



Product : Google Maps

Product Selection Rationale

- It is primarily a B2C product enabling me to easily find users to interview with and understand pain-points directly in the upcoming phases.
- It is an easy to use product with a very intuitive workflow.
- I have personally used this product quite excessively.

Aim

- Improve "Product Sense" skills by widening the scope of perspective beyond personal product usage and experience.

Devices Explored: Android Phone (Main Focus) , Web Browser (Limited)

Product Analysis - Flows & Frictions

1. Input Destination → Listing of route in various vehicle types → Choose choice of vehicle used for commute

- What works:
 - Provides excellent accurate time taken for commute based on the vehicle type chosen which helps in clear decision making among various options.
 - Clear details regarding public transport options. (Which bus number to take, which metro line to commute in, etc)
- Friction:
 - Limited Information on how to book tickets in case of public transport specially buses. No clarity on how ticketing system works for public transport.

- Image 1: No information on how and where to book tickets from

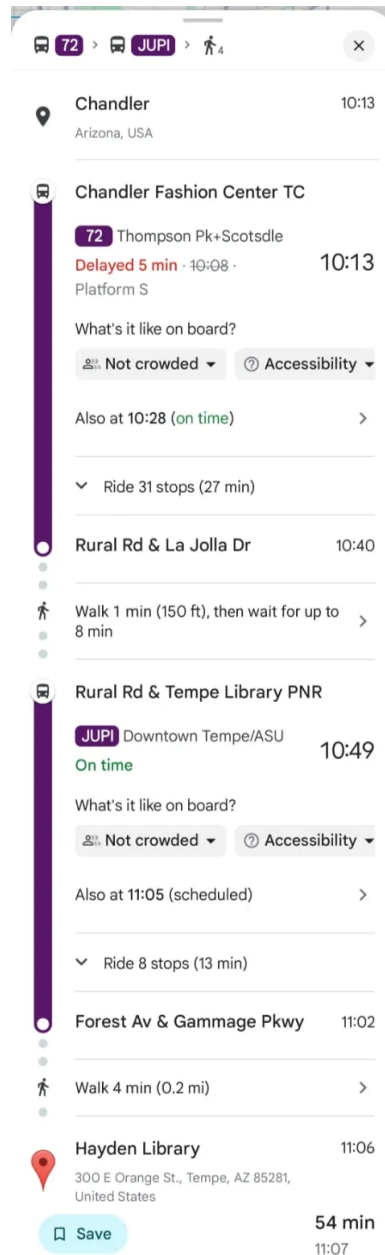


Image 1

2. Sync Maps to your 4-wheeler automobile → Input Destination → Enable Google Assistant → Listen to instructions while driving

- What works:
 - Provides safety to drivers to take turns by actively **listening** to instructions provided by assistant rather than having virtually look

at the maps for every turn while driving imposing risk.

- Gives clear instructions beforehand in order to anticipate the next exit or turn enabling the driver to make smooth transitions between lanes and stay concentrated before an upcoming turn.
- Frictions:
 - Drivers of large vehicles (SUVs, trucks, or tankers) are **not provided with clear information to avoid narrow roads**, often leading to them entering routes that are unfeasible for their vehicle size and causing blockages on narrow two-way roads.
 - Image 2: Provides options to avoid tolls, highways and ferries but no option to **avoid narrow roads**.

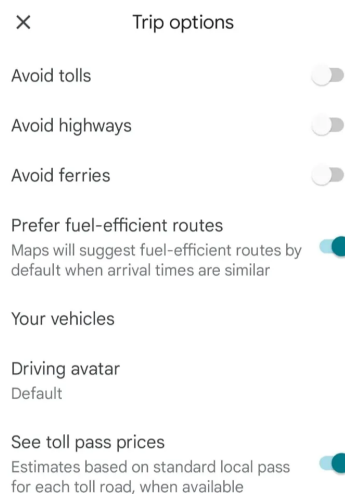


Image 2

3. As a tourist, staying at a hotel → Using “Search this area” feature → Understand utilities present near the hotel during brief stay

- What works:

- Providing information on nearby utilities such as pharmacies, printer shops, etc (Image 3)

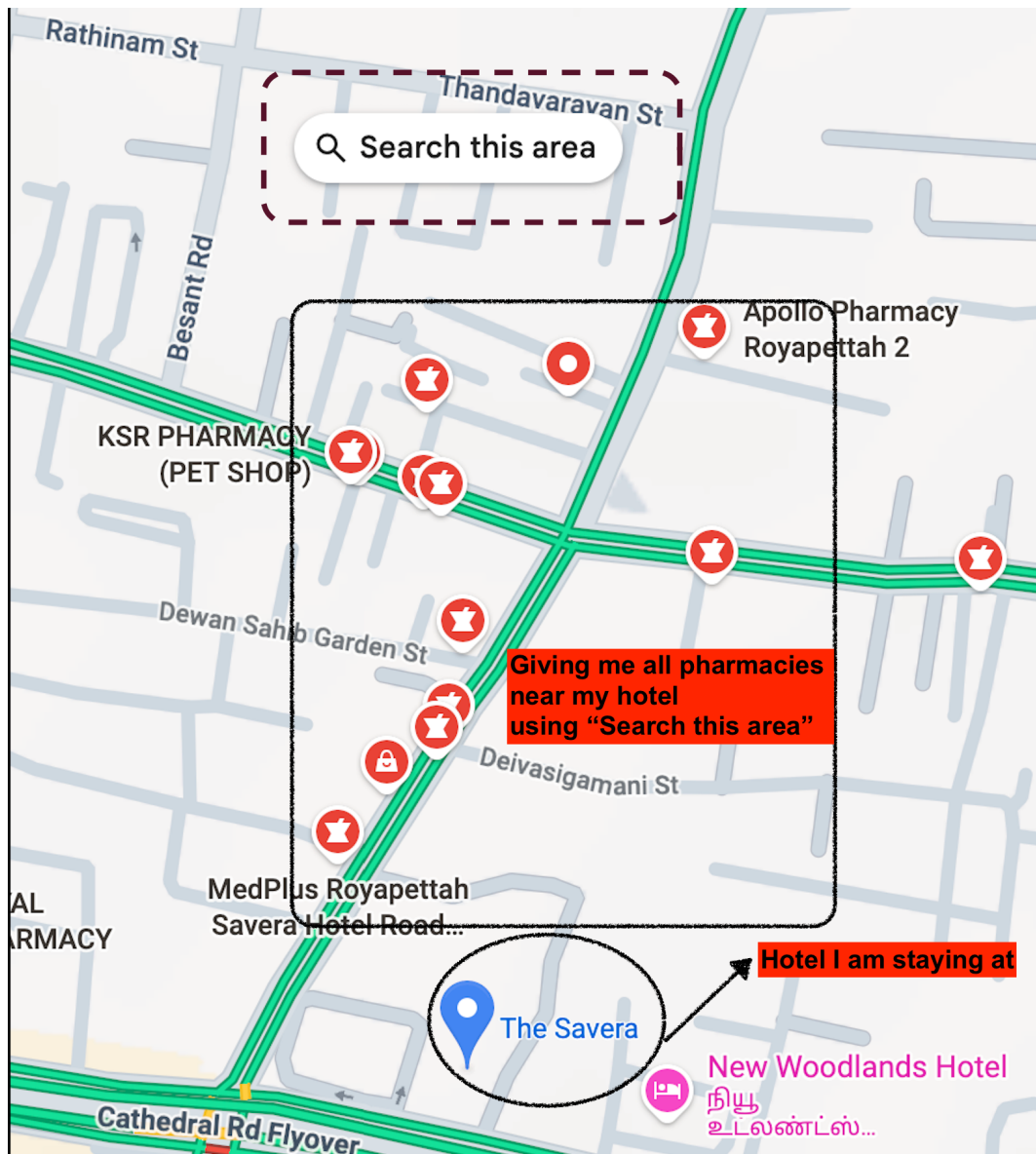


Image 3

- Frictions:
 - Does not actively help in **planning an itinerary of multiple places at once** and suggest places to cover optimally given duration of stay, time to invest for sightseeing, etc.

4. New User Flow

- What works:
 - Clean, easy-to-use interface with intuitive icons on the map for easy readability.
- Frictions:
 - Enable Live Location button not as intuitive for a new user.

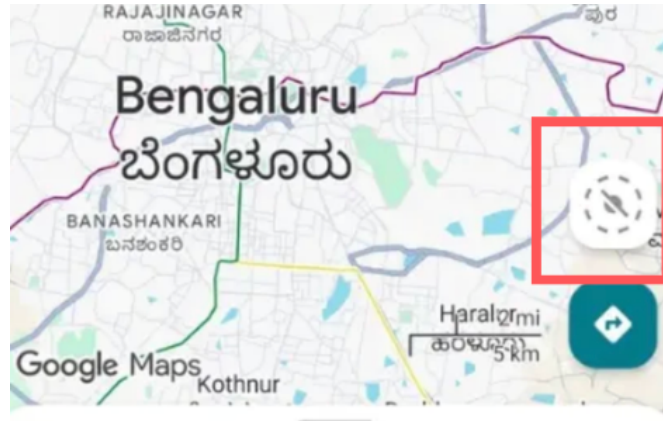


Image 4

- Once live location is enabled, the icon seems confusing as it looks similar to the compass button

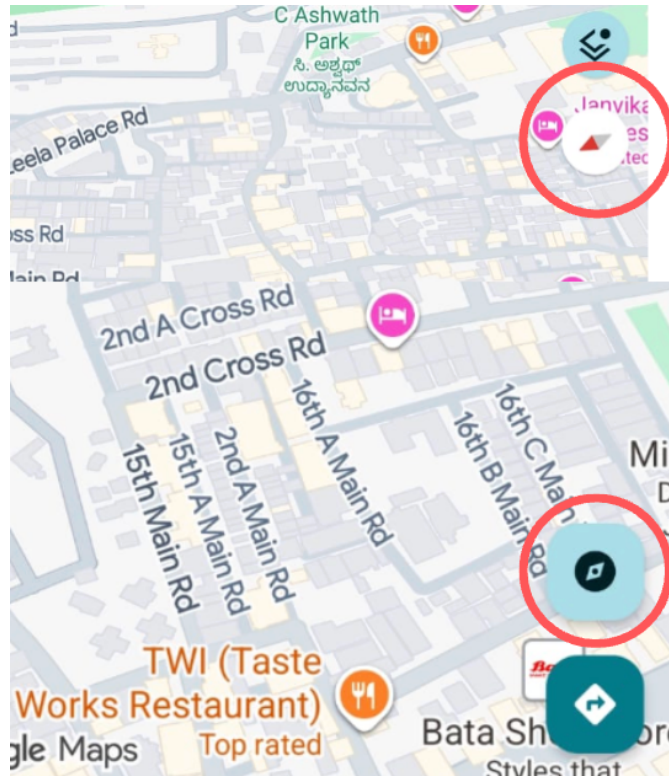


Image 5

- Navigation to "Notifications" within the app is not intuitive. Requires me to go "Saved" → "Bell Icon" to view notifications.

Note: Since Google Maps is a mature product and has significantly high number of users compared to its contender, new users are fairly limited. Focus on improvement of the product clearly does not focus on new user acquisition as a metric, rather would focus more on user retention and more active usage. I added the new users flow as well just to provide an additional insight though it is small and covers comparatively minor inconveniences.

Company Context (Mission, Revenue & Differentiators)

Mission:

Organising the world's geographical information and making it universally accessible and useful. Product Vision aligns very closely with company's mission as well which is to provide open source information world-wide.

Revenue:

Nearly 60% of Google revenue comes through search by using local advertisements.

Specifically Google Maps makes money through 2 ways mainly:

1. Ads

- Businesses can pay to display their logos on Google Maps, enhancing brand recognition. (as shown below)

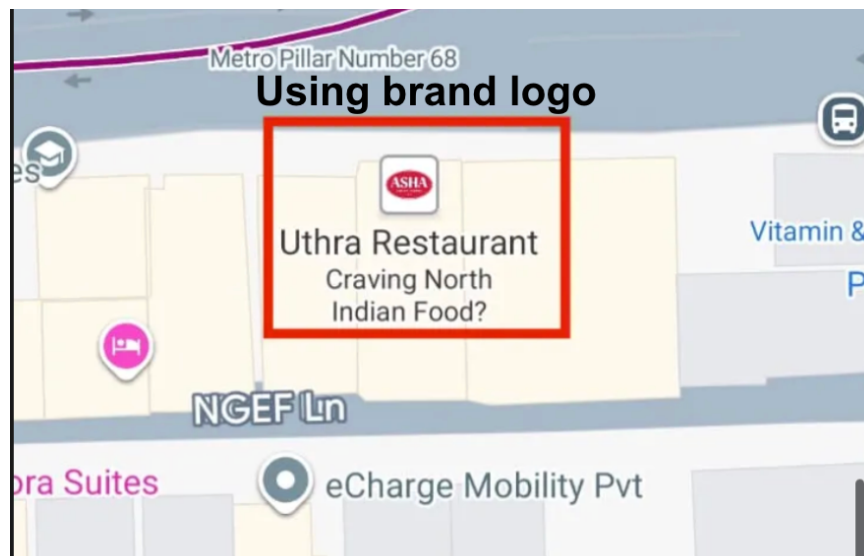


Image 6

2. Selling APIs and SDKs

- Google Maps Platform generates revenue by offering APIs and SDKs for navigation and mapping to companies at various pricing levels.
- Every ride, every delivery, every "where's my order?" screen is powered by Google and charged accordingly.

Estimated by Morgan Stanley, **Google Maps' revenue reached \$11.1 billion in 2023**, marking its transformation into a utility-like service. This represents a significant growth from \$3 billion in 2019, with a large portion of this revenue originating from the U.S., accounting for 16.5% in 2022.

As of 2023-2024:



Image 7

Competitors:

1. Google has a very dominant ecosystem, however research does say the navigation sector is growing, with an estimated forecast of \$38 billion by 2028.
2. Main Contenders:
 - Apple Maps
 - Bing Maps
 - Waze (Google subsidiary)
 - Mappls Mapmyindia
 - HERE WeGo (Offline Maps)
 - Map.me (Offline Maps)
3. Apple Maps is emerging as a strong contender:
 - Google Maps - over 1 billion active users monthly
 - Apple Maps - 500 million active users monthly

4. Google Maps leads significantly due to its extensive features, quality, cross-platform accessibility, and broader reach.

User Value and Business Value:

UV- Helps navigating and planning commutes independently and confidently by providing real-time data and easy, clean looking interface.

BV - Gathers significant user data and revenue through activity and ads viewed by high-traffic of users.

Differentiators:

- Apple Maps is subjected to only Apple devices where as Google maps is supported cross-functionally across multiple platforms.
- Bing Maps does not support high-quality complex features where as Google Maps provide some high-quality satellite imagery positioning itself as a superior quality product than the rest.

Feature Reverse-Engineering

1. Feature: Directions using Google Assistant

- Problem it solves: "I get frustrated navigating to a new location, making multiple wrong turns and stopping every now and then to ask directions to locals causing me drive with both ambiguity and anxiety."
- How it works: Clear, accurate directions which can be easily adopted and integrated into automobiles.
- Why it works:
 - Users - Independence and confidence to navigate a new location just by merely relying on the product which has a track record of having reliable information.
 - Business - Improved frequency of usage → more users used GMaps for its assistant features → more ads leading to massive revenue

2. Feature: Leave/Arrive estimation

- Problem it solves: "I find it hard to plan my commute as I am unable to anticipate the traffic and set an ideal time to leave to ensure I reach on time and don't miss important things like catching a flight✈️.
- How it works: Can set a time to leave/arrive and it promptly gives information to effectively plan your commute timings.

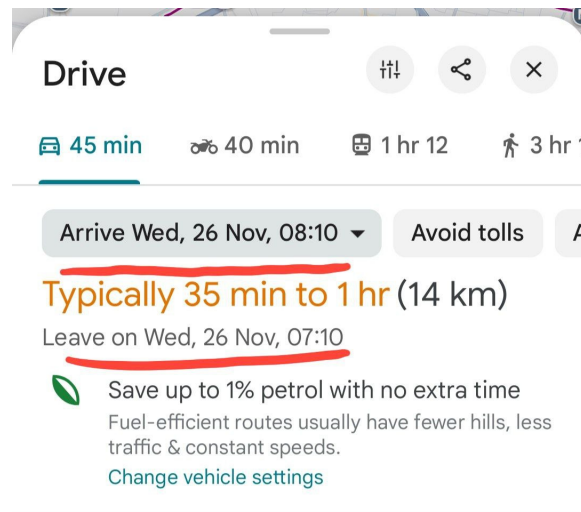


Image 8

- Why it works:
 - Users - Helps to plan well ahead in case you have somewhere important to be.
 - Business - Increased usage due to additional features like this add value → Increased usage → Increased Revenue

3. Feature: Public Transport Info

- Problem it solves: "I am new to the city and I find it overwhelming to understand how to city's public transport operates. I am not sure which bus number to take or which metro line to commute in"
- How it works: Choice of public transport - bus or train, etc provides every detail you need. How long to walk to reach the nearest bus stop, which bus number to board, what time the buses are available, ticket fare, which stop to get down at, etc.

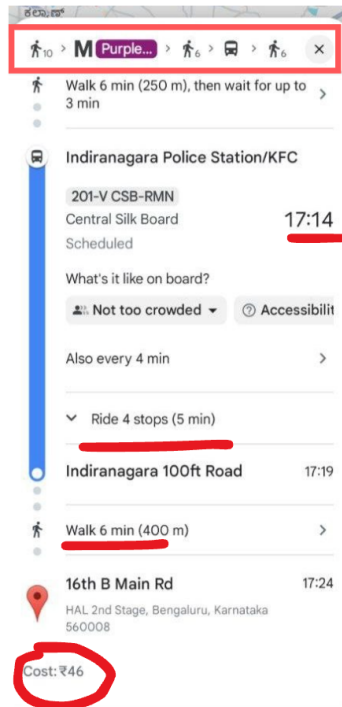


Image 9

- Why it works:
 - Users - Gives a seamless experience to people who are still figuring out public transport.
 - Business - Increased usage due to additional features like this add value → Increased usage → Increased Revenue

User Segmentation

1. Individual Users - Regular users using it for navigation and information purpose
2. Delivery Partners
 - Delivery Drivers
 - Support team to track packages
 - Customers who track the package
3. Tourists
 - Casual Traveller

- Business Traveller
4. Business Owners - To update their store timings, promote their business by incorporating business logos in maps by paying a fee.
 - Small shop owners
 - Enterprise business giants promoting their business via maps.
 - Ad agencies
 5. Developers - To integrate maps in the products they are building using APIs

Problem Hypotheses to focus on

Priority	Problem Hypothesis	Why I Picked It	Gut Confidence
P1	Heavy Vehicles struggle with identifying roads as the route suggested may provide really narrow roads that may not be feasible for heavy vehicles causing them to commute on bad roads that may lead to blockage or re-route altogether wasting time and effort.	Observed that many user complaints bowl down to the product suggesting illogical directions.	High
P2	Tourists find it difficult to plan a complete itinerary for the day with multiple locations when trying to cover as many attractions as possible leading to wasted time on planning the itinerary and potentially missing out on places that could have been easy to cover.	Found it to be an effective problem to solve that could make trip planning seamless and more enjoyable rather drowning in planning during a vacation (it is a time meant to relax)	Medium

Resources referred:

1. <https://www.onthemap.com/blog/google-maps-statistics/>
2. <https://www.onthemap.com/blog/google-maps-statistics/>
3. <https://www.google.com/maps/about/#!/>
4. <https://blog.google/products/maps/charting-next-15-years-google-maps/>
5. <https://www.investopedia.com/articles/investing/061115/how-does-google-maps-makes-money.asp>
6. <https://innovation-village.com/how-google-maps-generates-62-billion-in-revenue-without-charging-users/>
7. <https://center.ai/blog/google-maps-statistics-and-interesting-facts/#:~:text=Estimated by Morgan Stanley%2C Google,accounting for 16.5%25 in 2022.>
8. <https://electroiq.com/stats/google-maps-statistics/>
9. <https://www.techwyse.com/blog/digital-marketing-101/the-battle-of-the-maps-google-vs-bing-vs-apple-in-2024#>
10. <https://agilestorelocator.com/blog/apple-maps-vs-google-maps-comparison-guide/>