Monen: A new way to learn

Vision Document

Version 1.0

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Revision History

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Vision (Small Project)

# Introduction

Learning with flashcards is often a go-to method to study a language or any subject. It's a dynamic and efficient way to absorb information quickly and effectively. Despite that, the process of learning is always daunting and for that reason, we, The A team, have created Monen.

Monen (Mǒnen) is a flash card app that combines the process of learning with the concept of gaming to create an enjoyable and interactive learning session. These games will be tailor-made by our team of game designers to make the learning experience as engaging and effective as possible.

Monen will be launched on mobile platforms, mainly focusing on two major operating systems: iOS and Android. The purpose behind this choice is to ensure Monen's accessibility for users in their daily lives, allowing them to utilize the app during brief moments, such as commuting or waiting for a friend. This flexibility enables users to engage in short study sessions whenever they have a few minutes to spare, making learning more convenient and integrated into their daily routines.

Monen's target audience encompasses a wide range of learners, including students, professionals, and lifelong learners who are seeking effective, engaging, and convenient ways to enhance their skills as well as sharing their knowledge to others.

## References

# Positioning

## Problem Statement

| The problem of | learning and recalling knowledge in a fun and engaging way |
| --- | --- |
| affects | individuals seeking an engaging and enjoyable learning platform |
| the impact of which is | learners may find the process of learning challenging and uninteresting |
| a successful solution would be | integrating games and social elements can make learning enjoyable, aiding learners in recalling information with a sense of fun and engagement. |

## Product Position Statement

| For | learners and teachers |
| --- | --- |
| Who | are seeking effective, engaging, and convenient ways to enhance their knowledge and skills |
| Monen | is a flashcard software |
| That | has a fun gaming system that makes it easy to engage, and we offer programs to encourage users to log in and be active every day to improve their learning productivity. |
| Unlike | the current flashcard software: quizlet.com, ankiweb.net |
| Our product | is entirely free and features a straightforward user interface, combines the learning process with playing games, offering users an enjoyable and interactive learning experience. |

# Stakeholder and User Descriptions

## Stakeholder Summary

| **Name** | **Description** | **Responsibilities** |
| --- | --- | --- |
| School administrators | Responsible for choosing and implementing educational technology in their schools. | Ensure that the app is effective in improving student learning. |
| Technology companies | Develop and maintain software. | Provide technical support for the app and help to develop new features. |
| Investors | Provide funding for the app's development and marketing. | Ensure that the app is financially viable and has the potential to be successful. |
| Researchers | Study the impact of learning combined with gaming. | Conduct research on the app's effectiveness and share their findings with the educational community. |
| Foundations | Provide funding for the app and help it reach a wider range of users. | Support the app's development or implementation. |
| Media outlets | Report on education and technology news. | Write about the app and its benefits to educate and inform the public. |
| Teacher unions | Advocate for the rights and interests of teachers. | Promote the use of the app in schools and help to ensure that it is used effectively. |

## User Summary

| **Name** | **Description** | **Responsibilities** | **Stakeholder** |
| --- | --- | --- | --- |
| Student | Represent the primary user base, consisting of students from various educational levels. | Creating, reviewing, and studying flashcards for academic subjects, setting study goals, tracking progress, and potentially sharing flashcards with peers. |  |
| Professionals | Users seeking career development and professional growth. | Creating flashcards related to their industry, continuous learning, and staying updated with relevant professional knowledge. |  |
| Hobbyist | Enthusiasts pursuing various hobbies using flashcards as a learning tool. | Creating flashcards for hobby-related knowledge or skills, and using the app to enhance their expertise in their chosen hobby. |  |
| Test Takers | Users preparing for standardized tests. | Developing test-specific flashcards, regular practice, and monitoring their performance to ensure readiness. |  |
| Teachers and Educators | Educators who use the app for teaching and facilitating student learning. | Creating flashcards for lessons, quizzes, or assignments, sharing flashcard sets with students, and tracking student progress. |  |
| Seniors and Lifelong Learners | Elderly individuals and lifelong learners who use the app for mental stimulation. | Creating flashcards for a variety of subjects, engaging in mental exercises, and monitoring cognitive fitness. |  |

## User Environment

The target users include students, professionals, and lifelong learners. The number of people involved in completing tasks varies from individual self-study sessions to collaborative activities within the course function.

The task cycles are often short, as users engage in quick study sessions during breaks, commutes, or free moments throughout the day. These study sessions typically range from a few minutes to half an hour, allowing users to fit learning into their busy schedules.

One of the significant constraints in this environment is only available on mobile so the app should have a responsive design and intuitive user interface. Users might access the app outdoors, during travel, or in locations where internet connectivity is limited, thus, offline functionalities are necessary.

Currently, the system platforms in use include iOS and Android devices. Future platforms might include new mobile platforms emerging in the market or any wearable technologies.

Additionally, integrating with learning management systems (LMS) like Moodle used in educational institutions or workplaces would be beneficial for both educators and learners.

## Summary of Key Stakeholder or User Needs

| **Need** | **Priority** | **Concerns** | **Current Solution** | **Proposed Solutions** | |
| --- | --- | --- | --- | --- | --- |
| Create a lesson-sharing feature | Moderate | Users want the ability to share lessons or flashcards with friends or colleagues. | There is currently no lesson-sharing feature in the app. | | Develop a sharing feature that allows users to send flashcards or lessons to others via email or social media. |
| Provide an onboarding process for new users. | High | New users often struggle to get familiar with the app and how to use flashcards. | There is no specific guidance for new users | | Create a simple onboarding process or introductory video to help new users quickly get acquainted with the app and make the most of the flashcard feature. |
| Offline access to flashcards. | High | Users need to study in environments without internet access, and the current app requires an internet connection. | The app only works when connected to the internet | | Enable offline access to previously downloaded flashcards so that users can study without an internet connection. |
| Implement a progress tracking feature | High | Users want to track their progress in learning through flashcards, but the current app lacks this functionality | Users have no way to monitor their learning progress systematically | | Develop a progress tracking feature that allows users to see their performance and improvement over time |

## Alternatives and Competition

The main competitors in the flashcard app market are Quizlet, Anki. All two of these apps offer a variety of features for creating and customizing flashcards, as well as spaced repetition algorithms to help users learn and retain information more effectively. However, each one has its own strengths and weaknesses.

For example, Quizlet is the most well-known and established brand, but it can be expensive for students and professionals. Anki is free and open-source, but it has a difficult user interface and not as many user-created flashcards as Quizlet.

A homegrown solution may be a good option for stakeholders or users with specific needs that are not met by existing commercial solutions. However, developing and maintaining a homegrown solution can be time-consuming and expensive.

The status quo may be sufficient for stakeholders or users with minimal needs. However, it is important to regularly review the status quo to ensure that it is still meeting the needs of the stakeholder or user and that they are not being outpaced by competitors.

# Product Overview

## Product Perspective

## Assumptions and Dependencies

**Operating System Availability**

- Assumption: The specified operating systems (iOS and Android) will continue to be available.

- Impact: If a specified operating system becomes unavailable, the development approach will need to be reevaluated, potentially altering the app's features and functionality.

**Third-Party Integrations:**

- Assumption: Integration with messaging, social media platforms will be possible, allowing sharing among users.

- Impact: If integration becomes unavailable, alternative methods for user interaction such as creating a user news feed tab need to be devised within the app.

**Data Privacy Regulations:**

- Assumption: The app will comply with existing and future data privacy regulations and standards.

- Impact: Changes in data privacy laws might affect modifications in data collection, storage, and user consent, potentially affecting the app's user experience.

**User Engagement:**

- Assumption: Users will actively engage in the app's community features, and enjoy playing educational games.

- Impact: If user engagement is lower than expected, strategies to enhance community interaction and game designs need to be devised.

**Server Reliability:**

- Assumption: The backend servers supporting the app will be reliable and scalable for an increasing number of users and flashcard sets.

- Impact: If server reliability is compromised, the user experience could be affected.

**User Device Capabilities:**

- Assumption: Users' devices will have the necessary capabilities to run the app smoothly.

- Impact: If user devices lack the required capabilities, the app's performance and usability might be affected, calling for optimizations or feature adjustments for compatibility.

# Product Features

| **No.** | **Name** | **Description** | **Relevant usability issues** |
| --- | --- | --- | --- |
| 1 | Login/Sign up | Authentication using Facebook and Google API as well as a separated Monen account. | Creates a simple and straightforward way to join the app |
| 2 | Card deck library | Users can browse libraries, where they can share and download flashcard decks created by other individuals. | Encourages sharing and provides a platform for users to easily access knowledge |
| 3 | Card creation | Cards’ text is written in Markdown format. | Users can freely customize the flashcard text to their liking. |
| 4 | Theme creation | Customize the app appearance with theme and card skin. | Users can freely customize the app’s appearance to their liking. |
| 5 | Decks organization and storage | Flashcard decks are organized in a folder structure with data stored locally. | Users can access decks even without the internet, ensuring a convenient experience. |
| 6 | Games | Create a number of Games that aid the learning process. | Increases the engagement of users. |
| 7 | Course | The course setup allows one person to act as a teacher, sharing flashcard decks, while other users can join as students. Additionally, there is a mini forum where students can interact not only with the teacher but also with their peers. | Offers a way to communicate with other learners and teachers. |
| 8 | A.I. application | Utilize multiple A.I. algorithms. | Personalizes the user experience and learning process. |
| 9 | Social and retention-keeping features | Daily login  Achievement  Sending reminders  Create a miniature social network platform where learners can showcase their accomplishments. | Encourages users to join the app everyday to keep learning. |

# Non-Functional Requirements

**Platform Compatibility:**

- The app must be compatible with iOS (version 14 and above) and Android (version 8 and above) platforms.

**Performance:**

- The app should load within 3 seconds on standard mobile devices.

- Each flashcard loading time should be less than 1 second to ensure a seamless user experience.

- Response time for the user interaction should be less than 0.5 seconds.

**Scalability:**

- The app should handle a minimum of 30,000 concurrent users without performance degradation.

- The backend server should be scalable to accommodate an increasing number of users and flashcard sets.

**Security:**

- User data must be encrypted and securely stored.

- The app must comply with industry-standard data protection regulations and user privacy standards.

**Usability:**

- The app interface should be intuitive, ensuring ease of use for all users.

- The app must provide clear instructions and guidance for new users.

**Reliability and Availability:**

- The flashcard deck library server should have a minimum uptime of 99.9% to ensure accessibility at all times.

- Regular maintenance and updates should be performed during non-peak hours to minimize user disruption.

- The app should be available even when there is no internet connection.

**Documentation:**

- Provide an online user manual accessible within the app, detailing features, navigation, and troubleshooting steps.

- Include in-app tooltips and guides to assist users in understanding app functionalities.

**Design Constraints:**

- The app design should be responsive and optimized for various screen sizes, including smartphones and tablets.

- Utilize lightweight graphics to minimize app size and reduce data usage.

**Dependency:**

- Integrate the app with popular messaging and social media platforms for easy sharing and collaboration among users.

- Collaborate with cloud service providers to ensure reliable storage and backup of user data.

**Documentation and Packaging:**

- Provide clear installation instructions for both iOS and Android users.

- Include a comprehensive user guide explaining app features and best practices.

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