project was, what each person's contribution to the group could be, and how we could build this project out with the team that we had. We also had a new member of the team join our group for assignment 2, which also provided us an extra pair of hands to be able to work with us for this assignment.

The plan for this project since Assignment 3 was to firstly assign roles to everyone. Out of the team that we had, we discovered that we had a couple of Developers, and some Designers. Once we had roles, our next step was then to discuss how we were going to organise a presentation for the presentation and showcase in Week 13. For the presentation, we wanted to include a small demonstration of a working prototype, and also a deck of slides that we thought would pair well with how we thought we might present. The prototype itself was created primarily for the purpose of exhibiting the voice medium, and also to provide the audience at the presentation with an easy and relatable way to connect with the prototype, since we built the prototype in an interface that integrates with Google Assistant. Therefore, we were able to use Google Assistant to showcase Free Parker. The prototype didn't use any real data, it was more used to display how a user would directly interact with Free Parker to be able to find a place to park at a specific time.

Currently, we have progressed enough to be able to add all initial use cases of Free Parker onto the prototype. It is now able to show how a user can use the Free Parker service to find a place to park right now, and also to find a place to park at any specific time. We have also progressed enough to have Alpha testing on the initial prototype. Though this is not an actual real product, it allows us to use alpha testers for Google Assistant for free in order to receive feedback on the kind of conversational flow that we have chosen for Free Parker.

Our next steps are to further increasing the marketability of the Free Parker voice service, and to also increase the functionality of Free Parker. First steps for marketability is to create a logo for the Free Parker app, and to also mock up several “slogans” or “one liners” that concisely describe what Free Parker does and why it would be useful. Steps after that for marketing then include selecting best choices for the logo and also for the one liners, and to also mock up several advertisements (e.g. posters, pamphlets, video advertisements). After that, we will have to discuss and brainstorm ideas for a business plan, whether that means we can consider taking donations, having some sort of Premium service, present advertisements, or any other option.

In terms of furthering the functionality of Free Parker, next steps would be to start to analyse real time and historical data for Melbourne parking availability at any time. This entails analysing real time data as it comes in and using this data for processing the probability that any parking spot is available at that specific time, and to also use as much historical data as possible to contribute to this information. This would have to be done with an algorithm written to pull data from Melbourne Data, process this data, and then uses this data to refine the probability of parking spots being available. We would also extend the voice application out so it works with more Voice modules than Google Assistant. Other voice modules that are prominent now as Apple’s Siri, Amazon’s Alexa and Windows Cortana, and also to extend the application so that it can be used for parking in more than just Melbourne, perhaps so it can be used nationally. We would then try to find a good place to host the two servers that we need to start with, perhaps AWS. These servers would have two functions: to continue analysing data from Melbourne Data and refine our probability data, and to also handle the requests coming in from the voice agents (e.g. Google Assistant). Once we have enough functionality to be able to display accurate probabilities of parking spots being available, and also once we have servers to handle requests coming from voice agents, we can then push to the Beta version of testing.

Once all testing is passed, and we are confident in our conversational flow, in the marketability and in the functionality of the Voice interface module, then we are ready to push to production as a full voice interface module.

Depending on how well the voice application goes in terms of marketing and having constant users that use the application, we might have to scale up. This could mean changing the code so that it can handle many requests at the same time, and also possibly spending more money for a better server that can handle more requests.

We believe that having working functionality is more important than first settling on a business plan. So, by the end of the 16 weeks, we plan on having a fully working prototype on Google Assistant that uses real data that is being pulled from Melbourne Data. Data processing can be done manually until then and probability can have a higher margin of error, but we also plan on having the voice requests run off servers by the end of Week 16. In terms of marketability, we also plan on having a logo, a one liner or a slogan, and also some mockups of advertisements.

Timeframe

Week #	Nikita	Anthony	Edison	Miguel	Kai
Week 1	Discuss presentation and delegate areas of Assignment 3	Discuss presentation and delegate areas of Assignment 3	Discuss presentation and delegate areas of Assignment 3	Discuss presentation and delegate areas of Assignment 3	Discuss presentation and delegate areas of Assignment 3
Week 2	Discuss assignment 3, and delegate areas of presentation	Discuss assignment 3, and delegate areas of presentation	Discuss assignment 3, and delegate areas of presentation	Discuss assignment 3, and delegate areas of presentation	Discuss assignment 3, and delegate areas of presentation
Week 3	Worked on presentation slides	Researched video software for prototype recording	Worked on presentation notes	Worked on prototype	Worked on presentation notes
Week 4	Worked on presentation slides and script	Created and edited showcase video using prototype and script	Worked on script and slide timing	Worked on script and helped Anthony with prototype video	Manual data processing (first week)
Week 5 - Presentation	Rehearse presentation and also present	Rehearse presentation and also present	Rehearse presentation and also present	Rehearse presentation and also present	Rehearse presentation and also present
Week 6 - End of Sem	Add team profile, presentation, group processes and communications to	Add scope and limits, tools and tech, project description to report	Add aims, roles, skills required, testing to report	Add plans and progress, timeline to report	Add plans and progress, timeline, risks to report

	report				
Week 7	Design possible logo options Brainstorm possible one liner/slogan options	Plan possible storylines for advertisements Brainstorm possible one liner/slogan options	Brainstorm and run workshop on possible one liner/slogan options	Manual data processing	Manual data processing
Week 8	Further develop and refine logo options	Present storylines for advertisements to the rest of the team	Refine and finalise one liner/slogan	Manual data processing	Researching vendors for hosting servers (e.g. AWS, Google Cloud)
Week 9	Present logo options to rest of the team	Low fidelity storyboards of advertisement idea	Mock up banners, pamphlets and/or posters showcasing some logo options and some slogans/one liners	Creating algorithm that checks current parking spot availability	Creating algorithm that checks future parking spot availability, based on our probability data
Week 10	Research and upskill in logo software (e.g. Adobe Illustrator)	Research and upskill in more professional video editing software (e.g. Sony Vegas Pro)	Present possible non-video advertisement options to the rest of the team	Creating algorithm that pulls historical and current data and uses it to contribute to our probability data	Communicating with vendors to set up server to host our services

Week 11	Begin low fidelity creation of logo options	Begin low fidelity creation of video advertisements of several lengths (5 seconds, 30 seconds, 2 minutes)	Research and upskill in possible professional document creation software (e.g. Adobe Photoshop or Adobe Illustrator)	Developer testing and debugging	Developer testing and debugging
Week 12	Show low fidelity logo options to the rest of the team Refine and develop further logos	Show low fidelity creation of video advertisements to team Refine and develop best chosen advertisements	Mockup high fidelity non video advertisement options	Developer testing and debugging	Developer testing and debugging
Week 13	Develop high fidelity logo options	Develop high fidelity chosen advertisements	Present high fidelity non video advertisement options to team Finalise high fidelity designs for advertisements	Reiteration of algorithms (if needed)	Reiteration of algorithms (if needed)
Week 14	Present logo options to the rest of the team Work on	Present high fidelity video advertisement options (5 seconds, 30 seconds, 2 minutes) to	Create a new slide deck featuring new advertisements	Reiteration of algorithms (if needed)	Reiteration of algorithms (if needed)

	and finalise decided on logo	the rest of the team Work on and finalise the decided advertisements			
Week 15	Present final logo to the rest of the team Make sure that new logo is used on all slide decks and advertisements (Voice module market should also be updated with proper logo)	Finalise video advertisements of all lengths Make sure all artifacts match up (e.g. correct logo being used on all video advertisements)	Work on slide deck Make sure all logos are being used on all advertisements	Redeploy algorithms onto servers and retest	Redeploy algorithms onto servers and retest Test and validate accuracy of readings by using the application in a real time situation on all mediums (all devices, all voice assistants)
Week 16	Finalise all marketing artifacts (advertisements, logos)	Finalise all marketing artifacts (advertisements, logos)	Finalise all marketing artifacts (advertisements, logos)	Finalise stability and reliability of server requests	Finalise correct functionality in the behaviour of voice module

Group Review

Our group was great at communication - in particular, assigning roles. With roles assigned, it was very easy to allow each member to work independently of each other, as each member had good knowledge of the actual project that we were trying to push. If a member needed assistance, we would let each other know via Facebook Messenger and each member was willing to help out for the sake of the team. We also built up solid rapport, allowing each other to trust and feel comfortable with each other as a team, which I felt contributed to the overall quality of the work that we have produced. Since Anthony left the group and unenrolled from the subject and let us know at the last minute, we were unable to complete his parts of the assignment. We decided to attempt to backfill his role in the assignment last minute by splitting his sections up and delegating to available team members. This shows how we perform as a full team unit, despite one member leaving completely.