# Problem Statement

Design and develop a mobile application that assists the user with finding a trusted place to eat out that matches their custom requirements and preferred habits conveniently.

## High level description of how the system works

A user will be able to filter an interactive map based on personal requirements, then visually explore options based on location and recommendations by those they trust. Once a user selects an option current deals will be displayed as well as the loaded menu filtered by their preferences and other crucial information. The user will add this to a list that they can use (or share with others) to compare up to 3 options. After visiting the restaurant they will record whether they would recommend to a friend and their response will be logged in their history and shared with others following their profile.

| Interaction paradigm | Interaction Mode | | Key Metaphors | |
|---|---|---|---|---|
| **mobile** | **instructing** | **responding (with nudging)** | | |

Key Metaphors: Search, Arrows, Bookmark, Addition, Thumbs up/down, Tick/ Cross/ Question Mark, Filter/ Settings, Menu, Information, Account, Map, Navigation, Favourite, Coupon, Edit, Phone

Users are often on the go when making this decision and need the information needs to go with them. Mobile is a GUI system that only uses menus and icons from WIMP, and instead relies on gestures (pinch, swipe) and intuitive design for navigation.

Review sites typically expect 1.5 times more unique visitors on their mobile platforms vs. desktop [12, 23]

Modern GUIs, many of which use a touchscreen interface, are sometimes referred to as "post-WIMP" interfaces [36]

Users are the ones making the decisions and though they are guided through the process, they are the ones making steps to progress the process.

Since recommendations are so important, but users don't remember or want to put the effort into lengthy reviews, the app will nudge the user with a prompt to add their own short feedback.

## Initial Design Guidelines

- Consistent and logical - clear pattern for users - eliminates confusion - no explanation needed [33, 34, 37]
- Users want choice but don't want to have to put in alot of effort.
- Give clear direction and guidance
- Predictable: - "stronger sense of control - no learning curve [37]
- At least half of the factors already have great existing solutions so no need for the user to relearn these
- Be familiar
- "A simple design will keep the user at ease" [37]
- Dining out is biweekly occurrence so don't want to overwhelm [37]
- Simplify decision process
- Use common answers to create smart defaults [37]
- Dining out is a shared experience and the decision process is also social.
- Encourage collaboration
- A long decision checklist quickly and subconsciously [29]
- Everyone's individual tastes and requirements are different.
- Maximise customisation opportunities
- understand what people are enjoying is key to creating thriving business [16]
- "The relationship with the food environment outside the home is continuously transforming" [13]
- Open to change
- "don't want to create too much complexity for the user at one time" [37]
- Decision on where to eat out touch upon a robust set of psychological principles. [11]
- Manageable steps

### Some ides to meet the design guidelines:
- Follow popular metaphor
- Standard gestures (swipe, zoom)
- Standard mapping display
- Common color schemes (red error)
- Avoid jargon
- Keep interface elements to a minimum
  - Minimise user input
  - Use navigation tabs
  - Highlight active interfaces
- Hierarchical visuals (colour, text)
  - Informative motion
  - Intuitive interface design
- Navigation bars consistent and locked [33,34,36]

## System Concept Statement

In the domain of discovering, deciding where to dine out is an important topic that impacts almost everyone's lives, and most of the time it is time-consuming and frustrating. At least once per week, everyone wants to try somewhere new from lots of different options to have a shared experience with others. However the problem arises with the gap between what users want and need, and how they are supported in fulfilling these. What results is an average of 15 minutes searching every single time, with budget, dietary requirements and friend recommendations ignored.

## CONCEPTUAL DESIGN

## Choosing where to dine out

## PROTOTYPE

A user wants to be able to choose what they are craving from a nearby location with easy access to basic information. These factors are all beautifully handled by existing applications (eg. Google Maps). However, existing applications have a heavy focus on reviews, when in fact word-of-mouth recommendations are far more important with a greater influence. Additionally, those with dietary requirements (about 20%) and those with a budget (almost everyone) must search using niche apps or be directed to a menu that they must filter themselves.

## RESEARCH

Desk Research
Interviews

Filter options by:
1. Location
2. Dietary
3. Cuisine

Set default options for date and time of day of deal

Only show options that match preferences

Filters can be changed and additional options

Menu - Show text menu with only options that match preference

Add restaurant to favourites or to current list

Show the responses (thumbs) of friends

Deals - Show based on set default with option to change

About - Basic important information about the restaurant

Reviews are accessed in a separate window

○ Metaphors
▭ Design Guidelines

Shows list of options with friend rating and current deal

List name can be edited and shared with others

Word-of-mouth recommendations value more than standard reviews

Nudge with simple yes or no, as users don't usually review

Preset filters for future searches

View saved places as well as logged visits created from recommendation nudge

## Initial System Requirements

### 1. Promote Existing Deals
Users are informed of whether an option is in their budget

All users said they purchase deals at least sometimes. However, the main way they find out is by word-of-mouth as they are no way to easily view without having a deal at specific websites.

80% visit a new restaurant based entirely on receiving a discount or promotion [30]

How do you find out about promotions? 75% - Word of mouth 58% - at the store 40% - social media/ website [35]

(6)(3)

### 2. Interactive Map
Interface needs a way to search for options

Location was one of the most important factors to the users, with nearby being the most important. Since this is mobile, users expect to be able to explore but with guidance.

Willing to explore, but are not likely to engage in a complex search to find new choices [29]

"Google Maps makes it easy to view wide variety at once." - P4 [35]

(4)(3)

### 3. Editable and Shareable List
Users needs a way to review their options

Users spent on average more than 10 minutes trying to choose, looking at least 3 options, usually with others. There are an overload of options and users need an easier way to make their decision with others.

When deciding, you're with at least one other person going through the same process and things get pretty complicated [28]

"Convenience of choice, not having to navigate multiple websites" - P5 [35]

(2)(4)(5)

### 4. Filter Menu and Map View
Users only need to view what is relevant to their individual needs

This was the most important factor for those with specific needs, despite being the hardest to achieve. Each user has different cravings that may change each time and they don't want to search menus to find if its what they want.

None of the popular existing options allow the option to filter based on dietary. The niche apps that do are restrictive to that diet only.

"I don't use an app because of my dietary so I have to check all myself" - P12 [35]

(1)(5)(3)

### 5. Recommend to a Friend
Keep track of user history, remove focus from reviews

Dining out is a social experience. Word of mouth recommendations were more important than reviews/overall rating. However, users generally don't leave reviews, so instead a simple recommendation is asked.

91% visited a restaurant they'd never been to purely based on a friend's recommendation [30]

How often do you review? 66.7% never 25% sometimes 8.3% always [35]

(6)

### 6. Restaurant Info
Information to make informed decision

All existing apps allow users to filter by rating, location and cuisine. Show hours, website, amenities, reviews [21]

"Photos of food or menu, reviews, general information about opening hours or peak busy periods" - P10 [35]

(5)(7)(1)(2)(3)(6)

## RESEARCH

### Who is the user?

(1) Average person
(2) Try new, different places
(3) 10min+ twice a week
(4) Lots of options
(5) Social and entertain

| Who? | What? | When? | Where? | Why? |
|---|---|---|---|---|
| People are eating out seven days a week and at such a variety of restaurants [4] | "A vast smorgasbord of culturally diverse food that is only getting better" [4,7] | Eats out 2-3 times per week [1, 2, 4] | More than 85,000 places for Australians to eat out [4] | "desire for shared experiences" [2, 4, 15] |
| "In Australia, eating out is a popular pastime [3] Tuesday [2] 5% Saturday [30] | Rendered worldwide for fusion cuisine [3,25] | No incentive for people on their own to cook elaborate meals [15] | A high turnover of venues entering and leaving the industry [1] | "Eating out is the greatest form of entertainment" [4] |
| "When Australians aren't cooking, they're discovering new ways to eat out" [4] | 64% of the time people look for somewhere new to dine [30] | 48% eat out between 2-4 times per week [30] | We're experiencing a dining boom [4] | "Rather attend a food festival than a music festival." [4] |
| Spent almost as much as groceries, more than $100 per week [4, 1, 15, 26] | Most important part of the global economy (20% of global GDP) [30] | How often eat out? 18.3% - 3+ /week 36.4% - 2 /week 35.6% - 1 /week [35] | Restaurants are competing with, and gaining share from home cooking [26] | A majority of the food consumption shifting to restaurants [26] |
| 34% of their food budget on eating out [6, 8, 14] | "Variety is the 9th factor (1.9/3) [35] | | Industry is competitive, low costs of entry, and complexity of ingredients [1] | We want good food and good people to share it with [11] |
| What is price per meal? $4-7$ - $15-$20 18.2% - $10-$15 27.3% - $20+ [35] | How often my new places? 100% = Sometimes [35] | How long to choose? 54.5% -10-20mins 36.4% - Less than 10min 9.1% - Too Long [35] | "Customer Service is the 4th factor (1.25/3) [35] | Most important? Last = Delivery (1.5/3) [35] |
| | 5 mentioned "Craving" as part of decision process [35] | | | |

### What is important to user?

(1) matches dietary needs
(2) choose by craving
(3) recommended by a friend
(4) located nearby
(5) menu available online
(6) deal or low cost
(7) good reviews

| Custom | Type | Word-of-mouth | Location | Menu | Cost | Reviews |
|---|---|---|---|---|---|---|
| What you taste is completely different from what someone else tastes [11] | Diet out? Craving = 2nd factor (68%) Destination? Food type = 3rd influence (57%) [29] | 70% said they would avoid a restaurant if their friend gave negative feedback [30] | Location and cost are the main factors that many consider [30] | Menus are readily available on websites for the world to see [30] | Guests save money - happier = spend more + return = positive reviews [3] | 68% said they tried a new restaurant based on positive online reviews [30] |
| "My partner is vegan so that usually greatly reduces the scope of choice." - P11 [35] | 63% say that the type of food would have the biggest impact on their restaurant choice [30] | "If you've got things narrowed down, see what your friends think" [28] | 4 mentioned 'location' as part of decision process [35] | Do you use delivery? 6 = Never 4 = 50% of time 1 = 75% of time [35] | Instead of own effort, put the power of food choosing to another's hands [28] | Evidence shows customers are choosing to visually assess the menu more than ever [30] |
| "If it has gluten free options I'll go with my partner" - P12 [35] | Humans crave choice. [22, 26] | 5 mentioned 'Menu' as part of decision process [35] | What is most important? 2nd - Location (2.5/3) [35] | | Price was also high on the list, reminding us that cost is always on the mind [22, 29] | Algorithm based recommendations are only as good as the data points put in [20] |
| What is most important? 1st - Taste (2.75/3) 5th - Cuisine (2.17/3) [35] | "Categorising by cuisine" - P7 [35] | | | Based on whether there are options on the menu that can everyone in the family" - P2 [35] | Dine out? Budget = 1st factor (77%) Destination? Price = 2nd influence (57%) [29] | 45% of respondents has posted reviews or blogs in the last year [30] |
| | | | | How often do you order a deal? 75% Sometimes 25% Always [35] | What is most important? 3rd - Price (2.17/3) [35] | What is most important? 5th - Reviews (1.67/3) 9th - Budget (1.9/3) [35] |

### Existing Solutions

Social Media
Signage
Website
Apps

- Social Media - one of most popular needs [6] - new word or mouth [30] - keep places accountable [3]
- 3 mentioned not using apps at all, and 1 responded rarely [35]
- Customers rely on: - social media [1,6] - websites [1,3] - well appointed signage [1]
- What is most important? 12th - Website (1.58/3) [35]

(1) Restaurant info
(2) Lots of photos
(3) Filter by cuisine
(4) Interactive Map
(5) Link to / photo of menu
(6) Heavy focus on reviews

| Google Maps | UberEats | Zomato | (1) Happy Cow | Yelp |
|---|---|---|---|---|
| "Google Maps" was mentioned by 5 [35] | "UberEats" was mentioned by 1 [35] | Millions of people globally use Zomato every day to decide where to eat [10] | "Happy Cow" was mentioned by 1 [35] | "The biggest 'problem' with Yelp is the fact that its user reviews are hard to trust" [21] |
| "Info on a place without having to go there" - P4 [35] | "It is convenient" - P2 [35] | Review scores are normalized in every city affected by user credibility [10] | "Happy Cow removed the necessity to filter and non-vegan places" - P13 [35] | Are rating reviews - legitimate? - manipulated? - paid for? [21] |
| "Shows what's nearby, phone number and opening hours" - P6 [35] | | "Categorising by cuisine" - P7 [35] | assist with finding plant-based / vegan friendly food [27] | Percentage of people that go to Yelp because they intend to make a purchase 82% [21] |
| "Shows what's around my area" - P1 [35] | | Search foods - nearby - by delivery time - by type of cuisine [5] | seek something unique to a product (photos of the area, social media) / experience [1] | |
| More than just a tool for mapping: eg. location sharing, suggestions, reviews [35] | | Do track to deliver some $10 billion worth of food worldwide [in billion previous year] [24] | | |

## PROTOTYPE screens

Some idte to meet the design guidelines:

**VIDEO:** *https://youtu.be/BRX7kF7ynSQ*

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