CS486C – Senior Capstone Design in Computer Science
Project Description

Project Title:	A digital "Deck Box" for tabletop RPGs

Sponsor Information:	**Jason Robinson**, Product Designer Representing Monte Cook Games me@JasonRobinson.net

Project Overview:

Digital meets physical

There's something special about narrative experiences and games that bridge physical and digital, allowing players to come to the table with whatever combination of tools is most comfortable for them. The searchability of a PDF corebook offers incredible convenience — but sometimes you just wanna pore through the pages of a hefty, glossy book, ya know? Dice are nice, in both their RNG and clicky-clacky forms. But this project is about *CARDS*.

Monte Cook Games

Monte Cook Games, a small but mighty indie tabletop role-playing game (TRPG) publishing company led by industry legend Monte Cook (whom you may know as co-designer of D&D 3rd Edition and designer of HeroClix and Numenera, among many others), has a record of strange innovations and experimentation in the TRPG space. Many of the products in the MCG Shop include decks of cards — creatures, NPCs, items, inspirations for weird stories — that aid and enliven face-to-face tabletop play. (It's a great feeling when a GM hands you an Artifact Card in a Numenera game, and an even better feeling when you can build a collection of them.) The physical nature of cards (collectable, sortable, pocketable) brings an ease to inventory management and adds a tactile nature to the imagined experience.

Physical cards have limits, though — as of 2025, they can't be animated, or duplicated, or summoned from another plane if you've left your deck at home. They can't be read aloud by a screen reader, searched for a keyword, or shared instantly with a friend on another continent.

Let's bridge the gap, shall we?

I'm Jason Robinson, a career graphic designer (and former NAU design instructor!) who has worked in Product and UX Design for 12+ years, including in the mobile games industry. I'm working with Monte Cook Games on a forthcoming physical-meets-digital product, and they've kindly agreed to allow me to bring a new project… to you!

You'd be working directly with me as a partner — I'll be providing UX/UI documentation and assets in a professional product-development context. In success, this project has a high likelihood of release as a consumer application used by MCG fans and players worldwide.

A digital deck box

At its core, this will be a mobile iOS/Android (and possibly desktop?) app that allows GMs and players quick access to the GM's purchased cards.

Imagine:*3 friends are on an interstate bus trip. They write to their GM, Daniela, to see if she's available to run a casual Numenera session, continuing the party's exploration of the Jade Colossus. Impromptu shenanigans ensue via speakerphone; the friends find themselves exploring a cache of relics in a strange temple. To the players' delight, their phones receive simultaneous notifications — Daniela has recently purchased a Cypher Deck and pre-selected Cyphers (objects that offer weird but useful one-time superpowers) that match the play style of each character. The players can see artwork, read a description, trade, and keep track of the cyphers they currently own. Two of the players trade cyphers; one uses his immediately, creating a cloud of nanites which will keep his character safe from poisons across the next 28-hour day. (His card disappears from his inventory).*

Core/MVP Features

At its core, this mobile app needs to check a few boxes for GMs:

- Securely sign in to the MCG Shop (WooCommerce) account and load purchased card-deck products
- Track RPG campaigns and players
- Quickly search/sort/filter across their purchased decks
- Share cards with players
- View cards held by players

And for players:
- Accept invitations to campaigns
- Search/sort/filter cards received from GMs or other players
- Trade/share cards with other players in your campaign
- View artwork and read card details in a beautiful and standardized way

For all users, the app should be:
- Secure
- Accessible
- A good platform citizen

Stretch Goals could include…
- Cross-publish to a desktop version of the app
- Dice rolling utility (bonus: unlock skins of purchased dice from the MCG store)
- Basic tracking and game-specific logic (Did this Artifact deplete its power on usage? Notify the player and GM. Is this player holding TOO MANY Cyphers in their hand? Notify ONLY the GM, so she can make the story… interesting!)
- Build collections/hands of cards for specific purposes; attach these decks to specific campaigns
- "Convention mode" guest account access for players (without need to create an MCG store account)
- Gestural controls
- Animations and special effects
- Facilitate store purchases
- Cast card artwork to nearby AirPlay/ChromeCast devices

(Selection of any stretch goals would be determined based on feasibility according to tech stack, business priorities, and project progress.)
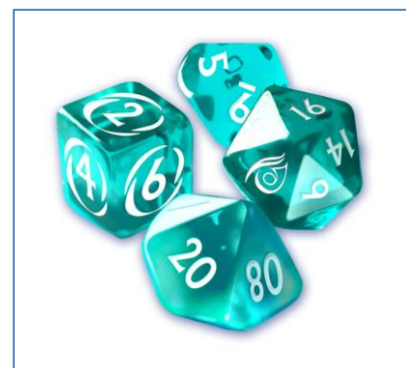
Public Development

The MCG team is considering the possibility of developing this product in public — announcing the collaboration up front (usually *not* how they roll*) and involving the company's social media team in the process. In this case, I would request that project updates be delivered by the team in blog format, publicly available during development. This would increase the visibility of your work and allow the possibility of beta testing with real users from within the MCG fan community.

That said, I (and the MCG team) am fully aware that Capstone is first and foremost a learning experience! If the project runs into snags and doesn't result in the release of a completed product, that's okay — the purpose of the project updates would then be to document process, problem-solving, and learnings.

* See what I did there?

Impact

The Cypher Unlimited Discord currently hosts ~6,500 members, all fans of MCG products. MCG's Backerkit campaign for The Magnus Archives Roleplaying Game took in $2M+ in pledges, from 11K+ backers — over 20 times the campaign goal. And, MCG has recently announced the release of Cypher, an evolution of their core product, the Cypher System, in 2026. This will undoubtedly bring long-time fans and new players into the community. This project gives you a chance to bring convenience, delight, and increased access to storytellings, players, and fans worldwide.

Knowledge, skills, and expertise required for this project:

This project is perfect for a team who:
- Understands the joy of shared storytelling or nerdy games
- Is willing to plan for and invest time in accessibility features (e.g, screen-reader compatibility, alternate forms of input) from the outset
- Brings skill and care for both the robust back-end and polished front-end experience necessary for a consumer product.
- Wouldn't mind joining a playtest game or two…

Specific skills that would be useful:
- Interfacing with eCommerce or similar APIs, with attention to data security
- A willingness to think beyond pure engineering — how will your code interact with and empower user experience, accessibility, business goals?
- Experience with or interest in native (iOS / Android) mobile development

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Equipment Requirements:

- There should be no equipment or software required other than a development platform and software/tools freely available online.

Software and other Deliverables:

- Reporting detailing the design and implementation of the product in a complete, clear and professional manner. This document should provide a strong basis for future development of the product. (As mentioned above, this may take the form of a published blog promoted by the company's social media team, if MCG decides to move this way.)
- Complete professionally-documented codebase, delivered both as a repository in GitHub, BitBucket, or some other version control repository; and as a physical archive on a USB drive.
- A working mobile app, distributed privately via e.g., TestFlight (iOS) and/or Play Console (Android).