

CURB PARKING

Initiatives and Entrepreneurship 2021

Assessment 01

Team 35

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PART ONE: SUMMARISE THE PROBLEM

How might we improve the experience of parking in Sydney and make it more liveable for the sake of its citizens both individually and collectively?

Introduction

As Sydney's traffic continues to increase, along with its population, driving and the eventual search for a park is only becoming more time-consuming and stressful. With the city expected to grow by 1.6 million residents in the next 15 years (Cordell, Jacobs & Wynne 2019, p. 18) it's urban infrastructure must be able to deal with this mounting pressure that threatens the livability of the city for its citizens.

As might be expected, this is not a uniquely Sydney concern, with all growing cities forced to adapt, including other Australian state capitals. "Urbanisation is putting immense strain on urban roads, transport networks and associated physical infrastructure" reads a 2019 NRMA Report on Smart Parking that details the frustration of citizens "with parking options and exorbitant costs in metropolitan areas right across Australia." Highlighting the average casual daily parking rate of \$70.85 in Sydney and the relatively low "parking utilisation rates" across Sydney as problematic, the report concludes that "new strategies are needed to accommodate the increasing populations projected for most of our cities".

Parking, as a problem, represents only a fraction of the challenge presented by Sydney's urbanisation, however is one that should be treated not only for the day-to-day wellbeing of its citizens, but also for the ongoing functionality of the city itself.

Stakeholder Perspective: Sydney Drivers

In Sydney poor driver knowledge and insufficient infrastructure ensure that the experience of parking, for its citizens, the key stakeholders in the problem space, remains both time consuming and anxiety inducing, and stands as a barrier to productive and enjoyable daily life.

A 2019 NRMA survey identified that stress is a key component of Sydney's parking experience, where for the 5.8 million cars on NSW roads (Australian Bureau of Statistics, 2021), 58% of drivers "often or always worried about finding parking". Beyond this, "97% have avoided a trip due to perceived parking difficulties," and "44% have returned home due to lack of parking availability", (2019), demonstrative of the functional challenge parking poses to the daily operation of citizens.

The same NRMA report identified that drivers in dense urban areas frequently discover that parking close to their destination is either unavailable or excessively expensive. A separate 2017 study by Dowling et al. identified several other factors that contribute to the challenge that include parking being at full capacity, price differences, time constraints between different areas and driver's being unfamiliar with their environment. Faced by these problems, the lack of knowing, indecision, and stress of drivers results in slowed curbside searching, and waiting for vacancies, resulting in heightened congestion and worsened traffic conditions for all on the road.

Sydney's commuter infrastructure is undoubtedly contributory to the issue, with limited access to public transport for much of the city a defining factor in a majority of commuters, 62%, getting to work by driving (Australian Bureau of Statistics 2016).

A pain point in the daily life of its citizens, Sydney's parking experience, built upon lacking infrastructure that is only worsened by poor driver knowledge, is a problem that must be addressed for the sake of the city itself and the people who call it home.

Stakeholder Perspective: The City of Sydney

For drivers, problematic parking options and lack of knowledge clearly contribute to stress, however the time they spend searching for parks not only places pressure on the city's roads infrastructure in the form of congestion, but reduces the productivity of the city as a collective ecosystem. As such, the other key stakeholder in this situation is the city itself and the government bodies that manage it.

According to a 2019 traffic study by the technology firm Siemens, the problematic parking experience causes 40% of inner-city traffic congestion on an average day (Stephenson, 2019), a problem only worsened over the holiday period, during which it is responsible for 90% of traffic.

Illustrative of parkings ability to reduce individual productivity, the World Business Council for Sustainable Development found that in New York, drivers spent up to 107 hours every year searching for a park, with Stephenson's 2019 article similarly finding that drivers in Britain spend 96 hours a year in search of parking. The Royal Automobile Club of Western Australia have identified congestion as a "growing problem" in every major Australian city, with experts predicting it could "cost the economy between \$27.7 and \$37.3 billion in lost productivity by 2030" (Stephenson, 2019).

With urban population growth and resulting increases in motor vehicle ownership outpacing infrastructure development, increasing pressure will fall on relevant bodies to accommodate growth via strategic planning and design (Parmar, et al., 2020). This is an identified challenge by the city,

with the clearest example of change occurring at a strategic level of governance being the 2020 Parking Innovation Challenge run by Transport NSW. Aiming to promote the development of digital solutions for parking confusion, SpotParking and Ubipark were “chosen to progress to incubation and trials” (Transport NSW, 2020).

Transport NSW provides open access data on traffic and road conditions under a Creative Commons 4.0 Licence. This data is utilised by companies such as Opal Travel, Tripview and Google Maps to provide public transport users and drivers with real-time information. State government is responsible for road and parking rules such as disabled parking, clearways, paid parking, time-limited parking, restricted parking areas and special event parking. Residential parking is provided for those eligible for parking permits which falls under the jurisdiction of local governments.

As identified by the city itself, parking contributes to the issue of congestion that not only makes the city increasingly unlivable, but also increasingly unproductive, and is a challenge that must be overcome if Sydney is to remain a desirable and functional place to live.

Other Service Providers

While drivers and the city are the two stakeholders, other parking services remain important in considering a holistic solution, whether they represent potential partners to bolster service offering, or competition.

Companies like Wilson Parking provide much of the private parking facilities available to drivers, determining the price and availability of services and factoring strongly into driver behaviour, especially in Sydney city itself. A number of other parking service providers use apps to provide drivers with parking availability data such as Parkopedia, Parkable, Divvy, Easypark and Parknav. These providers are at different stages of development with none successfully dominating the market or providing a wholly inclusive and effective service. Each fails, to varying degrees, to provide large scale data to customers in accessible and usable forms, requiring users to add data themselves making user experience a notable short-coming. Another app-based service, Park Hound, allows users to rent other users car spaces on a short and long-term basis, in a manner that similarly looks to overcome parking anxiety and congestion for users.

There are a variety of other players in the parking problem space, each offering users value in different ways, and while they may not play the role other key stakeholders do, they can pose both as a challenge, or a point of leverage for a potential solution.

Key Assumptions

Please see our key assumptions below.

High Impact	Open source traffic data and crowd sourced data can provide the information necessary to produce live parking data.	Drivers would use a service that navigates them to street and private parking spaces.	Waverley Council in NSW has a higher degree of traffic congestion and lower parking availability than other LGA's.
Medium Impact	Mobile phone technology can host an app with live navigation services.	Drivers cannot secure parking in advance of reaching their destination.	Spot Parking will not produce an application with enough range in location and utility to successfully capture the market for this technology.
Low Impact	Most drivers have access to mobile phone technology.	No current navigation technology, ie Google Maps or Apple Maps can accurately navigate drivers to safe street parking.	The experience of parking in urbanised areas in Sydney is difficult, stressful, dangerous and anxiety-inducing.
	Low Uncertainty	Medium Uncertainty	High Uncertainty

Problem Statement

With all of this in mind, how might we improve the experience of parking in Sydney and make it more liveable for the sake of its citizens both individually and collectively?

PART TWO: PROTOTYPING A SOLUTION

Curb Parking is an app-based service that provides users with information and navigation for optimal parking before and during driving, optimising the search for parking. In doing so, Curb provides drivers with the knowledge to be confident in their parking experience, reducing their stress and streamlining the process to the benefit of not only them, but the city as a whole.

Please see the video for our prototype [HERE](#).

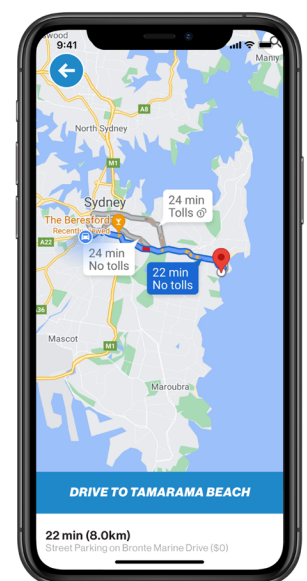
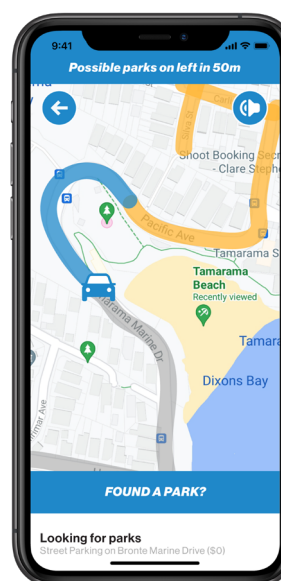
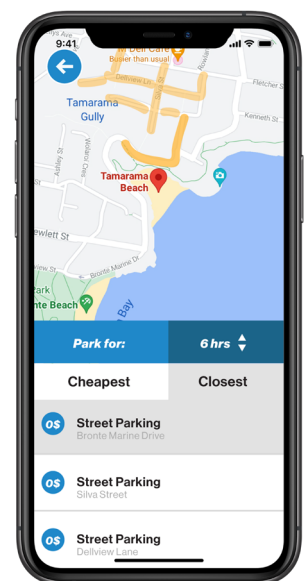
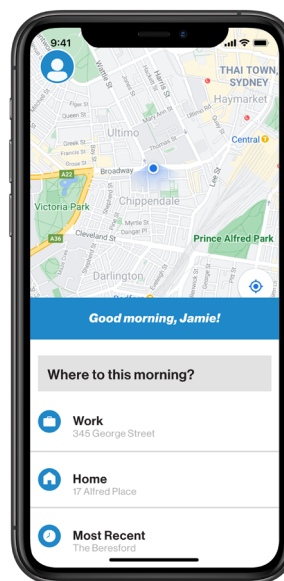
How does this work for the user?

1. Preparing to drive somewhere, the user opens the Curb app.
2. Entering the app, they select a destination, either new or historical.
3. The user selects a parking option that most suits them for the destination - an area in which parking options exist based on cost or proximity.
4. When the user confirms the destination and parking, Curb will enter navigation mode.
5. In navigation mode Curb will direct the user to the parking they have selected, not the destination itself.
6. When the area for parking has been reached, Curb will notify the user of where they should be looking for parks and which roads they should follow while on the lookout.
7. If the parking area is completely filled, Curb will ask the user if they would like to find an alternative option based on cost and proximity again.
8. Selecting an option, the user will be directed until they find a park.

Rationale

As identified, the challenge of parking, and the subsequent stress and congestion it causes, is double-sided, meaning that it derives from a lack of both driver knowledge and infrastructure. Without being able to develop the physical infrastructure for parking in the city, a successful solution can instead build the knowledge base of the drivers themselves to streamline the process and instil confidence.

Curb will achieve this by offering drivers information on the most optimal parking options for them, centering the driving experience around parking rather than the ultimate destination. This takes the guesswork and human error out of the problem while keeping the issue of parking the focus of their experience before-hand and during, rather than it being



a secondary consideration that is only considered at the last minute..

There are other services that attempt to do the same thing, however Curb will bring more value to the customer via several key offerings:

1. A greater database, that takes advantage of the open source parking data provided by various local councils, will offer users far greater clarity on the parking options open to them. Other apps rely on human physical auditing of parking spaces, or on the input of users themselves, which greatly limits the information they can provide users, with the majority of them focusing only in Sydney's CBD.
2. The navigation service offered by Curb does not exist within any of the other service providers, and has been identified as a key point of differentiation. With the parking experience ultimately one built into the process of driving and navigation, users will benefit from the streamlining of the two services. While other apps have failed to recognise that the two processes overlap, their services do not achieve what they ultimately should. Other services only provide users with a visual database, while Curb will instead decipher the data, offering it to the user in a digestible manner that serves as a guide, rather than a guidebook.
3. Finally, the user experience offered by Curb will challenge, if not out compete its competitors. Where other services, like Parkopedia, have an emphasis placed on the data itself, they find themselves unattractive and confusing to users, and as such, struggle to gain a user base.

A pilot program, testing the initial rollout of the app will take place using data from Waverley Council. This council was chosen as the site of the pilot program as large amounts of open source data already exist on the parking and road conditions in this council, provided by the Transport NSW Open Data Hub. Waverly also contains numerous, popular tourist destinations including Bondi Beach, Bronte Beach and Bondi Junction as well as being located close to the CBD area and surrounding city suburbs.

There is a clear and growing need for better parking solutions in Sydney for the sake of both the city and those who call it home. For drivers parking represents a stressful part of the driving process and a waste of time, while for the city, as a result, parking and the congestion it causes threatens productivity and liveability. While other services attempt to resolve the issue and offer drivers the knowledge they need for parking, they have been unable to build a solid user base because they simply do not offer a holistic service.

PART THREE: EVIDENCE BASE FOR PROTOTYPE

3A: Experiment Reflection

Please see earlier progress in appendix.

Recognising that we needed to connect with a problem space we could personally relate to and understand, one group member introduced parking technology as a potential direction. Our key assumption was that parking in the CBD is often difficult, stressful, and time-consuming. From discussing how modern GPS technology such as Google Maps has revolutionised travel navigation, we hypothesised that we could introduce a similar principle to parking navigation. Our next step was to conduct a competitor analysis to determine if this idea had already been accomplished. Although there are a number of successful competitors in the US and around Europe, there are no well-established firms in Australia. Notably, Transport NSW ran a 2020 Parking Innovation challenge to promote the development of digital solutions for parking confusion, which produced our two main competitors, SpotParking and Ubipark. Analysing these companies enabled us to brainstorm the ways in which we could differentiate our service from similar providers.

After consulting with our tutor and receiving their approval to continue, we began conducting experiments to begin exploring the problem space and its underlying causes, researching key statistics, and designing the product. Desk research indicated that urbanisation and rapid population growth in combination with poor driver knowledge and lack of infrastructure is the major cause of parking stress and congestion. As such, we decided to tackle the poor driver knowledge facet of the problem. We also provided evidence of stakeholder engagement by conducting stakeholder interviews on a Sydney Taxi Driver, Senior Lecturer in Computing at CSU and CEO/Founder of Parkhound, the AirBnB of parking. This not only confirmed our research but pushed us in the direction of utilising data instead of street sensors for real-time parking information. We then located sources of open-source data available and explored the experiences of drivers through surveys, interviews, and prototype testing.

3b 1: A Human Experiment Utilising Your Prototype (Led by Alexander Sainsbury)

Aim: To test our initial interactive, mobile app prototype and test its User Interface & Experience as well as the overall experience of the service with four different test groups.

Hypothesis: That through testing this app with users we can develop a better designed, user facing service and application that efficiently navigates users to cheaper, easier parking.

Method: Creating a mockup app using Adobe Illustrator, Photoshop and Xd and handing test groups the app on our phone with a short explanation. Letting the user explore the app mockup without us controlling anything.

Results:

Group 1	Group 2	Group 3	Group 4
First reactions: "love", "genius", "love", "frothing that", "big move"	On the subject of being notified when parking officers are nearby: "I'm telling you I would pay for that app" "I'm surprised an app like that doesn't already exist because the other day I was driving somewhere and I had no idea and I literally looked up 'parking around this area', and there was nothing"	"I can't park for shit, does it teach you how to park?"	"If I go to reverse park and there's someone behind me i'll just keep driving, I get too anxious"
"I can think of two existing parking services.. there's Sydney Spot Parking and Parkopedia"	"That's the most stressful part"	"I don't drive because I'm afraid to park"	"There's so many times that I've been at my destination on a main road and then what do I do to park?"
"That is the reason I don't go to the beach often, because of parking"	On the subject of other apps providing similar services: "I literally didn't know these apps existed"	"Signs can be misleading, confusing"	"What if I schedule myself to get there at 12 o'clock but then I get there at 12 but am late because I spent 20 minutes trying to park"
	"How are you guys going to make money?"	"Google doesn't have information where I can park or what time I can park. I'm scared of if it's full where do I go, driving in circles for ages makes me anxious"	"Yeah that's very good"
		"Would you guys list private business car parks like Wilsons?"	"It would be cool if you could partner with Google Maps?"
			"I would use that"

Reflection: Through this experiment we realised that not only was the desire for the app there, but also an underlying need. Many people that we interviewed and tested the app with, suffer from 'parking anxiety', in which they will actively avoid driving to high volume, busy areas such as the CBD and Bondi to avoid having to find difficult parks, pay for parking or perform difficult parking manoeuvres in busy areas.

It also gave us feedback on the app; people praised the parking suggestions of free, paid and closest to destination as well as the idea of the service itself. They also highlighted its application in busy areas such as Bondi and the CBD, describing their own experience of attempting to park in these areas.

They did mention competitors they knew of (Parkable) but most users we interviewed and tested on weren't aware of

these competitors. Furthermore, questioning if our service would be prioritising and benefitting large parking companies such as Wilson Parking, prompted us to consider how our business model would be monetised. Users stated they would pay for the app as a one off payment such as the 'TripView' app, but not as a monthly subscription fee.

3B 2: A desktop review of competitors (led by Liandra Munene)

Evidently a number of apps provide adjacent services however none provide a complete solution. Spot Parking is another company providing parking solutions and is the strongest competitor, however it is currently a proof of concept and not available to download for mobile phones. Spot also provides only a limited range of locations and does not make use of crowd-sourced data at the moment.

	Parkopedia	Parkable	DIVVY	EasyPark	Parknav
In app navigation	Y	N	N	Y	Y
Booking Capabilities	Y	Y	Y	Y	N
Complete Parking Data Available	Y	N	N	N	Y
Available in Sydney?	Y	Y	Y	N	N
Crowdsourced data	N	N	N	N	Y
App	Y	Y	Y	BROKEN	Y
Uses data scraping technology	N	N	N	N	N
Real Time data available	N	Y	Y	N	Y
Compatibility with other parking services?	N	N	Y	N	N
In-app advertising	N	N	N	N	N
Map service	Google	Google	Google	Google	Google
Monetisation	Premium option available	Likely takes commission from rented spaces	Premium option available	Pro and premium packages available for businesses	\$200/month subscription fee
Free app?	Y	Y	Y	Y	N

3B 3: A dot point list of key evidence/ insights found when researching the idea (led by Louisa Preston)

Aim: To conduct desk research to find key statistics and evidence that parking in cities causes anxiety in drivers and traffic congestion in cities.

Hypothesis: Parking anxiety is negatively impacting the livelihood of city citizens and causing urban productivity loss and infrastructure strain.

Results:

- In a survey by NRMA, 58% of drivers “often or always worry about finding parking”, “97% have avoided a trip due to perceived parking difficulties,” and “44% have returned home due to lack of parking availability,”
- As Sydney is expected to grow by 1.6 million residents over the next 15 years, this will place unprecedented pressure on urban infrastructure to compensate for increased use (Cordell, Jacobs & Wynne 2019)
- Drivers in dense urban areas frequently discover that parking close to their destination is either unavailable, excessively expensive or time restricted (Dowling et al., 2017).
- On an average day about 40% of inner-city traffic congestion is caused by people searching for a park. During busy holiday periods it can account for up to 90% of traffic (Parmar et al. 2020).
- In Britain, city drivers can spend 96 hours per year searching for parking, which contributes up to 30% of the country’s vehicle emissions. Sydney is heading in a similar direction (Stephenson, 2019).
- By 2030, the economic cost of congestion caused by parking inefficiency is estimated to be between \$27.7 and \$37.3 billion in lost productivity (Stephenson, 2019).
- In New York, drivers spent up to 107 hours every year searching for a park, costing the US economy US\$20 million in lost productivity (Stephenson, 2019).
- In 2020 Transport NSW ran an initiative called the Parking Innovation Challenge to promote the development of digital solutions for driver parking confusion. This resulted in the establishment of SpotParking and Ubipark, which are the main competitors for our solution, in addition to them being our proof of concept (Transport NSW, 2020).
- Other competitors found in this space were found to have a prohibitive price point, incomplete data and low useability, establishing the need for better digital parking solutions within the market .
- We found data on Waverly city council parking locations, times and costs that we could use for our Pilot prototype to test this concept

Reflection: Our hypothesis was correct to a much larger degree than initially suspected, as parking troubles were strongly attributing to stress levels of drivers and causing massive productivity losses within economies globally. These

statistics will only worsen unless adequate infrastructure is put in place, or driver’s are equipped with the knowledge and resources to find smart parking options and mobility solutions.

3B 4: Interviews - Evidence of Stakeholder Engagement (led by Travis Radford)

Vic, Sydney Taxi Driver

Vic had a unique perspective as someone who drives both professionally, as a taxi driver, and personally, as a resident of Sydney and driver. He told us that when he isn’t in his taxi, “getting parking in the city is like a curse,” and expressed frustration that parking spots are available for such short periods of time, are so difficult to find (especially during peak times) and expensive – making the experience very “stressful”. He noted that people overstaying the time allocation in their spots exacerbates these issues. He said he has even observed drivers stealing others’ tickets to avoid fines. Sydney’s CBD is the worst for parking, he said, and he’d like to know in advance how many parking spaces are available to make his life easier and his parking experience faster, or alternatively for more street and undercover parking to be built (even up to 1 kilometre from the CBD). Vic said he would only use an app to assist in parking if it was integrated with his existing navigation system. When he is in his taxi, Vic noted that taxi bays usually make it easier to find parking but said “all the time” regular drivers are parked there illegally, forcing him to break the rules and park in unsuitable locations. Vic referenced the new Smart CCTV initiative in NSW, that will monitor illegal stopping at taxi ranks once it is rolled out. Interestingly, Vic was late to his interview, as it took him 25 minutes to find parking, despite being in his taxi at the time.

Dr Sabih Rehman, Senior Lecturer in Computing at CSU

Dr Rehman developed an app that can accurately predict when parking spaces will be free. Three weeks of real-time usage data was first captured at parking spots with sensors and then processed by a machine-learning algorithm, that uses the data to predict when parking spots will be free, with up to 85% accuracy. Dr Rehman said 30% of traffic conditions in major cities are caused by drivers trying to find parking, in what he characterised as a waste of time and money and a source of excess carbon emissions. This prompted Dr Rehman to explore if predictions could be made about future parking conditions, and eventually led to him to co-develop a mobile phone application that could do just that. Dr Rehman said he has been approached to patent the technology by stakeholders in the transport and car industry, including car manufacturers who are looking to implement the technology directly into their cars’ operating systems. He said integration was the best use of the technology as it would be unsafe and illegal to use an app while driving, which is incidentally when his service would be most useful. But Dr Rehman still sees this as 4 - 6 years away, given that an enormous amount of data

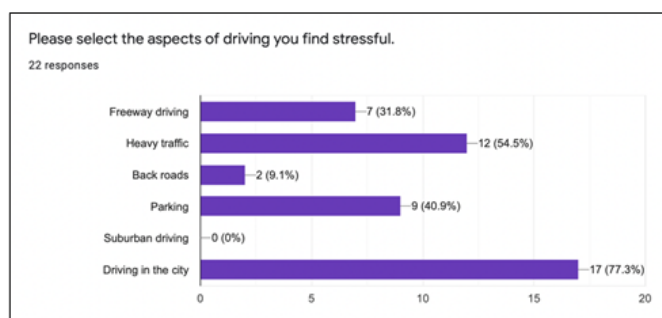
stored in the cloud would constantly need to be downloaded into cars using the technology. He said widespread adoption of 5G and even 6G would be prerequisites, to provide sufficient bandwidth to handle the 'big data' being crunched. Dr Rehman said he would also like his algorithm to become more accurate and said user data could play a part in making that happen. Though, parking sensors will remain the main source of data for now. Dr Rehman concluded that once bandwidth and infrastructure catch up to the current science, it won't just enable his technology to be fully utilised, but it will also allow for the wholesale advancement towards the 'smart city'.

Mike Rosenbaum, CEO and Founder of Parkhound

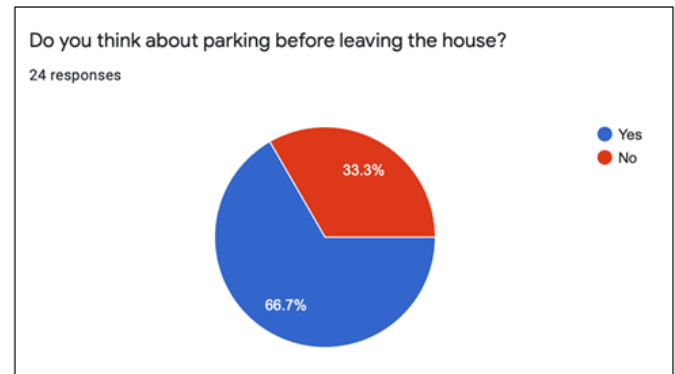
In 2013, Mike founded Parkhound, an Australian app that is most simply explained as Airbnb for parking spaces. Mike said the premise of his start-up was that every community has empty private parking spaces, and that if these idle pre-existing assets could be made available when not in use, there would no longer be a need to create new parking spaces. He supported this with Parkhound research that found more than 50% of private car spaces are empty during the day and that there are far more drivers than there are public parking spaces in major cities, forcing the average person spends 15 minutes a day searching for street parking. This indicated to Mike that demand had outpaced supply. He said the value of his service is most apparent near train stations, hospitals, and universities. Longer-term benefits of Parkhound according to Mike are, the transformation of street scapes to include more space for pedestrians (as more drivers choose private spaces supplied by Parkhound over public street parking) and subsequently, a reduction in traffic congestion and car emissions. Mike noted that Parkhound has already been integrated into the NSW Government's PARKn'PAY app. But he said his next major ambition is to connect autonomous electric vehicles with private recharge bays. Like Dr Rehman, Mike views Parkhound as a component of the 'smart city' and as a component of the 'share economy'.

3B 5: Survey - Evidence of Stakeholder Engagement (led by Luca Moujaes)

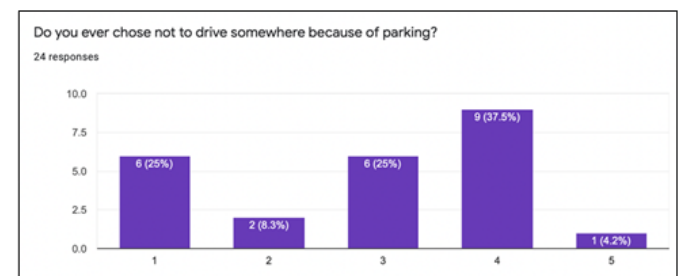
Nearly 41% of respondents said they found parking to be one of the most stressful aspects of driving, indicating there is a market for a product that could alleviate parking stress. Moreover, heavy traffic (54.5% found stressful) could be eased by streamlining the parking experience, and city driving (77.3% found stressful) could be made less stressful, with reduced traffic and a simpler parking experience.



Nearly 70% of respondents think about parking before leaving the house, indicating that the majority of respondents are devoting time to manually thinking about an aspect of driving, that could be automated. Drivers could spend more time thinking about their destination, and less time thinking about the journey, if planning parking became obsolete.



Nearly 70% of participants answered a 3 or higher on a sliding scale of choosing not to drive somewhere because of parking, where 1 was never and 5 was constantly. This indicated that parking was at least sometimes a barrier to travel for the majority of respondents and had led them to choose not to visit select destinations.



When asked to compare parking at home, in a familiar location away from home and in an unfamiliar location away from home, most respondents identified the latter as the most undesirable. Herein, 16 of 23 respondents described it as either time consuming, stressful, or both. Asked to further describe their feelings when faced with this situation, negative descriptors like stressed, hard, pressure, and anxious vastly outnumbered positive descriptors, like calm. Overall, the answers to these two questions can be extrapolated to show parking stress is most pronounced in unfamiliar non-suburban areas.



PART FOUR: LEARNING GOALS

Group

As a group, we want to cooperate successfully to utilise each other's skills and understandings. By creating a diverse group of students featuring a range of core disciplines we can utilise this to create a well developed startup.

We also aim to create a sustainable business model that monetises its service in an innovative way.

We also hope to deliver a project that not only is a startup business idea that could be successful and innovative but also solves a user problem and utilises design thinking to improve people's lives.

We also aim to create a service that follows sustainable business practices and isn't detrimental to the environment or other businesses.

The goals for the future of our business is to implement scraping technology into parking services. By utilising data scraping technology we can create achievable goals of having all parking data in Metropolitan Sydney by the end of 2022 and other cities nationally by 2024.

One of our goals is to also implement our service into already existing, popular navigation apps such as Google Maps, Apple Maps and Waze. This would allow more people to utilise our service and safely park anywhere in Sydney and eventually the world.

Individual

Travis:

- Temper creativity with pragmatism, through development of a tangible start-up, grounded in reality.
- Hone skills I've learned in my major (Journalism), specifically interviewing and the recruitment of people for interviews, through leading stakeholder engagement for our group.
- It was challenging to choose an idea that the whole group could empathise with, but this can be overcome by being open and non-judgemental, to help create a comfortable environment for all.

Liandra:

- Learn more about business practices, the process of completing market research and competitor analysis. This would take me out of my comfort zone as a Social and Political Science major from a Communications degree.

Alexander:

- Hone my people skills to get the best out of not only my teammates as individuals, but the team as a cohesive whole.
- Engage with the work we do, and be challenged by the new ideas required in creating a start-up that feels unfamiliar in the realm of my core degree, design.
- Be fulfilled by the work we do, and be engaged throughout the entire process to ensure a quality outcome.

Luca:

- Create a successful, sustainable business that will also reveal to me the complexities of starting and developing a business/startup.

Louisa:

- Explore the process of startup ideation and evolution to learn how real-world experimentation affects business trajectory
- Learn how to filter creative ideas and transform them into business ideas
- Use my experience in Science and in-depth research to provide hard evidence for the relevance, feasibility and originality of our idea

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APPENDIX

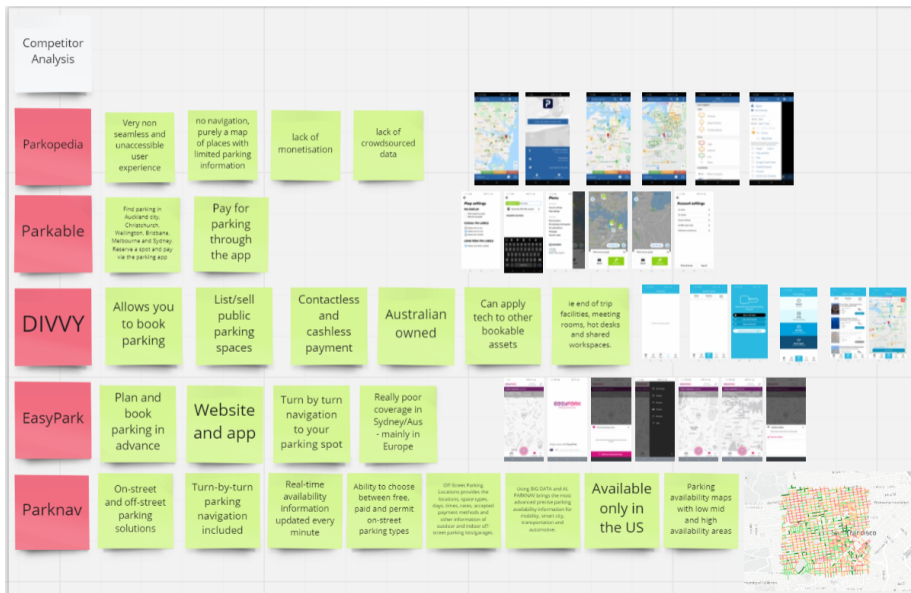
3A: Experiment Reflection

Ag-Tech

Initially, we delved into the space of commercialising emerging technology within the agriculture sector, as one team member offered her experience at an internship for Cicada Innovations. Our major assumptions included that the agriculture sector has a number of inherent power imbalances that contribute to the social and economic decline of regional Australia, and that ag-tech innovations struggle to achieve commercialisation due to a lack of fundamental business skills. Our first experiment involved a conversation with ag-tech workers which helped us identify one specific use of emerging technology: blockchain in agriculture supply chains. This led us to explore the problem space of lack of supply chain transparency and the exploitation of animals, labour, and environmental sustainability that it incurs.

From conducting a competitor analysis, it was found that existing blockchain technology serves to ensure accountability for food wastage and productivity from a business-facing perspective. We then questioned how blockchain could be used from a customer-facing perspective and implemented to benefit the 'small man' farmer from the end of the supply chain. By conducting a survey on fresh produce consumers, we discovered that people were interested in the narrative of where their food came from and if it was sustainably produced. We also discovered that there was scepticism and confusion around various labels and sustainability certifications. From this, we focused on customer experience in supermarket stores. This entailed platforms such as QR codes on food products that utilised blockchain technology to provide customers with direct information on the sustainability of their product. This included carbon footprint, food miles, and farmer narratives. However, after discussing with Paul Brown we realised there were several moral and social implications of working in this space and none of us personally connected to the problem space. Ultimately, we realised we needed a new idea.

Competitor Analysis



Stakeholder Map

