

Assignment 2 - Phase 1 - User research and Hypothesis validation - Praveen ancha - Cohort 47



Cohort 47

Assignment 1 – Product Quest

Phase 2: User interviews + Surveys

Product: Claude AI by Anthropic

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Step 1: User Interviews + Surveys (Turning Conversations Into Evidence)

Hypothesis 1 (P1): Students struggle to complete assignments on time due to information overload, difficulty in structuring their thoughts, and lack of efficient research methods, causing stress and potentially lower grades.

Hypothesis 2 (P2): Developers spend excessive time debugging code and searching for solutions across multiple resources, reducing productivity and causing project delays.

Hypothesis 3(P3): Enterprises struggle to implement AI solutions due to lack of expertise, concerns about data privacy, and difficulty in customizing models for their specific needs.

Research methodology and execution:

1.1 The primary section, I selected P1 and P2 hypothesis which focuses on students/researchers and Working professionals.

The reason to choose this hypothesis is, it was more easy for me to conduct interviews to validate this hypothesis since P3 was more focused on enterprise, it was difficult for me to find these users. Since this reseach has limited amount of time, I had to stick with the P1 and P2 hypothesis.

While conducting the user interviews, the users were asked the following questions:

Introduction (since majority of the users are my friends, there was no formal introduction (Ps: The process was transperant, I maintained professional boundaries in order to use to this interviews to fullest for my research on this product).

After introduction, the questions were as follows:

1. Do you use any AI tools?

2. What AI tools do you use?

3. Do you use Claude AI?

If the answer is Yes, then I would proceed with second phase of questions.

The next phase of the questions are as follows:

1. When do you this product?

2. Why did use this product and what were you doing with this?

after carefully listening there were follow up questions depending on the people and their usage, they were speaking and I was pushing them to speak.

What are their favourites and which features frustrates them more?

3. From the answers, I understood the pain points and asked several follow up questions, which were as follows:

1. When did this specific problem occurred? Can you walk me through this?

2. How many times did you face this problem?

3. What they used to do when this problem occurs?

4. How it impacted their day or work?

After getting information, there was closing statements

which was like, what one feature do you wanna add and is there anything else do you wanna add to this?

How did I approach?

The approach was simple, since majority of them were my friends I called them and got the responses.

For the user surveys, I created the form and shared among the whatsapp groups and sent formal messages.

By this approach, I conducted 5 user interviews and got 19 responses from user survey which was conducted through the google forms.

Individual Interview Summary:

Interview 1 :

Name : Pavan, Age 24 - Student/Researcher

Pavan of age 24 pursuing masters at Northeastern university with focus in Computer Engineering Systems, majority of his day involves in doing coding exercises and assignments. Moreover, he is a regular user of the Claude AI and uses the free version of it.

Key Quotes:

Unexpected Behavior:

"I think three times before I hit send now. Like, is this question really worth one of my remaining chats?"

Context: When asked how free tier limits affect his behavior. Shows he's mentally tracking usage constantly, treating each prompt as a scarce resource.

Showing Frustration:

"I gave a good prompt to generate the image, rather than the generating the image it gave me html code which frustrated me a lot and lost interest in doing the things.

Context: He was working on his UI/UX assignment, when he gave prompt to generate a image for the design of UI after giving multiple prompts there by making him frustrated and losing interest in doing this assignment and switching to other AI tools.

Unexpected Insights:

User exhibits high product loyalty despite significant pain points - prefers to retain Claude usage rather than fully migrate to competitors.

Context: Even after not helping in generation of images and giving multiple prompts, I assumed that the user would leave the AI tool. Instead, the user feels as a luxury good.

Interview 2 :

Name : Ashutosh Singh, Age 28 - Student/Researcher

Pavan of age 28 pursuing masters at Northeastern university with focus in Computer Engineering Systems, majority of his day involves in doing coding exercises and assignments. Moreover, he is a regular user of the Claude AI and uses the enterprise version (free for students) of it.

Key Quotes:

Unexpected Behavior:

"I gave my resume to optimize to industry standards, it optimized based on its own assumptions"

Context: The user gave a prompt to optimize the resume, rather than giving the resume as per his needs, it drafted unnecessary bullet points which are not related to his experience. The user states like this "In one of my bullet point (work ex), it wrote optimized work flow and reduced time from 3 seconds to 5 milliseconds" which he felt these assumptions are baseless.

Showing Frustration:

"I gave a prompt to explain about a topic in brief, it gave me detailed information which annoys me a little and makes me switch to other AI tools".

Context: the user tells that he has to give sophisticated prompt, in order to get the required output.

Unexpected Insights:

1 of 5 technical users, uses Claude for documentation and rephrasing rather than code generation, despite of Claude coding capabilities,. This suggests that coders need writing assistance for technical documentation more than code generation.

Context: I assumed that the technical users this tool for coding purposes, Instead I discovered that they use it more for technical documentation.

Interview 3 :

Name : Vidhi Patel, Age 26 - Works as Business Analyst at a Healthcare Startup

Vidhi Patel of age 26 is working as Business analyst at a Healthcare startup, majority of her day involves in stakeholder communications, gathering the functional requirements and converting them to technical requirements, performing UAT. Apart from this, she is masters student in Information systems and does coding. She uses Claude occasionally.

Key Quotes:

Unexpected Behavior:

"I keep both Claude and ChatGPT open in tabs to switch between them depending on which gives me better version of answer to my question"

Context: When asked the user, she tells that when prompted Claude about a question it gives detailed info which is difficult for the user to understand, instead she copies the output and ask Chatgpt to refine it

Showing Frustration:

"I gave a good prompt to draft a document, the information is not as accurate"

as ChatGPT which makes me frustrated"

Context: She was working on her technical documentation, when she gave prompt to generate a information on particular topics, it gave the ouput which was outdated.

Unexpected Insights:

Users aren't choosing Claude OR ChatGPT - they're using both in parallel, with Claude for 'premium work' and ChatGPT as backup. This suggests the problem isn't feature parity but access reliability.

Context: Since the users are not satisfied with the output given by claude, they use chatgpt as their backup.

Interview 4 :

Name : Akshay, Age 26 -Cloud Engineer (GCP)

Akshay of age 26 works as a cloud engineer at a Fortune 500. He works on Google Cloud platform where he codes regularly. He doesnt use Claude AI (website) instead he uses the integrated models of Claude AI in Microsoft Co pilot.

Key Quotes:

Unexpected Behavior:

" The claude AI agent in my coding workspace creates a havoc when used to fix a single line of code by changing the entire code logic"

Context: When user was working on his code, he gave small change in prompt which resulted in the entire loss of data and code as well as logi.

Showing Frustration:

"The agent mode changed my entire code logic when I only asked for a small fix. I lost two hours of debugging work".

Context: Expressing frustration about reliability of agentic features, shows trust breakdown.

Unexpected Insights:

Despite expressing frustration with usage limits and reliability issues, the user continues returning to Claude Agent as their primary tool, indicating stronger product stickiness than anticipated

Context: When asked about their experience with Claude's limitations and reliability issues, the user openly complained about frustrations (usage limits, occasional hallucinations, context loss) but immediately clarified they still use Claude daily and prefer it over alternative.

Interview 5 :

Name : Uday Shankar Age : 24

Uday of age 24 works as an AI/ML Engineer at startup firm. He is regular user of Claude and develops AI models.

Key Quotes:

Unexpected Behavior:

"After 30-40 messages in one thread, the responses become noticeably slower, so I have to open a new chat and type 'continue from where I left'"

Context: User discovered Claude's performance degrades in long conversation threads, forcing him to manually split sessions and re-establish context in new chats. This workaround breaks his workflow and requires repeating context.

Showing Frustration: "I find it difficult copy-pasting code and errors from VS Code. It feels so time-consuming."

Context: Describing his workflow friction when debugging with Claude. The manual process of switching between VS Code and browser, copying code snippets and error messages creates enough friction that he sometimes stops working entirely to take a break. Shows how workflow interruptions cause not just inefficiency but mental fatigue that halts productivity.

Unexpected Insights:

All 5 users expressed that Claude requires precise prompt engineering - vague or poorly structured prompts result in irrelevant outputs, forcing users to rework their queries from scratch

Context:

When discussing their learning curve, every participant mentioned struggling with how to phrase requests effectively. They compared Claude unfavorably to ChatGPT, describing Claude as "picky" and "less forgiving" when prompts aren't precisely worded. Users waste time reformulating prompts when initial attempts miss their intent.

Interview Pattern analysis

Pattern	Frequency	Evidence
Precise Prompt Engineering	5/5 participants	P1 - "I have to give correct prompts" P2 - "Incorrect prompts results in hallucinations" P3 - "Wrong prompts - wrong answers" P4 - "Change in prompt - change in complete code logic"

		P5 - "Prompt can be more user friendly"
Detailed explanation of topics	4/5 participants	all the user feel frustated where they tell" I give a prompt to explain about certain topic, it gives detailed explanation which feels frustated"
Context loss across sessions	3/5 participants	"I have to re-explain my project every time" - P1, "Starting fresh is annoying" - P4 "wanted to work only in projects feature" - P5

New Problems Discovered:

In Phase 1, I hypothesized problems around general usage and features. After user research, I discovered different problems users actually face:

1. **Prompt engineering barrier** - Users struggle to phrase requests precisely enough to get useful outputs
2. **Context loss in long conversations** - Performance degrades after 30-40 messages, forcing users to restart
3. **Usage limit friction** - Free tier limits cause mid-session abandonment and switching to competitors
4. **Perceived value gap in paid tier** - Users feel Pro doesn't offer enough differentiation compared to ChatGPT Plus

Phase 1 Hypothesis Status:

All the hypothesis proposed in phase 1 are too generic user problems and they were directionally wrong since thy are more focused on claude specific fiction points.

User Survey Results:

The survey design contains 10 questions, where I shared to my friends, professional groups and I got 19 responses.

Here is the link for the responses of the survey :

https://docs.google.com/spreadsheets/d/1Du0h90SYA13p_JZJn-6RjVWbDuV9H9plqEqiq4Gu0WU/edit?usp=sharing

Survey Insights:

based on this survey, I found that my initial hypothesis is wrong. I got to know the real user problems

Section 2: SWOT Analysis

Strengths	Weakness
1.Best code debugging and generation (every technical user who writes the code mentioned about this) 2.Summarization of documents (3/5 users) 3.Deep research and content generation.(4/5 users)	Context loss across sessions (all 5 participants frustated) Prompt Engineering barrier (4/5 participants frustated) Usage limit friction for a free user (all the free users)
Opportunities	Threats
Growing demand of AI assistant tools - opportunity to capture developers frustated with other AI tools. Integration with other tools, Claude doesnt integrate with VS code. Prompt template can reduce frustation and helpful for wide range of users. Increasing the free user limits and	ChatGPT generates images and videos with pro versions while claude doesnt Perplexity and Gemini has browser which automates the tasks for the users, thereby easing the way of things which claude doesnt have. All the other Ai tools have voice generation feature, while claude doesnt Limited paid features when compared with

giving offers for all the students.

other AI tools which might result in loss of market share.

Step 3: Goal Setting - Linking User Pain to Business Impact

User Problem:

"4 out of 5 users struggle with prompt engineering - imprecise prompts result in irrelevant outputs requiring complete rework"

User Behavior:

Users experience frustration from wasted time reformulating prompts, some abandon tasks or switch to ChatGPT which they perceive as more forgiving of imprecise requests

Business Impact:

Activation and Retention - Users abandon Claude during onboarding or after early frustrations, reducing active user base and increasing churn to competitors

Goal Statement:

Improve activation rate for new users by reducing prompt engineering barriers, leading to higher retention of casual users who lack AI prompting experience

Step 4: Personas - Bringing Users to Life

User 1 : Problem solver Pavan

Identity : Graduate student, 24, Computer engineering

" I need Claude to help with my coursework"

Goals:

1. Solving Code bugs and deep dive into technical projects
2. Building documentaiton and researching on technical topics.

Behaviours:

1. Uses Claude regularly almost 7 times in a week
2. Sessions last 1 - 2 hrs.
3. Works on multiple assignments in the coursework
4. Uses Claude AI tool web version

Frustrations:

1. Complicates the simple things by giving detailed explanation
2. Finds difficult in prompting the chats.
3. Memory restoration is less
4. Does not have the feature of image and video generation.

Usage Pattern:

Uses Claude → Finds difficult in prompting and lose the flow → switches to ChatGPT or other AI tool

Success scenario:

Pavan finds it easy to code and build end to end technical projects using Claude and strictly uses this for entire his coursework.

Failure scenario:

Feels difficult in generating images, goes to other AI tools such as Gemini or ChatGPT and does return only for coding and content generation after 2 or 3 days.

User Persona 2: Software Shankar

Identity : AI/ML Engineer, 24, Startup "Generates complex code with simple ideas, but strictly follows ethical standards".

Goals:

Code generation and debugging

Research and technical documentation

Gives different perspective on problem solving

Learn best practices

Behaviors:

Uses Claude for 75% of tasks

Session lasts for 3 - 4 hours

Uses 90% of time during the working hours

Asks for different code generation ideas

Frustrations:

Had to prompt to avoid the context loss.

Thread conversation becomes slow after hitting 30 - 40 responses in a single chat especially projects section

Explain more detail and have redraft the prompt

Usage Pattern :

Coding task → Claude → Code generation → dependencies → Switches to other AI tools

Success:

To complete his daily tasks, Shankar prompts and develops System design and models.

Failure:

Since, Claude is not integrated with IDE's, he switches to VS code dependencies for easier error handling tasks.

Step 5: Problem Prioritization - Choosing Your PO Purpose

All problems identified from the research

1. Prompt Engineering
2. Context loss
3. Usage limit for free user
4. Percieved value gap in paid user
5. UI problems
6. Over Explanation

PIF Scoring

Problem	Population (users affected)	Intensity (How bad)	Frequency (how often)	Total Score
Prompt Engineering and Context loss	5/5 (100%)	4.5/5	Daily	9/10
Usage limit for free user	3/5 (60%)	3/5	2 - 3X/ week	6/10

Percieved value gap in paid user	4/5 (100%)	3/5	2 - 3X/ week	7/10
UI problems	3/5 (60%)	3/5	2 - 3X/ week	6/10
Over explanation	4/5 (80%)	4./5	Daily	8/10

3. Apply strategic filters:

- Does it link to your chosen business goal?
Prompt Engineering Barrier and Context loss - Yes
- Does it align with your product's strengths?
Prompt Engineer Barrier and Context Loss - Yes
- Is it solvable within scope?
Yes it is available in scope

4. PO Problem Statement:

Selected Problem: Prompt Engineering and Context Loss

PO Problem statement: Users frustates or switches to other model, since they find imperfect prompts gives incorrect inputs and increases time consumption, resulting in poor rention rates.

Why this problem:

Users (both free and paid students, coders) experience frustration and consider churning when imprecise prompts produce irrelevant outputs because Claude lacks prompt guidance, templates, or clarification features, leading to wasted time reformulating queries across multiple sessions and questioning the value of their money compared to other AI tools.

Why This Problem:

- **Highest business impact:** Directly causes churn (4/5 users switch)
- **Clear user pain:** "Most frustrating part" - 80% survey respondents
- **Measurable:** Can track abandonment rate, switching behavior
- **Solvable:** Multiple solution paths exist

- **Strategic:** Aligns with free-to-paid conversion goal