Software Requirements Specification for

Commerce Bank Group 6

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Version 1

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**REVISION HISTORY**

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**1 Introduction**

* 1. ***Overview***

This Commerce Bank development project will be a cross-platform, accessible through either mobile or desktop, web application. This application will allow previously registered Commerce customers to login to their respective transactional accounts. Once granted entry into the application, customers can then view transactional notification history and other data on their spawned dashboard, or add additional data to their comprehensive online ledgers through the designated transaction’s page. Furthermore, this software will allow users to monitor their transactions through three pre-defined notification rules. Users have the option to keep these rules on or mute any variation of the three. The communication channel for all triggered notifications is the user’s predefined email address.

The intended receivers of this document are the project stakeholders. Within this documentation, they will be able to review the development team’s goals and objectives, scope, constraints, functional requirements, nonfunctional requirements, and general use cases. Future separate documentation, dictated by the project sponsor, will address schedule specifics, testing criteria, and the overall development process.

* 1. ***Goals and Objectives***

The main goal of this project is to deliver a finished, tested product to Commerce Bank that incorporates all their specified requirements while staying cohesive with their already established brand. Therefore, our product should encompass the following attributes:

1. A Commerce Bank affiliated window that allows registered users to login and gain access to its features.
2. A visual dashboard that previews the associated user’s previous transaction history.
3. Users should have the option to add additional data to their transactional history.
4. Every time a transaction triggers one of the three notification rules, the user should receive an email notifying them of this action.
5. All software code should follow the predetermined 10% testing protocol.
   1. ***Scope***

The application will have three different windows to guide the user through their Commerce online banking experience, these will include a login, dashboard, and transactional pages. On the login page, the user will be allowed to access their account only if correct, known credentials are provided. This page will not provide registration for new users, allow users to change a password, or give the option to recover an account if their password has been forgotten. The dashboard page will spawn when users have successfully logged into their accounts. On this page a user-friendly, snapshot of data will be visualized to show the user their history of triggered notifications for a time interval of a year or a month. The user will also be able to hide notification rules and pull notification rules from different timeframes for comparisons. Lastly, this page gives the user an option to download an Excel version of their transactional notifications. The dashboard page’s purpose is for viewing history only, no manipulations to data, transactions, or notification rules can be made on this page by the user. The transactional page will be the designated window where users can make edits to their data. Upon the initial loading of the page, all user information will be sorted in a list by date. They will then have the options to add new entries to their online ledger. This page will not allow users to search for specific data or provide any advanced filter features beyond the original date sorting.

In general, the application will abide by the following mentioned design considerations. Design for all pages will embody simplicity both in graphics and wording. None of the windows will feature any overbearing visuals or use statements/ instructions the user isn’t expected to already be familiar with. Users of the app will easily be able to recognize the brand of their web application. Each page will feature Commerce bank stylings, logos, and other trademark designs. None of the pages will branch from Commerce’s proprietary theme. Finally, the app will be a wrapped project that will fully render for any user wanting to access it without needing special software or additional downloads. This means there will not be any external resources or libraries and all developmental tools utilized will be available cross platform.

* 1. ***Definitions***

**Commerce Bank** – the intended recipient of the finished Commerce Bank application

**Commerce Bank Application** – the project deliverable being presented as the finished product, all features and requirements discussed are wrapped into this software application

**Customer** – a consumer of Commerce Bank, individual(s) who spend money to utilize their provided services

**Dashboard** – the designated home page of the Commerce Bank Application, displays most recent customer transactional history using visual analytics

**Notification Rules** – a set of conditionals that inspect incoming transaction history for specific indicators, for example, if a customer has spent over $1000 in one day

**Requirements** – vocalized needs and wants for the software from Commerce Bank

**Transaction History** – data collected from consumers when they make monetary purchases

**Web Application** – software that is accessed from a web server rather than an operating system

1. **General Design Constraints**

***2.1 Commerce Bank Application Environment***

This specific Commerce Bank software is intended to be used as a web application that is available for potential access on any desktop or mobile device. Any type of operating system or hardware that has a working connection to the internet should be able to render to our project.

Physical granted access to the application will only be granted to registered users whose credentials are listed in the backend database. New users, users who have forgotten their password, or want to change their password will not be allowed to do so through our interface.

***2.2 User Characteristics***

Our list of varying user types is very concise and limited to Commerce Bank’s authority and wants.

**Customers:** Users that make monetary payments to utilize Commerce Bank’s services. These users are guaranteed to be listed in Commerce’s backend database with their associated account login credentials. Upon membership with Commerce, they should have been mentored on all their privileged tools and company applications.

**Users:** Commerce Bank or Group 6 development team members that add additional features, adjust currents one, or test the product for optimal use.

* 1. ***Mandated Constraints***

For the development portion of this web application, the desired constraints given from Commerce Bank was program implementation on the .NET platform, integration of a SQL backend database, and incorporation of their company’s colors, logos, and themes. For the testing portion of our application, Commerce recommended usage of the xUnit library.

1. **Nonfunctional Requirements**

***3.1 Operational Requirements***

**Flexibility:** This application is built similarly to most APIs, as combined building blocks rather than one, whole application. The biggest three Commerce Bank requirements were developed into three separate web pages that are path accessible through one of the others. Due to this structure, it would be relatively simple to add additional functionality to this application.

**Portability:** This software is 100% portable and cross-platform, on any hardware, because it is a web application whose data packets are received, over the internet, from a web server. As long as the user has internet connection, they will be able to obtain access to the page.

**Usability:** There is very little background knowledge or training required to proficiently use this web application. The interface is very intuitive and designed to guide the user through their transactional processes by providing clearly defined pages with distinctive purposes. All potential actions are clearly labeled with general connotations known by most of the population. Therefore, 90% of the users will not need to seek instructional assistance.

***3.2 Performance Requirements***

**Availability:** Unless a formal message of system maintenance is distributed to Commerce Bank’s customers, there should never be an intended time when this web application is offline or inaccessible.

**Maintainability:** The cohesion of similar programming styles enables this application’s code to be straightforward and easy to understand by developers outside the original group. When changes and adjustments are needed to be made to the existing code, at least 80% of the time any individual, with a competent background in our constraints, should be able to modify and authorize those changes.

**Reliability:** Similar to the above mentioned, *Availability*, the system and application should always be up, and accessible as long as scheduled maintenance phases are not in effect.

**Reusability:** Many segments of code in this application can be removed and used separately as a template for future development. Comparable to an API setup, most of the requirements were built and merged together using a building block approach. Therefore, if a development team wanted to use the same login page for a future enterprise release, they should be able to take that independent piece without worrying about its dependency on the rest.

* 1. ***Security Requirements***

**Integrity:** Fortunately, there are not many ways to compromise this system because users must be registered Commerce Bank customers with preassigned login credentials. There are no options on the login page that allows nonregistered users to make accounts, this makes the monitoring of access fairly simple. There will always be a threat of malicious users wanting to access data they are not authorized to have; best cybersecurity practices were put into place to deter these actions. The goal of this application is to maintain 100% integrity.

**Robustness:** The system’s robustness is very straightforward as there is only one possible action for user error. This potential path is through the initial login screen. As previously mentioned, only registered users will have access to the application. Therefore, if a user enters invalid credentials the login window will stay active and notify the user incorrect input has been entered. The user then will have the option to try again or exit.

* 1. ***Documentation and Training***

This documentation and training are not directly intended for the users of this application, specifically Commerce Bank’s customers. Their usage of the application should be possible without guided instructions. The purpose of this document is to thoroughly inform all the stakeholders of the system design, requirements, and constraints taken into consideration throughout the development process.

* 1. ***External Interface***
     1. ***User Interface***

The user interface will be intuitive and recognizable by Commerce Bank consumers. This user-friendly application is segmented into three main windows that transition from one to the other with ease. From a graphic standpoint, all windows will be marked and designated with either the Bank’s brand with a logo, trademark sign, their designated color theme, or a combination of the aforementioned. From an operational standpoint, all connotations and options within the application are intended to be known by over 90% of the general population. This intention was added to ensure users could navigate through their transactional ledger easily and with confidence.

Additional user design considerations can be found listed in the *Project Charter Document* or the *Overview*, *Scope* and *Definition* portions of this document.

* + 1. ***Software Interface***

If extended into actual Commerce Bank online services, they will be expected to provide the hardware and servers required to host the site for their customers. As of now, this application is being hosted locally from the development team’s personal computers.

1. **Functional Requirements**

***4.1 Required Features***

***4.1.1 Use Case 1***

**Description: User Login/ View Dashboard/ Export Transactional History**

Actors: Commerce Bank Customer/ any authorized user needing transactional history data

Value = High

Cost = High

Basic Path

1. User accesses internet and navigates to this specific Commerce Bank web application.
2. The first window prompts user for login credentials.
3. Once correct credentials are inputted, the application will then redirect the user to its home page, which is the Dashboard window.
4. On the Dashboard window users can view previous, recent transaction history.
5. Also, on this window there is a button named *export* which will download the transaction history to the user’s file system via excel spreadsheet.
6. Users can then log off and exit the browser.
   * 1. ***Use Case 2***

**Description: User Login/ Change notification rules/ Add to transactional history**

Actors: Commerce Bank Customer/ any authorized user needing transactional history data

Value = High

Cost = High

Basic Path

1. User accesses internet and navigates to this specific Commerce Bank web application.
2. The first window prompts user for login credentials.
3. Once correct credentials are inputted, the application will then redirect the user to its home page, which is the Dashboard window.
4. On the Dashboard window users can view the current, active notification rules and have the option to enable inactive ones or disable some or all of the active ones.
5. Also, this window features the transitional button to navigate to actual online transactional ledger of that user.
6. If the user selected that link, they’ll be switched to the transactional window where they have the option to add new transactions.
7. After the user has added their new transactions, the appropriate enabled notification rules should alert them shortly after via email.
8. Users can then log off and exit the browser.
   1. ***Optional Features***

***4.2.1 Use Case 3***

**Description: User Login/ Contact Commerce Bank**

Actors: Commerce Bank Customer/ any authorized user needing transactional history data

Value = Medium

Cost = Low

Basic Path

1. User accesses internet and navigates to this specific Commerce Bank web application.
2. The first window prompts user for login credentials.
3. Once correct credentials are inputted, the application will then redirect the user to its home page, which is the Dashboard window.
4. On the Dashboard window, users have the option to select the *Contact Us* button which will direct them to a page with Commerce Bank’s customer service communication options.
5. This page will also provide a form asking the user for their name, email, and the reason for outreach. The form is optional but gives the user another method of contact if desired.
6. Users can then log off and exit the browser.

***4.2.2 Use Case 4***

**Description: User Login/ Homepage Navigation**

Actors: Commerce Bank Customer/ any authorized user needing transactional history data

Value = Low

Cost = Low

Basic Path

1. User accesses internet and navigates to this specific Commerce Bank web application.
2. The first window prompts user for login credentials.
3. Once correct credentials are inputted, the application will then redirect the user to its home page, which is the Dashboard window.
4. On the Dashboard window users can view the current, active notification rules and have the option to enable inactive ones or disable some or all of the active ones.
5. Also, this window features the transitional button to navigate to actual online transactional ledger of that user.
6. If the user selected that link, they’ll be switched to the transactional window.
7. In this window, there is a Commerce Bank logo in the upper left-hand corner. If the user clicks the logo, they will be redirected to the home page with the Dashboard.
8. Similarly, if the user accesses the *Contact Us* page and wishes to return their personal dashboard, they can do so by clicking the same Commerce Bank logo in the upper left-hand corner.
9. User can then log off and exit the browser.