

Assignment 1 - Phase 1 - Understanding the Product and Users

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Product: [Google Flights](#)

Rationale:

1. I love to travel and to plan all my travels. Google Maps is my go-to app for finding flights
 2. I like the simple UI and ability to run a little more than basic search queries
 3. I think booking a trip is such a multi-variate problem space, that an easy to use tool that can guide user through all permutations in a smart and efficient way can really make travel booking a pleasant experience, allowing the user to maintain their excitement for the upcoming trip
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Section 1 - Flows & Frictions

User types

1. Travellers
 - a. Flexibility-based
 - i. Exact dates booking (business travel/traveling for an event)
 - ii. Flexible dates booking (vacations)
 - iii. Flexible location (known dates) booking (explorer/vacations)
 - b. Type of travel
 - i. Domestic
 - ii. International
 - c. Travel class
 - i. Economy
 - ii. Premium Economy
 - iii. Business
 - iv. First
2. Advertisers
 - a. Travel agents (target ads when people browse but not book, offer add-on services, etc.)
 - b. Airlines (aggregated booking data used for future flight routes planning, etc.)
 - c. Other ads based on upcoming travel (ex. Travel class, event traveling for, destination based businesses, etc.)

Core user flows

1. [1.b.i] Home page → select to/from and dates → select flight(s) of choice from ordered list → select any sub-selections (ex. Basic economy vs advanced basic economy) → *chart is shown to share price v/s time for selected flight* → select which external website you want to purchase from → be routed to external website to complete purchase
 - a. What works well
 - i. Simple path from start to finish with minimalistic UI
 - ii. Allows user to select multiple to and from airports (if there are multiple nearby)
 - iii. Provides all important additional options like direct vs X-stop flights, class of flight, baggage, flight times, etc.
 - iv. It even offers the opportunity to book separate 1-way flights for round-trips - something that competitors don't seem to explicitly show
 - v. Google guarantees pricing on select itineraries - they'll monitor pricing on that itinerary and pay the difference if price drops
 - b. Confusion/friction
 - i. "From" is pre-populated based on IP address and is sometimes wrong (ex. If there are multiple airports nearby, if using VPN, etc.)
 - ii. Routing to external website to complete transaction feels like an added layer of complexity (even though when routed, all fields required to make the booking are mostly pre-entered)
 1. Many a time, some of these external sites are not as trustworthy as Google
 2. There is need to repeat information (mostly because of external website designs - but this can be made simpler)
 - iii. The tool purely focuses on flights. In competitors like Expedia/Priceline/etc. there are prompts from the website to consider also booking hotels, rental cars etc. This helps plan a larger portion of the trip for the user than just the flights
 - iv. Along the same lines as 1.b.iii, it'd be great to also consider cabs from home to the airport and back, automatic alerts on any flight delays, integration with boarding pass/check-in, directions within the airport from entrance to gate, etc. This will truly remove a lot of mental overload for users
2. [1.b.ii] Home page → select to/from and hover over departure and return dates window to see prices over different dates → select dates → in the next page, select "date grid" and determine which dates and duration gives you the best pricing → select flight(s) of choice from ordered list → select any sub-selections (ex. Basic economy vs advanced basic economy) → *chart is shown to share price v/s time for selected flight* → select which external website you want to purchase from → be routed to external website to complete purchase
 - a. What works well
 - i. Simple path from start to finish with minimalistic UI - including the date grid UI
 - ii. Pricing across departure and return dates in the home page (when hovering over the date fields) is very clearly marked. Lowest prices are marked in green

- b. Confusion/friction
 - i. Best pricing (marking pricing green) is based on a pre-defined trip duration. If the user is flexible for a 3-day or a 4-day trip, that is hard to accomplish in one shot (user has to go through the entire flow twice)
 - ii. Air ticket pricing is complicated - pricing varies with time, “hidden-city pricing” is real. Smoothing these out will help save a lot of money for the user. Users have to manually run tens and tens of queries between multiple destinations over time to be able to get to this.
 - iii. Airline and credit card points and promotions, coupon codes, points transfers, etc. all further save money for the user. These are not considered in the tool and it takes a LOT of effort for user to be able to do this.
- 3. [1.b.i] Home page → [select from and dates and enter “anywhere” in “to”](#) → [get routed to Google Explore and see prices to different destinations on a map view](#) → [select destination](#) → select flight(s) of choice from ordered list → select any sub-selections (ex. Basic economy vs advanced basic economy) → *chart is shown to share price v/s time for selected flight* → select which external website you want to purchase from → be routed to external website to complete purchase
 - a. What works well
 - i. Ability to truly explore the entire earth for destinations. The UI works well
 - ii. For people just exploring/browsing the tool, the price tracker feature is a great way to be updated on prices for itineraries of interests
 - iii. Note: in the home page, there are a few suggestions already from default “from” (based on IP address) to popular destinations
 - b. Confusion/friction
 - i. There is an extremely broad set of destinations. Users who are exploring may want to explore by some type of activity they’re seeking (ex. golfing destinations), or want to attend a type of an event (ex. see fall colors), etc. Ability to incorporate user interests for the trip, user’s overall interests, history of travel, etc. can help create a personalized itinerary.
 - ii. Flights are typically bookable 9-10 months in the future. Some travelers may want to book trips 12-18 months ahead. With google pricing tracking and history, enabling booking further ahead can be a massive differentiator
 - iii. A mix of flight-classes on journeys, esp on long trips, can help optimize for pricing and travel comfort.

Section 2 - Company Context

Company: Google

- **Mission:** Organize the world's information and make it universally accessible and useful

Product Overview:

- **User Value:** Allows user to browse and find flights so that he/she can be sure of having found the best flights across a range of input parameters into a flight search
- **Business Value:** It grows Google's business by gaining more insights into user's preferences, upcoming travels, etc. → thereby helping categorize the user better for ads targeting
- **Delivery method:**
 - Browser based and app
 - Is a part of a suite of tools - Google Travel, Google Hotels, Google Vacation Rentals, and Google Explore
- **AI:** There is a new AI section that was recently added to the tool. I tried to use it to book flights but I couldn't use it too differently

Revenue Model

- Ads (additional context about the user; better targeting)
- Fuels Google's Travel Analytics data (a B2B service)
- Commissions from bookings made via Google flights

Competitors:

1. Expedia/Kayak/Priceline/MakeMyTrip/etc.
2. Skyscanner
3. Airline websites

Differentiators

1. Expedia/Priceline
 - a. Google flights focuses on flights and offers a targeted experience to book flights only. This focus helps simplify the UI and tune it exactly to the needs of a user looking to book flights
 - b. Google flights allows for multiple to/from entries
 - c. Google flights offers proactive insights into ways I can choose a better date or a nearby airport etc.
2. Skyscanner
 - a. More complex UI - started off only with flights but has expanded since to hotels and car rentals too
 - b. Skyscanner is moving towards Expedia/Priceline style UI
3. Airline websites
 - a. UX vastly varies airline to airline
 - b. Sometimes prices are higher on airline website and lower on Google flights/Expedia/Priceline/etc. But its never the other way around
 - c. User has to go to multiple airline websites to truly get the best ticket for them

Section 3 - Feature Reverse-Engineering

Features

1. Date Grid

- a. Problem it solves
 - i. It provides a quick view of +/- 7-day pricing for the same itinerary (no need to search 7x times) and thereby enables a user with that flexibility to choose the best days to travel
- b. How it works
 - i. Runs the search in the backend using the same set of travel constraints (travel class, number of passengers, to/from, baggage, etc) for +/- 7d from user specified date
 - ii. Displays the best prices on each of those days (note: this is across airline pricing from multiple airlines on those different days) in a simple table
 - iii. Highlights, in green, the cheapest travel dates - making it easy for the user to pick the best days

Dates

Price graph

Departure

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Cheaper

Compared with other prices shown

Sat Oct 4	Sun Oct 5	Mon Oct 6	Tue Oct 7	Wed Oct 8	Thu Oct 9	Fri Oct 10	
\$104	\$133	\$104	\$104	\$140			Wed Oct 8
\$104	\$127	\$104	\$104	\$104	\$106		Thu Oct 9
\$104	\$127	\$104	\$104	\$104	\$104	\$159	Fri Oct 10
\$101	\$124	\$101	\$101	\$101	\$101	\$122	Sat Oct 11
\$153	\$173	\$152	\$153	\$153	\$152	\$177	Sun Oct 12
\$125	\$154	\$125	\$125	\$125	\$125	\$145	Mon Oct 13
\$101	\$124	\$101	\$101	\$101	\$101	\$122	Tue Oct 14

Oct 7 - 11

\$101 · Round trip

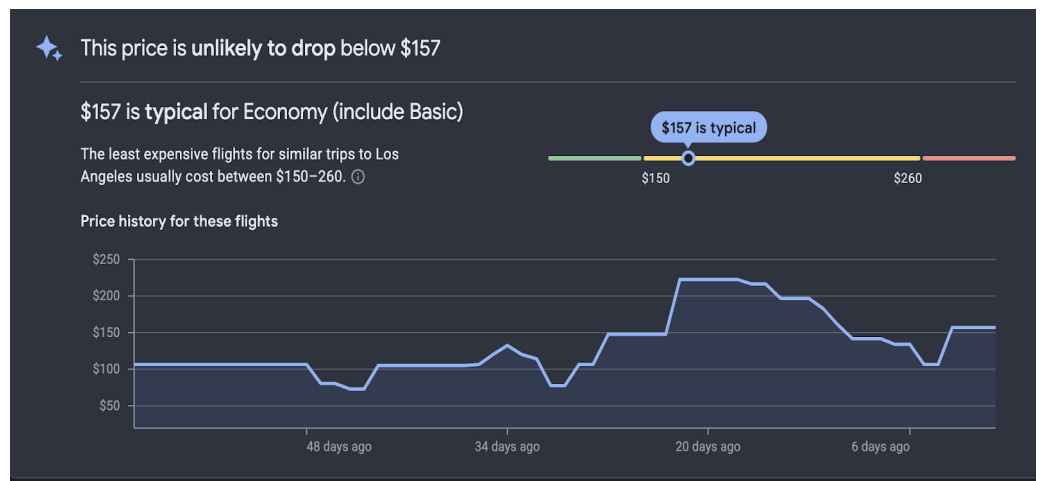
Cancel

- iv.
- c. Why it works
 - i. For user
 1. Ability to parse across a large sample space of permutations quickly and easily
 - ii. For business

1. Develop a deeper understanding of the user and their careabouts (ex. cost)

2. Price Graph

- a. Problem it solves
 - i. It provides historical pricing to the user as a chart, thereby allowing user to understand at what point on the price curve they're purchasing tickets at (ex. Prices are higher closer to date of travel)
- b. How it works
 - i. Google queries and stores price data for flights for all combinations of sources and destinations
 - ii. Google displays it as a line chart with some text reiterating whether this was a good purchase by the user or not



- iii.
- c. Why it works
 - i. For user
 1. User has quantitative data to prove they didn't spend wastefully
 - ii. For business
 1. Builds trust with user
 2. Builds necessary data to train future price predicting algorithms on

3. Quoting/Comparing booking options

- a. Problem it solves
 - i. By clearly ranking sources for ticket prices and by providing links to directly book, it makes the final step of booking easy for the user
- b. How it works
 - i. Google quotes and ranks all the sources for the flight tickets it has published on the site so far
 - ii. Google also provides links to these sites and makes it easy to continue on partner sites from where user left off on Google flights (with some data already entered)

1 free carry-on

1st checked bag free

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Bag fee info isn't available when booking with FlightHub, Priceline, Bravofly, CheapOair or Gotogate

Baggage conditions apply to your entire trip. Bag fees may be higher at the airport. [Lufthansa bag policy](#), [United bag policy](#)

Booking options

How options are ranked ⓘ

	Book with Lufthansa Airline	\$1,068	Continue
	Book with United Airline	\$1,069	Continue
	Book with business-class.com	\$1,344	Continue
	Book with Adam Vacations	\$1,038	Continue
	Book with FlightHub	\$1,083	Continue
	Book with Priceline	\$1,088	Continue
	Book with Bravofly	\$1,068	Continue

iii.

c. Why it works

i. For user

1. The process is made as seamless as possible between two different websites

ii. For business

1. Commissions for each referral
2. Shows competitor websites also in this view - which can really help if the competitor is not the best price
3. Understand which customers prefer which of the final booking websites

Section 4 - User Segmentation

User Segmentation

Primary Segment	Sub-Segments	User Needs	Problem Hypotheses
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1. Exact Dates Travelers (business/event-based)	- Business travelers (work trips, conferences) - Event-based travelers (weddings, concerts, sports events)	- Fast and reliable search - Non-stop/direct flights - On-time reliability - Easy integration with calendar/travel apps - Clear baggage/seat info upfront	- If users cannot quickly filter to reliable direct flights, they risk wasted time and missed obligations. - If integration with calendars is missing, users may double-book or mismanage schedules. - If baggage/seat info isn't transparent, they face frustration and unexpected costs.
2. Flexible Dates Travelers (vacationers)	- Families planning around school breaks - Couples/solo travelers seeking cheapest fares - Seasonal vacationers	- Price alerts & prediction tools - Inspiration on cheapest times to fly - Flexible date/month search - Bundled deals (hotel + flight) - Clear refund/change policies	- If pricing trends aren't clear, users may book too early/late and overpay. - If flexible date tools are hard to use, they may miss cheaper options. - If refund/change policies are unclear, they risk hesitation or lost bookings.
3. Flexible Location Travelers (explorers)	- Spontaneous travelers (anywhere, anytime) - Budget travelers (students, backpackers) - Deal hunters (open to destinations)	- "Explore map" for multiple destinations - Filters by budget/flight time - Quick comparisons across destinations - Visual inspiration (photos, guides) - Easy save/share with friends	- If the explore tool is not intuitive, users may abandon and use competitors. - If price-to-value comparison isn't clear, they may feel overwhelmed by choices. - If sharing options are limited, group trip planning suffers.

Section 5 - Top Problems: Hypotheses

Priority	Problem Hypothesis (Problem-only framing)	Why I Picked It	Gut Confidence
P1	Most users find friction in finally needing to book the tickets through an external website (and not within Google flights itself) because it requires them to navigate through two different experiences	1. [High Frequency] Impacts a lot of traffic through google flights 2. [Med Impact] Needing to use two apps/webpages to accomplish one task isn't optimal. 3. [Med effort] Google will need to store additional details about the user and expand APIs to airline websites to go through booking	Medium
P1	Most users' needs to also figure out a plan to and from the airport are unmet. These typically require users to find solutions separately (friends dropping them off, Uber, etc.)	1. [High Frequency] Impacts all users who book flights 2. [High Impact] Since Google already has all the information necessary to pre-book an Uber, this offers a very high impact UX 3. [Med effort] Google will need to integrate with additional services like Uber	High
P1	Most users are not able to save more money by incorporating credit card benefits, points, etc.	1. [High Frequency] Impacts all users who book flights 2. [High Impact] Saves end user money 3. [High effort] Google will need to integrate with non-traditional sources and have complicated algorithms to incorporate variance in points, etc.	Low
