Capstone Letter of Intent (LOI)

II. Project Overview

Capstone Project Name/Idea:
NoteBox – Categorized On-Chain Posting Platform on Solana

Brief Project Description:
NoteBox is your personal content vault on the blockchain — a decentralized, censorship-resistant platform where every post you create belongs to you, not a corporation. Whether it's a tweet-style thought, a blog, a restaurant review, or bookmarks entries — it's all secured by your wallet and permanently accessible on-chain. No ads, no algorithms, no data harvesting. Just pure, user-owned content.

NoteBox is a decentralized content platform built on Solana using Anchor, allowing users to create and store categorized notes on-chain. Each note can represent different types of content, such as tweets, blogs, restaurant reviews, or bookmarks entries - and post them on-chain under their wallet identity. Leveraging Program Derived Addresses (PDAs), each post is uniquely tied to the user, ensuring verifiable authorship and content ownership. Posts are stored under categories and include metadata like author, timestamp, optional ratings, and tags. For now, short notes are stored directly on-chain, but future versions will support off-chain long-form content (via Arweave or IPFS or Walrus) referenced from the blockchain, similar to Solana's compressed NFT model. NoteBox's hybrid architecture makes it scalable, censorship-resistant, and modular—paving the way for DAO governance and token-based community rewards. It serves as a flexible foundation for various real-world micro-content use cases, all built with secure, composable Solana smart contracts.

Reason for Choosing this Project:
I chose this project because I see tremendous potential in decentralized social and micro-content platforms. NoteBox is simple enough to build as a proof of concept but powerful enough to evolve into a user-owned Web3 social protocol. This project is the natural evolution of my previous restaurant review dApp. It generalizes that concept by letting users create and manage a variety of on-chain content types, all tied to their wallet identity. NoteBox embodies Web3 principles—decentralization, transparency, and user ownership—by offering a truly portable and verifiable publishing mechanism. I'm especially excited about its potential for hybrid storage, token incentives, and DAO-driven governance in future iterations. This project also lets me deepen my skills in Anchor, smart contract access control, and PDA architecture.

III. Go-to-Market Strategy

Target Audience:
- Web3 users who want to log and share content (e.g., tweets, book logs, reviews) on-chain
- Web3 users seeking to own and control their public content
- Independent content creators and collectors interested in transparent and decentralized publishing

- DAO members and developers interested in reusing the NoteBox structure for their own content use cases

Value Proposition:
- For Users: Control over their content, verified authorship, and censorship resistance
- For Developers: A modular, reusable framework for on-chain categorized content
- For DAOs: Composable tooling for proposals, logs, updates, and shared knowledge

Marketing and Distribution:
- Share MVP demo in Solana developer communities and DAOs
- Publish technical blog posts and walkthroughs of how NoteBox is built using Anchor
- Submit to hackathons and Solana showcases to get feedback from builders
- Collaborate with DAO tooling projects for potential integration or extensions

Competitive Landscape:
While microblogging and review platforms exist in both Web2 (Twitter, Reddit, Notion) and Web3 (Lens, Farcaster), NoteBox is unique in its multi-category, on-chain approach. It offers a lightweight framework for users to record public or semi-public entries under structured tags. It avoids platform lock-in, login systems, and central moderation. Its focus on portable, wallet-owned content—plus its roadmap for token incentives and off-chain storage—positions it as a foundational Web3 publishing primitive.

IV. Technical Details

Tech Stack:
- Blockchain Platform: Solana
- Smart Contract Framework: Anchor (Rust)
- Front-End Framework: React + Tailwind CSS
- Wallet Support: Phantom
- Indexing: Helius for fetching PDA-linked user posts
- Optional Future Oracle: Pyth/Switchboard for randomness or price feeds

Smart Contract Development:
Anchor will be used to develop the smart contracts. The project will include program-derived accounts (PDAs) for user profiles and posts. Posts will be categorized using an on-chain enum and include metadata like timestamp and optional rating. Access control will ensure only post creators can edit or delete their entries. Tests will be written using the Anchor testing suite, and the contract will be deployed on Solana devnet for MVP demonstration.

V. Conclusion

Project Timeline:
- Week 1: Set up Anchor project, define data models, and start PDA development
- Week 2: Implement post creation, category tagging, and user auth logic
- Week 3: Build React frontend with wallet connection and post creation UI
- Week 4: Polish UI, connect frontend to program, write docs, deploy to devnet

Commitment:
I am fully committed to building and submitting NoteBox as a complete proof-of-concept. This project is both a technical challenge and an opportunity to contribute a modular, reusable content framework to the Solana ecosystem.

Initials:
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