



Project Topics Brainstorm

Project Idea	Key Benefits	Resources Needed	Personal Preference
<u>LoopLiving</u>	<ul style="list-style-type: none">- Provides affordable access to designer furniture- Promotes sustainability & reduces waste	<ul style="list-style-type: none">- Web Framework (Python Flask)- Simulated furniture database (JSON/SQLite)	★★★★ (relatively easy)
<u>Sparkline</u>	<ul style="list-style-type: none">- Using AI brings a new way of interacting in dating- Reduces the awkwardness of breaking the ice	<ul style="list-style-type: none">- LLM API (Gemini/OpenAI)- Real-time chat tech (WebSocket)	★★★★ (relatively hard but interesting)
<u>TripMaaSive</u>	<ul style="list-style-type: none">- Simplifies the tedious process of trip planning/booking- Saves time through all-in-one platform	<ul style="list-style-type: none">- Web Framework (Python Flask)- Interactive front-end (JavaScript)	★

▼ LoopLiving - A Furniture Rental & Sustainability Platform

Project Description

This platform's main feature is a designer furniture rental service. It allows people on a budget who still want to style their homes to use their favorite furniture for a period of time. This makes changing the interior style easy and flexible.

If you don't want to rent, you can also buy furniture affordably on the platform. You can always see at the beginning of every school year, a large number of students buy low-quality "fast furniture" from Walmart or Target. By the end of the semester, much of this furniture is abandoned on the roadside, even though it's still usable. This creates a huge amount of waste. Therefore, our

platform also includes a marketplace to make buying and selling second-hand furniture easy, not limited to just designer brands.

The core concept is to make an aspirational lifestyle more accessible while promoting environmental sustainability. The guiding principle is: "Moving is tiring enough. Let's make decorating simple!"

Use Cases

- Sarah is a young designer just moved into a new apartment in New York. She wants a mid-century modern living room but can't afford expensive designer pieces. Using **LoopLiving**, she filters by "mid-century modern" and rents a classic Eames lounge chair and side cabinet for six months. When her rental period ends, she decides to try Japanese Wabi-sabi style. She easily schedules the return online and selects new items, making the entire process enjoyable and hassle-free.
- Allen is a new student at ISU. His senior is moving and gives him an expensive floor lamp that he can't take with him but feels is too good for Goodwill. Allen suggests selling it on **LoopLiving**. Allen also browses **LoopLiving** to rent quality IKEA furniture. He wants to avoid cheap Walmart furniture, but IKEA is too far away and requires assembly, so he prefers to rent pieces that are ready to use.

Feasibility

Implementation Challenge






The primary real-world challenge is logistics (delivery, storage, and cleaning). For this project, these offline operations will be simulated. The main technical challenge will be designing a smooth, reliable software system to manage the rental and return process. And because the platform is like an e-commerce site, it will require a database.

Self-Assessment

I don't have experience building a project by myself from start to finish, as my background is mostly in user studies, so this will be a new challenge for me. I have experience querying databases to get data, but I have never built a database and connected it to an application before. The project also needs a strong visual aesthetic, and I need to strengthen my knowledge of furniture brands, and interior styling.

This idea is something I'd actually use myself. Compared to the dating app which has more hype, this one just feels more practical and doable.

Future Spec Elements

 Users	 Problem Solved	 Interface & UI
<ul style="list-style-type: none">- Young people interested in interior design- Eco-conscious consumers- College town students.	<ul style="list-style-type: none">- The high cost of designer furniture.- Environmental waste from the fast-furniture industry.	A web and mobile app with Pinterest-like e-commerce styling. Users can share/save styles or directly rent/buy items.
 Data	 Outcome	
A simulated furniture database (using JSON/SQLite) with images, description and price.	A fully functional (simulated) rental workflow and a user dashboard for managing rented items.	

Pending Items

1. Any existing furniture databases
2. Any competitive products?

▼ Sparkline - An AI-Powered Dating App

Project Description

This is a new type of dating app designed to move beyond superficial swiping and boring small talk. Its core feature is not AI-powered matching, but rather using AI as a catalyst to help users build more meaningful connections by generating personalized, deep questions and guided collaborative tasks.

Dating takes a lot of effort. In online dating, the initial phase often involves guessing each other's motives and intentions. This project introduces AI into that process, acting like a "Dating HR" to assist and guide users in finding the right person. Furthermore, since many people don't fully understand themselves, the AI can help with analysis for better matching. It could even act

as a rational third party to advise on ending an incompatible relationship or assist in the breakup process.



A key feature is a new interaction model that feels more like a real-life conversation than turn-based texting. The online chat will feel as natural as talking to a friend face-to-face, where every action, like typing, pausing, and deleting, is visible to the other person, making the interaction more authentic and immediate.

Use Cases

After being matched by an AI analysis, Tom and Amy find that their chat window isn't a blank slate. **Sparkline** analyzes their shared interests in sci-fi movies and hiking and presents the first icebreaker: *"If you had to go hiking in a scene from any sci-fi movie, which scene would you choose?"*



This question immediately sparks a lively discussion. During the chat, they can see each other's real-time typing status and exploding smiley face emojis, which makes the conversation feel more engaging. After the chat ends, **Sparkline** analyzes it, determines there is an 87% chance for them to develop their relationship further, and helps them schedule their next date...

Feasibility

 Implementation Challenge
The main challenge is determining when and how the AI should intervene in the conversation. And how to design effective prompts to guide a LLM API and implementing a real-time chat interface that shows typing indicators (which may require learning WebSocket technology).
 Self-Assessment
I only have a basic understanding of AI and LLMs. I'm really into the dating app idea. It would totally connect with young people and it taps into the whole AI trend, but I'm honestly worried I can't pull it off.

Future Spec Elements

 Users	 Problem Solved	 Interface & UI
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People who are tired of existing dating apps and are seeking a spark and deeper connections.	The tedious matching process of online dating, superficial conversations, and the difficulty of breaking the ice.	A mobile application with its unique real-time chat UI and an AI agent in it.
 Data	 Outcome	
User-submitted interest tags and personality quizzes. The core conversational content will be generated by connecting to a third-party LLM API (like Gemini or OpenAI).	An AI-assisted dating app that helps reduce the burden of matching, generates interesting icebreakers, and provides an innovative communication experience.	

Pending Items

1. Any competitive products?

▼ **TripMaaSive - A Visual All-in-One Itinerary Planner Platform**

Project Description

TripMaaSive combines the concepts of a "trip", "MaaS" (Mobility as a Service), and "massive". MaaS is the concept of integrating various forms of transport (like buses, subways, taxis, bike-sharing, etc.) into a single mobile platform, allowing users to plan, book, and pay for journeys through one app.



When planning a trip, you have to find and book flights, trains, and rental cars separately. With a MaaS approach, you could plan it all at once and book everything in one stop. It would be even better with templates from other users or AI-powered suggestions to save time and effort. **TripMaaSive** provides a visual, drag-and-drop interface, allowing users to build their itinerary as easily as solving a puzzle. Its core feature is its community aspect, where users can share their own itineraries as templates, and others can copy and modify them with a single click.

Use Cases






Liya is planning a two-week trip to Italy and feels overwhelmed. She searches for "14 Days Italy Classic" on **TripMaaSive** and finds the most popular

template. She copies the template to her own workspace, deletes a museum visit she's not interested in, and drags a cooking class from the attractions list on the side. The system automatically updates her daily budget, connecting transportation and travel times, making the entire planning process intuitive and effortless.

Feasibility

 Implementation Challenge
The lack of free and comprehensive travel booking APIs. Therefore, the challenge is how to create a useful and engaging planning experience when most of the data is simulated. The main technical challenge will be building a smooth and responsive drag-and-drop front-end interface.
 Self-Assessment
The tangible, drag-and-drop interaction is very important, and I'm not sure if I can build it myself. Additionally, due to the lack of public transportation infrastructure in many parts of the US, attractions are often spread out and less accessible. A product like this might not be well-received in such a market. But I know it has been a very popular solution in Europe and Asia.

Future Spec Elements

 Users	 Problem Solved	 Interface & UI
<ul style="list-style-type: none"> - Independent travelers who enjoy planning their own trips - Budget-conscious travelers 	The travel planning process is tedious and information is scattered across multiple websites. It's also difficult to find the cheapest transportation options.	A visual application based on a calendar or timeline.
 Data	 Outcome	
Most itinerary items (flights, hotels) will use simulated data. It might connect to one free, real API (e.g., a city's points-of-interest API) to add a layer of realism. The	A personal travel itinerary that can be saved, shared, and presented in a visual format.	

core data will be the user-generated and shared itineraries.		
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Pending Items

1. Any competitive products?