

**Lab 1 Individual - BetterSwipe Product Description**

Marcelo Vargas, Team Blue

Department of Computer Science, Old Dominion University

CS 410 - Professional Workforce Development I

Professor James Brunelle

December 1, 2023

## Table of Contents

<b>1. Introduction.....</b>	<b>3</b>
<b>2. Product Description .....</b>	<b>4</b>
2.1. Key Product Features and Capabilities .....	4
2.2. Major Components (Hardware/Software).....	5
<b>3. Identification of Case Study .....</b>	<b>8</b>
<b>5. Glossary .....</b>	<b>9</b>
<b>6. References.....</b>	<b>10</b>

## List of Figures

<b>Figure 1: Major Functional Component Diagram (MFCD) .....</b>	<b>7</b>
--	----------

## **1. Introduction**

In the current financial environment, a notable challenge emerges as individuals struggle with uncertainty and, in certain instances, apprehension regarding credit cards. Recent data sheds light on the primary hurdles faced by consumers when seeking new credit cards, revealing that 69% perceive the process as excessively time-consuming due to the extensive research involved. Additionally, 61% feel inundated by the myriad of available options, while 57% express difficulty in determining the most suitable card for their needs (Experian, 2017). This data underscores the complexity and confusion inherent in choosing a rewards credit card, leaving many individuals hesitant to engage with this financial tool.

Recognizing the need for a solution, we are in the process of developing an innovative tool known as BetterSwipe. This groundbreaking platform aims to streamline the credit card selection process by directly addressing the identified challenges. BetterSwipe seeks to revolutionize decision-making by harnessing user transaction histories to construct a personalized spending profile, providing a comprehensive understanding of individual financial habits. Utilizing this profile as a basis, BetterSwipe will then recommend a set of rewards credit cards that optimizes savings and earned rewards based on the user's distinct spending patterns. Furthermore, the tool will consistently monitor and assess the efficacy of the recommended card, ensuring users continually maximize their benefits. BetterSwipe's extensive database of rewards credit cards will guarantee that recommendations stay current and align with the latest information, delivering users a dependable and effective solution to navigate the intricate landscape of credit card options.

## **2. Product Description**

Navigating the landscape of rewards credit cards and identifying the ideal fit for your preferences can be a daunting task. Many find the process overwhelming, and those who attempt it often encounter a time-consuming endeavor. Enter BetterSwipe, a cutting-edge platform dedicated to simplifying the selection of rewards credit cards. By harnessing data on individuals' spending habits, BetterSwipe constructs a comprehensive spending profile and provides tailored card recommendations. The primary objective is to streamline the selection process, offering individuals an easier and more efficient way to discover the credit card that precisely aligns with their specific needs.

### **2.1. Key Product Features and Capabilities**

BetterSwipe, at its core, functions as a revolutionary tool designed to streamline the process of selecting rewards credit cards for users. Its significance lies in the unique approach it takes by constructing a personalized spending profile for each user based on their past transactions. Unlike many other apps in this space, BetterSwipe recognizes the importance of delving into users' spending habits to tailor its recommendations effectively.

What sets BetterSwipe apart is its commitment to simplifying the rewards card selection process. The innovative use of spending profiles ensures that the recommendations provided are not only relevant but also uniquely suited to each user's financial behavior. This approach eliminates the common challenges users face, such as the time-consuming nature of research and the overwhelming array of options.

In essence, BetterSwipe accomplishes the goal of making the rewards card selection process remarkably straightforward for users, reducing it to just a few clicks. The creation and

utilization of a spending profile, coupled with a carefully crafted algorithm, allow BetterSwipe to automate the otherwise intricate task of finding the most suitable credit card for each individual. This not only saves time for users but also ensures that they are presented with recommendations that align precisely with their financial needs and preferences.

## **2.2. Major Components (Hardware/Software)**

In our strategic roadmap to bring BetterSwipe to life, the hardware components are intricately aligned to cater to both user needs and the operational requirements of our development group.

For the end users engaging with our product, the network-accessible device is a pivotal requirement. This encompasses personal computers operating on diverse systems such as Windows, macOS, or Linux, ensuring a seamless user experience. Additionally, smartphones supporting both Android and Apple platforms are integral, catering to the growing mobile-centric user base. These devices collectively form the tools through which users will interact with and benefit from BetterSwipe.

On the development side, a dedicated server takes center stage as an indispensable hardware component. This server serves as the backbone of our operations, hosting and managing the expansive database that powers BetterSwipe. It plays a critical role in ensuring the robustness and reliability of our platform, supporting data storage, retrieval, and overall functionality.

In essence, the user-facing hardware components—network-accessible devices, personal computers, and smartphones—are the conduits through which individuals will seamlessly access and utilize BetterSwipe. Simultaneously, the server stands as the infrastructure backbone,

empowering our development group to manage and optimize the platform's database, laying the foundation for a responsive and efficient user experience. Together, these hardware elements form a cohesive ecosystem that supports the dual objectives of user satisfaction and platform performance in our journey to bring BetterSwipe to fruition.

In the realm of software development, a carefully chosen set of languages shapes the user interfaces and functionalities. HTML, CSS, and JavaScript collaboratively craft the website, offering an intuitive and user-friendly interface accessible through standard web browsers. Python takes center stage for both web and mobile applications, providing a unified language for cross-platform compatibility and ensuring a seamless user experience.

The mySQL database assumes a pivotal role in storing and retrieving data efficiently, serving as the cornerstone of the platform's data management. Complementing these languages, various libraries are integrated into the software components, enhancing functionality and streamlining development processes.

Third-party software tools are instrumental in our development toolkit. Visual Studio Code emerges as the coding sanctuary, ensuring a robust coding environment. Github/Git takes charge of version control, maintaining a seamless and collaborative development process. Gradle assumes responsibility for testing, guaranteeing the reliability of our software, while Trello provides an agile project management framework for efficient coordination.

Collaboration, an essential pillar of our development efforts, is facilitated through digital platforms like Discord and Zoom. These tools enable effective communication and coordination

among team members, fostering the collaborative spirit necessary for a successful development and production process.

In essence, the harmonious integration of hardware and software components forms the foundation of our group's collective efforts to bring this innovative product to production. Each element contributes uniquely to the overall functionality, accessibility, and success of the platform we are diligently crafting.

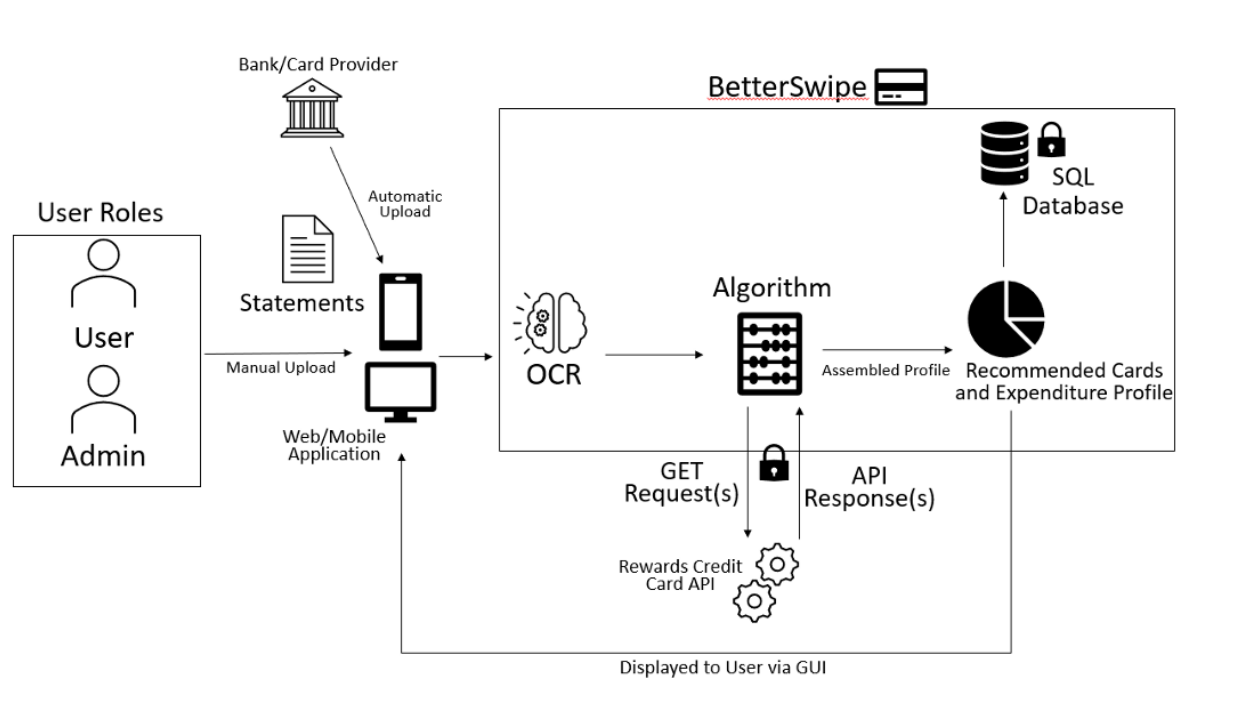


Figure 1: Major Functional Component Diagram

### **3. Identification of Case Study**

The primary target audience for the development of this product is consumers actively seeking a new rewards credit card. This demographic faces the challenge of navigating a vast array of options, with NerdWallet listing 98 cards as of November 2023, underscoring the complexity of the decision-making process (NerdWallet, 2023). The product caters to individuals who not only desire a new credit card but also aim to maximize the utility of rewards, as indicated by the observation that most rewards credit card holders are currently underutilizing their rewards (Black, 2022). Additionally, the product is designed for consumers looking to build credit responsibly, addressing a broader financial goal.

For the initial case study group, the focus is on a specific subset of users—ODU students seeking a credit card and aiming to build their credit. This group represents a microcosm of potential users who will engage with the app prototype and provide valuable feedback. Beyond this group, the product has the potential to be utilized by banks and card companies for analytical purposes. The data generated by user interactions with the platform could offer insights for these financial institutions. Furthermore, businesses could leverage the tool to gain precise insights into consumer spending patterns, aiding in strategic partnerships with card companies for co-branded cards. The expansive scope of potential users positions the product as a versatile solution addressing the diverse needs of consumers, financial institutions, and businesses alike.



## 5. Glossary

**Application Programming Interface (API):** software intermediary that allows two applications to talk to each other. APIs are an accessible way to extract and share data within and across organizations.

**Artificial intelligence (AI):** development of computer systems capable of performing tasks that historically required human intelligence, such as recognizing speech, making decisions, and identifying patterns.

**Annual Percentage Rate (APR):** is the cost you pay each year to borrow money, including fees, expressed as a percentage. The APR is a broader measure of the cost to you of borrowing money since it reflects not only the interest rate but also the fees that you have to pay to get the loan.

**Amazon Web Services (AWS):** is a subsidiary of Amazon that provides on-demand cloud computing platforms and APIs to individuals, companies, and governments, on a metered, pay-as-you-go basis. Clients will often use this in combination with autoscaling.

**Graphical User Interface (GUI):** a form of user interface that allows users to interact with electronic devices through graphical icons and audio indicators.

**Machine Learning (ML):** a branch of AI and Computer Science which focuses on the use of data and algorithms to imitate the way humans learn, gradually improving its accuracy.

**Rewards Credit Card:** credit cards which offer you some type of “reward”—typically cash back, points, or travel miles—for every dollar you spend, sometimes up to certain limits.

## 6. References

Black, M. L. (2022, August 15). *Survey: Credit cardholders sitting on unused rewards*. LendingTree. <https://www.lendingtree.com/credit-cards/study/unused-rewards/>

Credit Karma. (2023). *Compare credit cards & apply online instantly*. Intuit Credit Karma. <https://www.creditkarma.com/credit-cards/search-cc>

Experian. (2017). *Survey Findings: How Do Consumers Feel About Credit Cards?* <https://www.experian.com/blogs/ask-experian/survey-findings-how-do-consumers-feel-about-credit-cards/>

NerdWallet. (2023). *Compare Rewards Credit Cards for Good Credit. Rewards Credit Cards - Compare 98 Card Offers*. <https://www.nerdwallet.com/rewards-credit-cards?amex=1>