Software Requirements Specification

for

Barangay Magallanes Business Document Management System

Version 1.0 approved

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Table of Contents

Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The purpose of this document is to define and document the functional and non-functional requirements for the Barangay Magallanes Business Document Management System (BMBDMS), Version **1.0.0**.

BMBDMS: a web application that offers a digital platform providing business owners with a centralized document management system accessible anywhere, highlighting efficient document organization and retrieval. Its development takes into account a good experience and interface for the user. It also features the ABMBSI along with its offered services readily available for the community.

1.2 Document Conventions

<Describe any standards or typographical conventions that were followed when writing this SRS, such as fonts or highlighting that have special significance. For example, state whether priorities for higher-level requirements are assumed to be inherited by detailed requirements, or whether every requirement statement is to have its own priority.>

1.3 Intended Audience and Reading Suggestions

<Describe the different types of reader that the document is intended for, such as developers, project managers, marketing staff, users, testers, and documentation writers. Describe what the rest of this SRS contains and how it is organized. Suggest a sequence for reading the document, beginning with the overview sections and proceeding through the sections that are most pertinent to each reader type.>

This document is intended for any individual developer, user, or tester who needs to understand the fundamentals of the system architecture and its requirements. The following are each reader type's possible applications:

- **Developer –**

- **User** –

- **Tester** -

1.4 Product Scope

This system BMBDMS offers a digital solution for its stakeholders, solving the challenges of manual form input issues, prolonged processing time, and data update disruptions. The benefit of this is that the existing information system of Barangay Magallanes is upgraded with an open-source web framework and content collaboration platform.

Its main objective is to establish a secure and efficient platform for Barangay Magallanes business owners to manage their business-related documents. Enabling the business owners to remotely upload, organize, and track their essential documents within the developed system.

The goal is to make it possible for ABMBSI and Barangay Magallanes to oversee the processes of the BMBDMS, enabling them to remotely monitor, organize, and track the processes of the respective system.

1.5 References

<List any other documents or Web addresses to which this SRS refers. These may include user interface style guides, contracts, standards, system requirements specifications, use case documents, or a vision and scope document. Provide enough information so that the reader could access a copy of each reference, including title, author, version number, date, and source or location.>

2. Overall Description

2.1 Product Perspective

The BMBDMS is a web-based system developed as a replacement for the existing information system of Barangay Magallanes and designed to address the challenges faced by the Barangay Magallanes Officers and Barangay Magallanes business owners. The BMBDMS is being created to be a platform for facilitating efficient document management and systematic tracking for Barangay Magallanes business owners' business registration and renewal.

Although currently browser-exclusive, it is envisioned to be a mobile-friendly and optimized solution accessible from both desktop and mobile devices, ensuring a flexible user experience. Its user can

2.2 Product Functions

<Summarize the major functions the product must perform or must let the user perform. Details will be provided in Section 3, so only a high level summary (such as a bullet list) is needed here. Organize the functions to make them understandable to any reader of the SRS. A picture of the major groups of related requirements and how they relate, such as a top level data flow diagram or object class diagram, is often effective.>

The major features this program contains are the following:
- **Document Tracking and Management**: -
- **Printing**: -
- **Sorting Directory***: -
- **Filtering Directory:** -
- **-:** -

2.3 User Classes and Characteristics

The major features this program contains are the following:

Physical Actors:

- **BMBDMS Registered Business Owner:** a present-day Barangay Magallanes business owner and has an account on the BMBDMS website. Registered business owners can create a request, upload and track documents, and pay online through the system.
- **Barangay Magallanes Secretary:** a Barangay Magallanes staff who has access to the BMBDMS and can manage document requests and access both business owners and document requests database.
- **Barangay Magallanes Captain:** a Barangay Magallanes staff who has access to the BMBDMS and can view reports and access both business owners and document requests database.
- **ABMBSI Staff Admin:** a member of ABMBSI and has the highest level of access to the BMBDMS. The ABMBSI Staff Admin can develop, design, maintain, and troubleshoot the website and manage employee account as well as access barangay employee database.

2.4 Operating Environment

The BMBDMS is designed to operate in a dynamic environment that caters to the needs of businesses within the Barangay Magallanes community. The following factors define the operating environment and influence the system's architecture:

1. **Geographical Distribution of Users:**

- *Description:* Users of the BMBDMS are generally located within or in close proximity to the same Philippine time zone. While they may not all be residents of Barangay Magallanes, they share a common geographical region.
- *Influence:* The geographic proximity allows for a cohesive user community and facilitates real-time collaboration and communication. Time zone alignment minimizes potential challenges related to coordinating activities, communication, and system usage among users, ensuring a synchronous operational experience as well.

2. **Online Accessibility:**
   - *Description:* Users have the ability to access the BMBDMS online through the proposed solution. This online accessibility ensures that users can utilize the system from various locations, providing flexibility in terms of where and when they access the platform.
   - *Influence:* The online accessibility feature contributes to the system's usability and convenience, allowing users to interact with the platform at their preferred time and location.

3. **Data Generation and Usage Locations:**
   - *Description:* Data for the BMBDMS is generated and used within the Barangay Magallanes community. The locations where data is generated and used are relatively close, ensuring efficient data processing and retrieval.
   - *Influence:* Proximity between data generation and usage locations contributes to faster data transactions and supports the system's efficiency objectives.

4. **Maximum Response Times:**
   - *Description:* Specific maximum response times for accessing data, particularly when stored remotely, are yet to be explicitly defined.
   - *Influence:* Establishing maximum response times for remote data access will be crucial for optimizing system performance, especially when dealing with larger datasets or during peak usage periods.

5. **Service Interruption Tolerance:**
   - *Description:* Continuous access to the system is critical for the efficient operation of business-related services in Barangay Magallanes. Users rely on the BMBDMS for various activities related to permits, clearances, and document processing.
   - *Influence:* Minimizing service interruptions is a key priority to ensure the smooth operation of business activities. The system must be designed with redundancy and failover mechanisms to mitigate potential disruptions.

6. **Access Security Controls and Data Protection:**
   - *Description:* The BMBDMS will implement robust access security controls and data protection measures to safeguard sensitive information. These controls will ensure that only authorized personnel have access to specific data and transactions.
   - *Influence:* Data security and protection are paramount considerations, given the confidential nature of the information being processed. Compliance with data protection regulations will be rigorously adhered to, and regular security audits will be conducted to maintain the integrity of the system.

In summary, the operating environment of the BM-DMS is characterized by a closely-knit business client community within the same time zone, online accessibility, critical continuous access requirements, and a commitment to robust access security and data protection. These factors will guide the development of the system's architecture to ensure it meets the specific needs and expectations of the Barangay Magallanes community.

2.5 Design and Implementation Constraints

<Describe any items or issues that will limit the options available to the developers. These might include: corporate or regulatory policies; hardware limitations (timing requirements, memory requirements); interfaces to other applications; specific technologies, tools, and databases to be used; parallel operations; language requirements; communications protocols; security considerations; design conventions or programming standards (for example, if the customer's organization will be responsible for maintaining the delivered software).>

The BMBDMS is created using --- language model along with the open-source web framework

<mark>Frappe and open-source collaboration platform Nextcloud.</mark>

2.6 User Documentation

<List the user documentation components (such as user manuals, on-line help, and tutorials) that will be delivered along with the software. Identify any known user documentation delivery formats or standards.>

2.7 Assumptions and Dependencies

<List any assumed factors (as opposed to known facts) that could affect the requirements stated in the SRS. These could include third-party or commercial components that you plan to use, issues around the development or operating environment, or constraints. The project could be affected if these assumptions are incorrect, are not shared, or change. Also identify any dependencies the project has on external factors, such as software components that you intend to reuse from another project, unless they are already documented elsewhere (for example, in the vision and scope document or the project plan).>

3. External Interface Requirements

3.1 User Interfaces

<Describe the logical characteristics of each interface between the software product and the users. This may include sample screen images, any GUI standards or product family style guides that are to be followed, screen layout constraints, standard buttons and functions (e.g., help) that will appear on every screen, keyboard shortcuts, error message display standards, and so on. Define the software components for which a user interface is needed. Details of the user interface design should be documented in a separate user interface specification.>

3.2 Hardware Interfaces

<Describe the logical and physical characteristics of each interface between the software product and the hardware components of the system. This may include the supported device types, the nature of the data and control interactions between the software and the hardware, and communication protocols to be used.>

3.3 Software Interfaces

<Describe the connections between this product and other specific software components (name and version), including databases, operating systems, tools, libraries, and integrated commercial components. Identify the data items or messages coming into the system and going out and describe the purpose of each. Describe the services needed and the nature of communications. Refer to documents that describe detailed application programming interface protocols. Identify data that will be shared across software components. If the data sharing mechanism must be implemented in a specific way (for example, use of a global data area in a multitasking operating system), specify this as an implementation constraint.>

3.4 Communications Interfaces

<Describe the requirements associated with any communications functions required by this product, including e-mail, web browser, network server communications protocols, electronic forms, and so on. Define any pertinent message formatting. Identify any communication standards that will be used, such as FTP or HTTP. Specify any communication security or encryption issues, data transfer rates, and synchronization mechanisms.>

4. System Features

<This template illustrates organizing the functional requirements for the product by system features, the major services provided by the product. You may prefer to organize this section by use case, mode of operation, user class, object class, functional hierarchy, or combinations of these, whatever makes the most logical sense for your product.>

4.1 System Feature Manage Account::REQ1

4.1.1 Description and Priority

BMBDMS user manages their account by signing into the system, editing their profile, or receiving notifications.
Priority Level = High

4.1.2 Stimulus/Response Sequences

Preconditions: Barangay Magallanes Business Owner should be on BMBDMS home page.
1. Actor uses sign-up
2. Actor uses sign-in
Postconditions: Barangay Magallanes Business Owner will have an account on BMBDMS.

4.1.3 Functional Requirements

Specializes: REQ2, REQ3

4.2 System Feature Sign-Up::REQ2

4.2.1 Description and Priority

Barangay Magallanes Business owner sign up on BMBDMS.
Priority Level = Low

4.2.2 Stimulus/Response Sequences

Preconditions: Barangay Magallanes Business Owner should be on BMBDMS sign-up page and selects "sign-up"
1. Actor Enters their sign-up credentials to the data fields.
2. System inserts Barangay Magallanes business owner credentials to BMBDMS users' table.
Postconditions: Account will be signed up and verified

4.2.3 Functional Requirements

Specializes: REQ5
Specialized by: REQ1

4.3 System Feature Sign-In::REQ3

4.3.1 Description and Priority

BMBDMS user sign-ins to their signed-up account on BMBDMS.
Priority Level = High

4.3.2 Stimulus/Response Sequences

Preconditions: BMBDMS user has signed up on BMBDMS.
1. Actor enters correct sign-in credentials to the system.
2. System shows corresponding BMBDMS user profile page.

3. Include REQ2
Postconditions: BMBDMS user has signed onto their BMBDMS account.

4.3.3   Functional Requirements

Includes: REQ2
Specializes: REQ4, REQ5
Specialized by: REQ1

4.4 System Feature Get Invalid User Notification::REQ4

4.4.1   Description and Priority

BMBDMS user's sign-in input does not match credentials stored in system.
Priority Level = Low

4.4.2   Stimulus/Response Sequences

Preconditions: BMBDMS has entered incorrect sign-in credentials and clicked on the sign-in button.
1. Actor sign-in with credentials that do not match with user credentials stored in system.
2. System shows invalid user notification
Postconditions: BMBDMS user gets an invalid user notification.

4.4.3   Functional Requirements

Specialized by: REQ3

4.5 System Feature Reset Password::REQ5

4.5.1   Description and Priority

BMBDMS user wants to change their password.
Priority Level = Low

4.5.2   Stimulus/Response Sequences

Preconditions: BMBDMS user has clicked on reset password.
1. System sends email to Barangay Magallanes business owner
2. Actor verifies their account via email
3. System shows password change data fields
4. Actor enters credentials needed in data field
5. Actor enters, and re-enters credentials needed in data fields
6. System confirms password change
7. System updates user credentials table
8. Actor has changed password
Postconditions: BMBDMS user's sign-in credential (password) has changed.

4.5.3   Functional Requirements

Includes: REQ2
Specialized by: REQ3
Extends: REQ4

4.6 System Feature Get General Business Reminder Notification::REQ6

4.6.1   Description and Priority

Barangay Magallanes Business Owner wants to get notifications regarding their business and/or Barangay Magallanes business news from either the barangay itself

or from ABMBSI.
Priority Level = Low

4.6.2 Stimulus/Response Sequences

Preconditions: Barangay Magallanes Business Owner is signed in and has their business renewal date input in the system, has access to the internet and has a web browser.
1. Actor navigate to settings page
2. System shows settings page
3. Actor select notification options they want to confirm and where they want to receive confirmation.
4. System sends confirmation email or SMS.
5. Actor clicks on generated confirmation link via email or SMS.
6. System updates preferred notifications in business owner user table.
Postconditions: Barangay Magallanes Business Owner gets general business reminder notifications via the website itself, email, and/or SMS.

4.6.3 Functional Requirements

Extends: REQ3

4.7 System Feature Edit Profile::REQ7

4.7.1 Description and Priority

Barangay Magallanes business owner wants to update their business profile.
Priority Level = Medium

4.7.2 Stimulus/Response Sequences

Preconditions: The business owner has a profile on the website or platform.
1. Actor navigates to profile section via navbar
2. System shows profile page
3. Actor clicks on edit profile option
4. System shows edit profile data fields
5. Actor fills in data fields and confirm changes
6. System shows profile edit success notification
Postconditions: Specific admins receive profile edit request notification from Barangay Magallanes business owner; Business owner sends profile edit request notification to specific admins.

4.7.3 Functional Requirements

Extends: REQ3

4.8 System Feature Manage Business Progress::REQ8

4.8.1 Description and Priority

Barangay Magallanes business owner wants to access ABMBSI's offered services for businesses via BMBDMS.
Priority Level = High

4.8.2 Stimulus/Response Sequences

Preconditions: Business owner has a valid payment method and has access to Barangay's online payment system. Business owner has the necessary payment details, including the business name and permit number, ready to input into the online payment system.
1. Actor uses view document procurement progress
2. Actor uses request document
3. Actor uses view transaction history

==**Postconditions:** Barangay Magallanes business owner sees their business requirement application progress; Business owner acquires document and transaction receipt.==

4.8.3   Functional Requirements

==**Includes:** REQ1==
==**Extends:** REQ9, REQ10, REQ11==

4.9 System Feature View Document Procurement Progress::REQ9

4.9.1   Description and Priority

==Barangay Magallanes business owner wants to see the progress of their business document request and their progress in applying their business requirements.==
==**Priority Level** = Medium==

4.9.2   Stimulus/Response Sequences

==**Preconditions:** Barangay Magallanes business owner has signed up on the system, is signed in, and has requested for a business document.==
==1. Actor navigates to document procurement progress page==
==2. System shows document procurement progress page==
==3. System shows document procurement process steps and percentage of completion==
==4. Actor sees document procurement progress==
==**Postconditions:** Barangay Magallanes business owner sees their business requirement application progress.==

4.9.3   Functional Requirements

==**Includes:** REQ1==
==**Extends:** REQ10==

4.10 System Feature Request Document::REQ10

4.10.1   Description and Priority

==Business owner wants to request a business document.==
==**Priority Level** = High==

4.10.2   Stimulus/Response Sequences

==**Preconditions:** Business owner has an account on the website and a verified profile. Business owners have a valid payment method and have access to Barangay's online payment system. Business owner has the necessary payment details, including the business name and permit number, ready to input into the online payment system.==
==1. Actor sees business document request page and select business documents to request==
==2. System shows business document request page==
==3. System uploads corresponding document request file==
==4. Actor downloads corresponding document request file==
==5. Actor uploads filled out document request file and confirm request==
==6. System downloads document request file and store document request details in document request table==
==7. System shows payment details form==
==8. Actor proceeds with online payment, fill in credentials and data fields needed for online payment==
==9. Actor confirms payment==
==10. System's payment gateway processes payment, displays confirmation message==
==11. System displays payment receipt==
==12. Actor sees payment receipt==

==Postconditions: Business owner acquires document and transaction receipt.==

4.10.3   Functional Requirements

==**Includes:** REQ9==
==**Extends:** REQ11==

4.11 System Feature View Transaction History::REQ11

4.11.1   Description and Priority

==Business owner wants to view the transaction history of their business, including payment records for business documents requested.==
==**Priority Level** = Medium==

4.11.2   Stimulus/Response Sequences

==**Preconditions:** Business owner is logged into their account and has permission to view their transaction history.==
==1. Actor clicks on transaction history in navigation bar==
==2. System shows transaction history page==
==**Postconditions:** Business owner has viewed their transaction history and has a record of payment records for business documents requested.==

4.11.3   Functional Requirements

==**Extends:** REQ10==

4.12 System Feature Manage Document Requests::REQ12

4.12.1   Description and Priority

==Specific admins want to manage Barangay Magallanes business owner document requests and related transactions.==
==**Priority Level** = High==

4.12.2   Stimulus/Response Sequences

==**Preconditions:** Barangay Magallanes business owner has sent in a document request, has transacted for at least one business document, and/or has visited the Barangay Hall and transacted in-person==
==1. Actor uses validate business document progress==
==2. Actor uses manually add in-person transactions==
==3. Actor views business transactions==
==**Postconditions:** Specific admins validate business owner document progress, have viewed business owner transaction history, and Barangay Magallanes Business Document Management System database is updated with manually added in-person filled data==

4.12.3   Functional Requirements

==**Includes:** REQ1, REQ10==
==**Extends:** REQ13, REQ14, REQ15==

4.13 System Feature Validate Business Document Progres::REQ13

4.13.1   Description and Priority

==Specific admins want to validate document progress.==
==**Priority Level** = High==

4.13.2   Stimulus/Response Sequences

Preconditions: Barangay Magallanes business owner has made a document request and successfully made a payment
1. Actor visits document request page
2. System shows document request page
3. Actor views pending document requests
4. System shows pending document requests
5. Actor verifies information
6. System shows document request details
7. Actor verifies payment
8. System shows transaction details
9. Actor processes document request
10. System sends document progress notification
Postconditions: Barangay Magallanes secretary validates the document progress

4.13.3   Functional Requirements

Includes: REQ1, REQ10
Extends: REQ14

4.14 System Feature View Business Transactions::REQ14

4.14.1   Description and Priority

Specific admins want to view a member's transaction history to view details regarding their transactions, and sort through this member's transactions.
Priority Level = Medium

4.14.2   Stimulus/Response Sequences

Preconditions: Admins (ABMBSI staff admin, Barangay Magallanes secretary) are signed in, Barangay Magallanes business owner has made at least one payment
1. Actor clicks on transactions in navigation bar
2. System shows business owner transactions
Postconditions: Admins (ABMBSI staff admin, Barangay Magallanes secretary) sees Barangay Magallanes business owner's transaction history

4.14.3   Functional Requirements

Includes: REQ1
Extends: REQ13

4.15 System Feature Manually Add In-Person Transactions::REQ15

4.15.1   Description and Priority

The Barangay Magallanes secretary wants to manually add in-person filled data
Priority Level = High

4.15.2   Stimulus/Response Sequences

Preconditions: Barangay Magallanes business owner has an in-person filled data
1. Actor navigates to the manual data entry form
2. System displays data entry form webpage
3. System displays data entry fields
4. Actor fills out manual data entry form based on in-person collected data
5. Actor confirms entry
6. System adds entries to request table
7. System displays updated business document request list
8. Actor sees updated entries
Postconditions: Barangay Magallanes business owner in-person filled data is

added to the system database

4.15.3   Functional Requirements

Includes: REQ1

4.16 System Feature View Business Directory::REQ16

4.16.1   Description and Priority

General admins will view the system's member directory with the options to filter through the directory, view and generate analytics reports based on the directory.
Priority Level = Medium

4.16.2   Stimulus/Response Sequences

Preconditions: At least one Barangay Magallanes Business Owner has signed up into the system.
1. Actor visits the member directory page.
2. System shows member directory.
3. Actor filters through member directory.
4. System shows member directory through filters.
5. Actor clicks on member directory analytics.
6. System shows member directory analytics.
7. Actor filters through member directory analytics.
8. System shows member directory analytics through filters.
9. Actor clicks on generate yearly report based on analytics in preferred file type.
10. System uploads member directory analytics report.
Postconditions: General admins can view the member directory, filter through it, view analytics and generate reports based on it.

4.16.3   Functional Requirements

Includes: REQ1

5. Other Nonfunctional Requirements

5.1 Performance Requirements

Performance: To meet user expectations, the system must achieve a rapid response time of below 2 seconds for retrieving business documents, hence promoting efficiency, and minimizing user wait time. The system should be able to handle at least 100 concurrent users without experiencing a noticeable degradation in system performance. It is expected that users would upload files at a speed of at least 2 Mbps, warranting a quick and reliable submission process. If windows forms are opened, error messages are displayed, or settings/sessions are saved, the delay is below 2 seconds. In case of accessing database, transactions, and sorting queries, the delay is below 2 seconds.

5.2 Safety Requirements

Consistency: recognizing the need for consistent measures to prevent potential data loss and disruptions, safeguards should keep the client's progress when using the forms if the server and client lose connectivity, ensuring data integrity**.** The system immediately transmits and records the progress on the server when a business owner completes document-related tasks. Only successfully finished tasks are kept in the log file, minimizing data loss and reinforcing the safety of personal or business-related data within the BMBDMS.

5.3 Security Requirements

Adhering to industry security standards and data protection laws, consistent implementation of access controls and encryption is essential to prevent unauthorized access and enhance data breach prevention.

5.4 Software Quality Attributes

Adaptability: to ensure long-term relevance, the BMBDMS will be developed to accommodate future technological advancements and changes to document management requirements.

Reliability: to provide business owners with reliable access, the BMBDMS is required to maintain a system uptime of at least 99.5% during standard business hours.

Robustness: the system must be able to accommodate at least 100 concurrent users and handle user actions in parallel without experiencing any performance degradation.

5.5 Business Rules

<List any operating principles about the product, such as which individuals or roles can perform which functions under specific circumstances. These are not functional requirements in themselves, but they may imply certain functional requirements to enforce the rules.>

6. Other Requirements

<Define any other requirements not covered elsewhere in the SRS. This might include database requirements, internationalization requirements, legal requirements, reuse objectives for the project, and so on. Add any new sections that are pertinent to the project.>

Appendix A: Glossary

Here we list all the terminology that is used throughout the document:

ABMBSI: Association of Barangay Magallanes Business Stakeholders Inc.

BMBDMS: Barangay Magallanes Business Document Management System

General Admins: ABMBSI staff admin, Barangay Magallanes secretary, Barangay Magallanes captain

Specific Admins: Barangay Magallanes secretary, ABMBSI staff admin

Appendix B: Analysis Models

Here we list concise analysis models to highlight key aspects of the BMBDMS. These visual representations offer developers and stakeholders a clear understanding of the system's architecture, workflows, and data structures, improving the comprehension of the system's functionality and design.
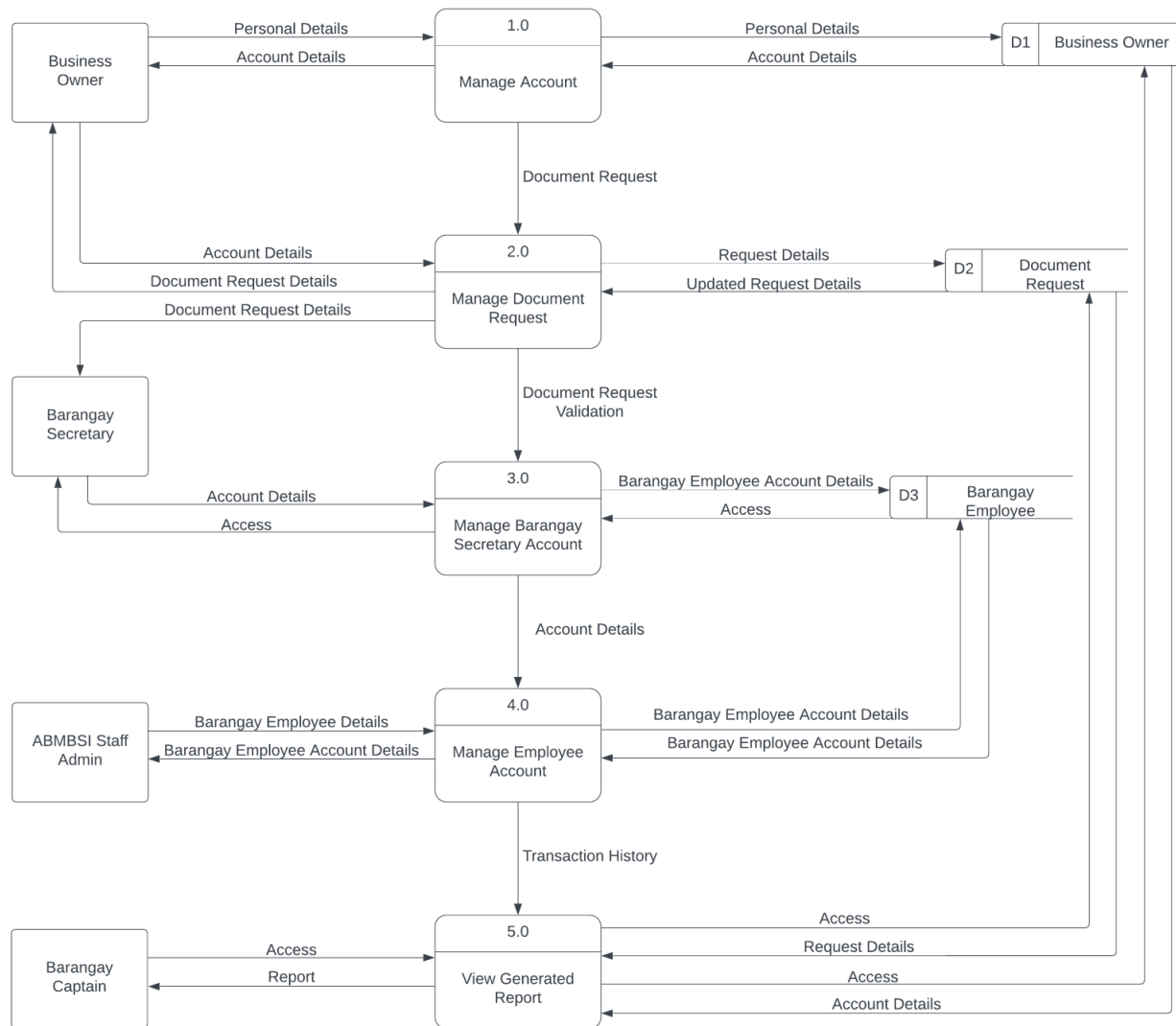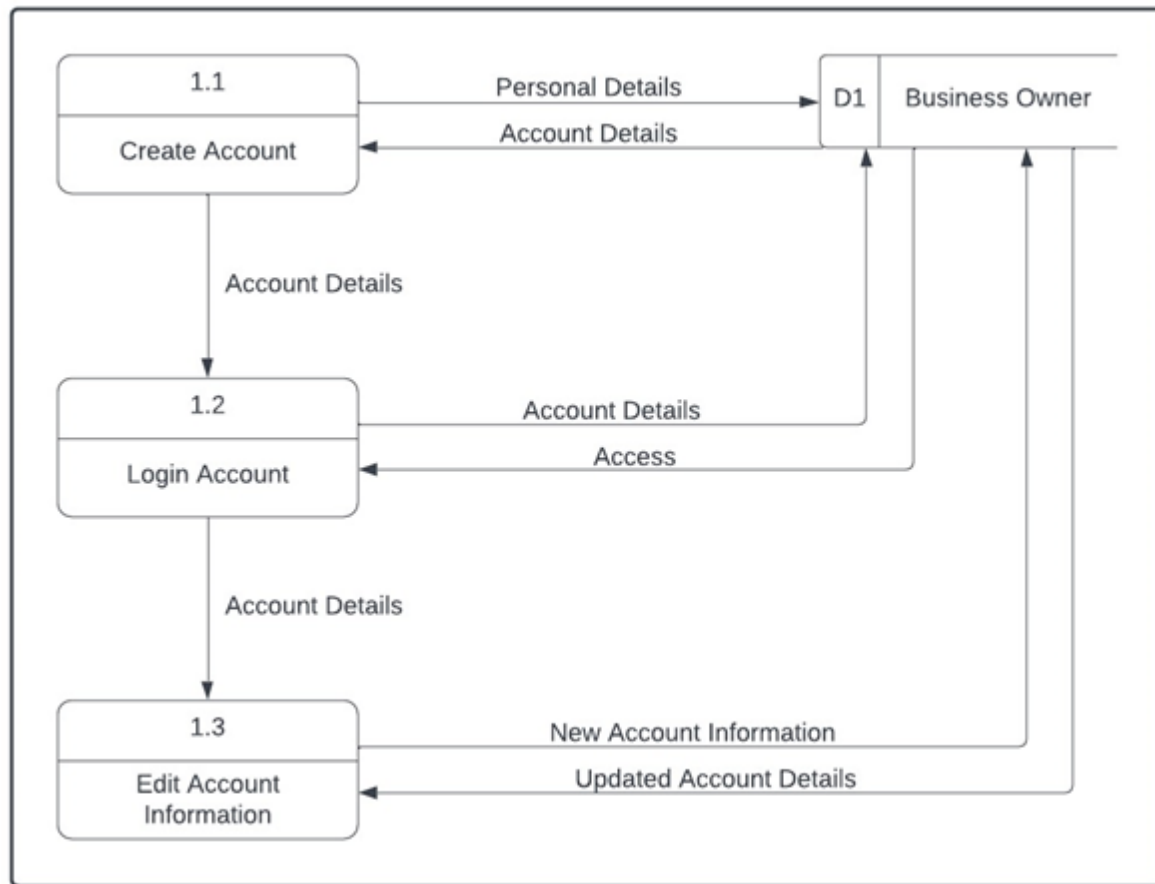
Figure 6.1 Data Flow Diagram (Level 0)
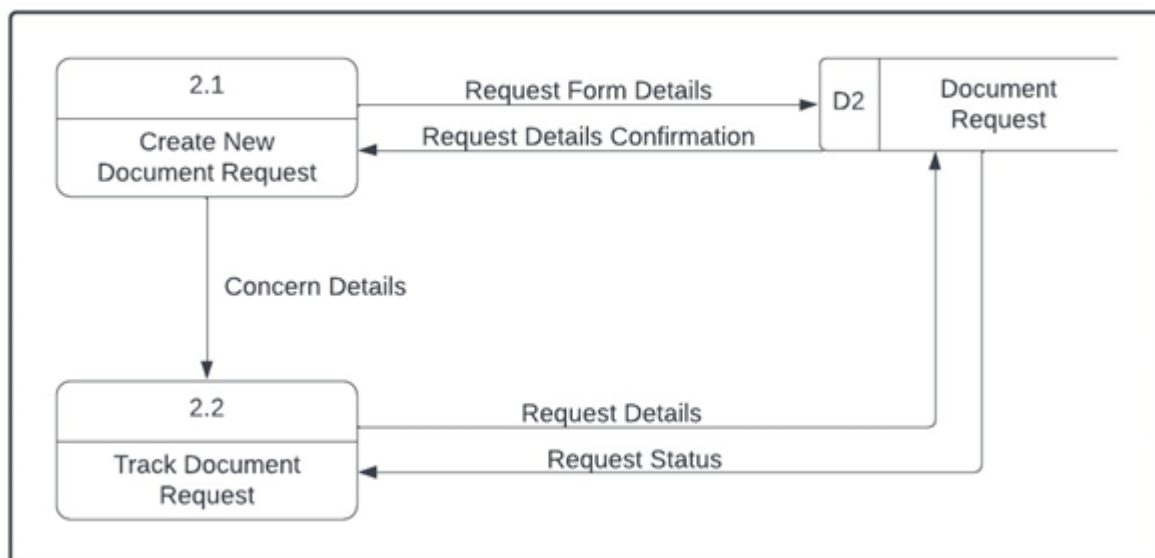
Figure 6.2 Data Flow Diagram Level 1 (Process 1)
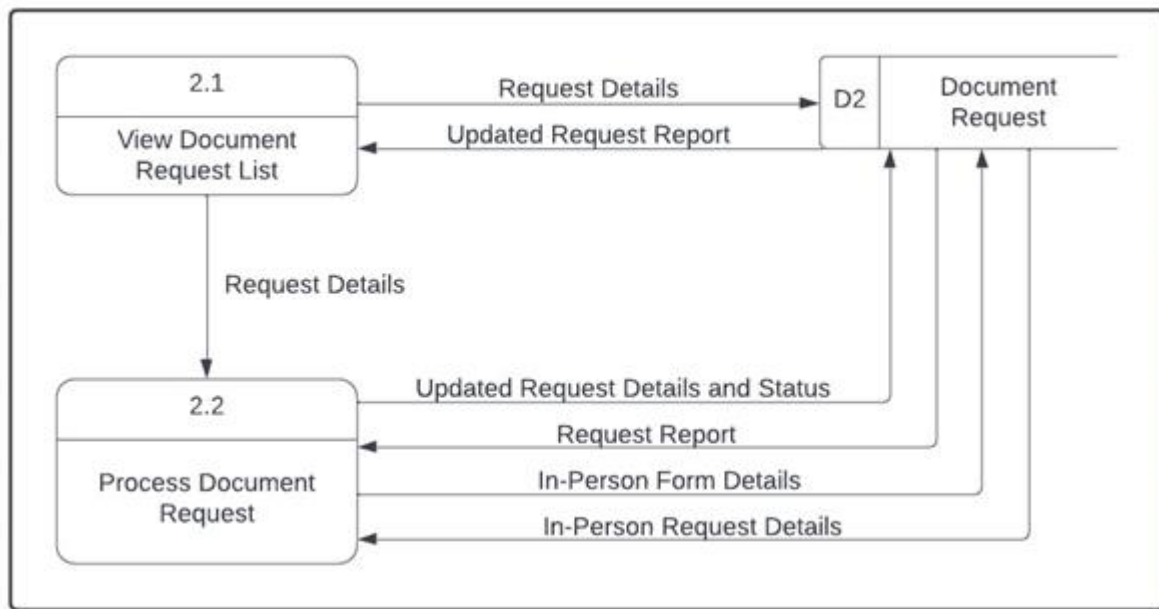

Figure 6.3 Data Flow Diagram Level 1 (Process 2)
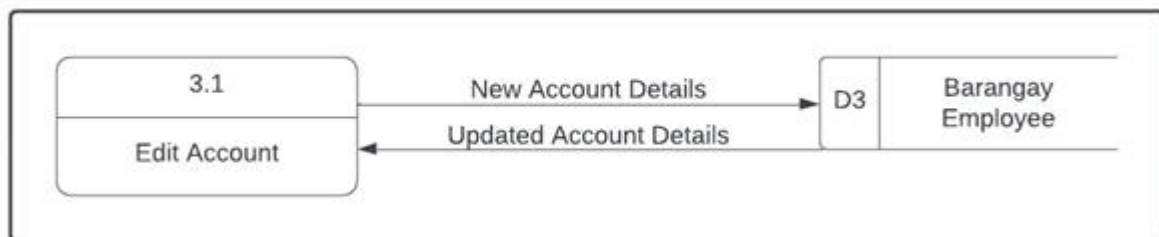
Figure 6.4 Data Flow Diagram Level 1 (Process 2)
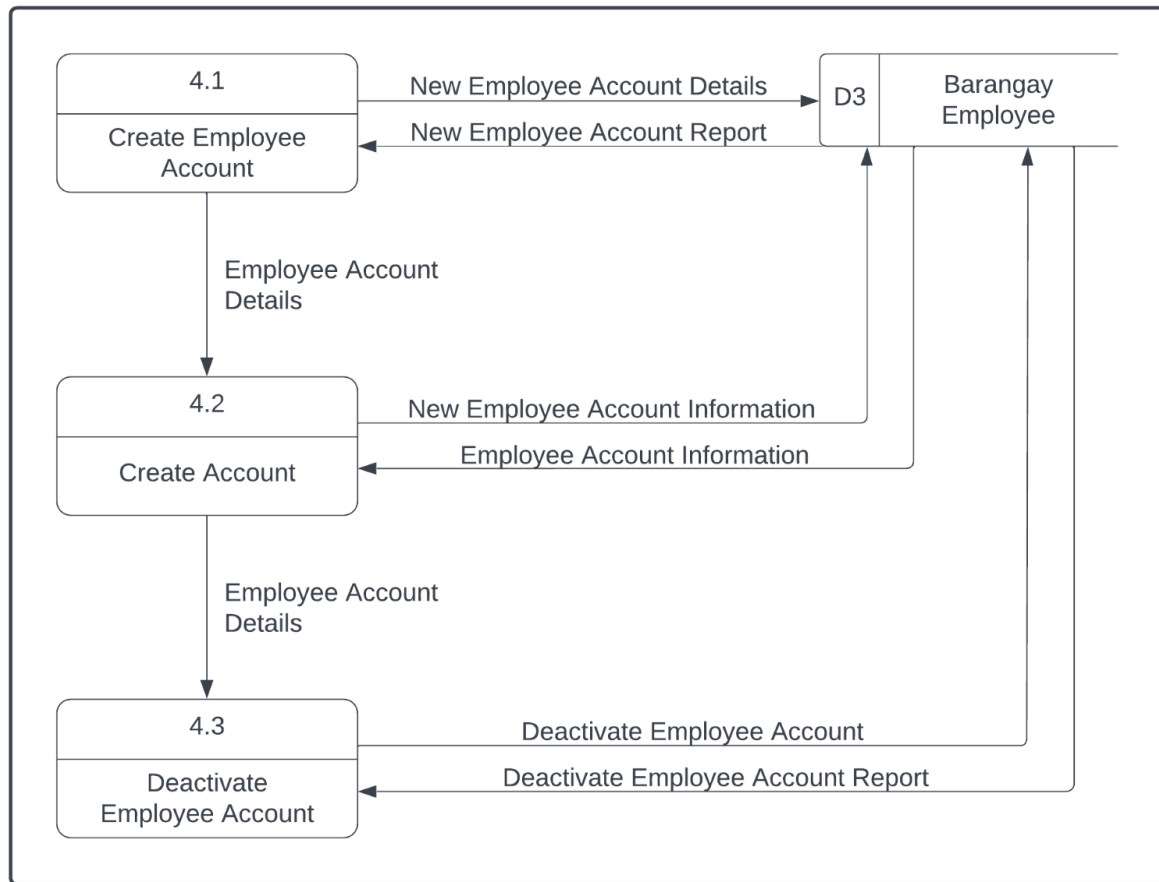

Figure 6.5 Data Flow Diagram Level 1 (Process 3)

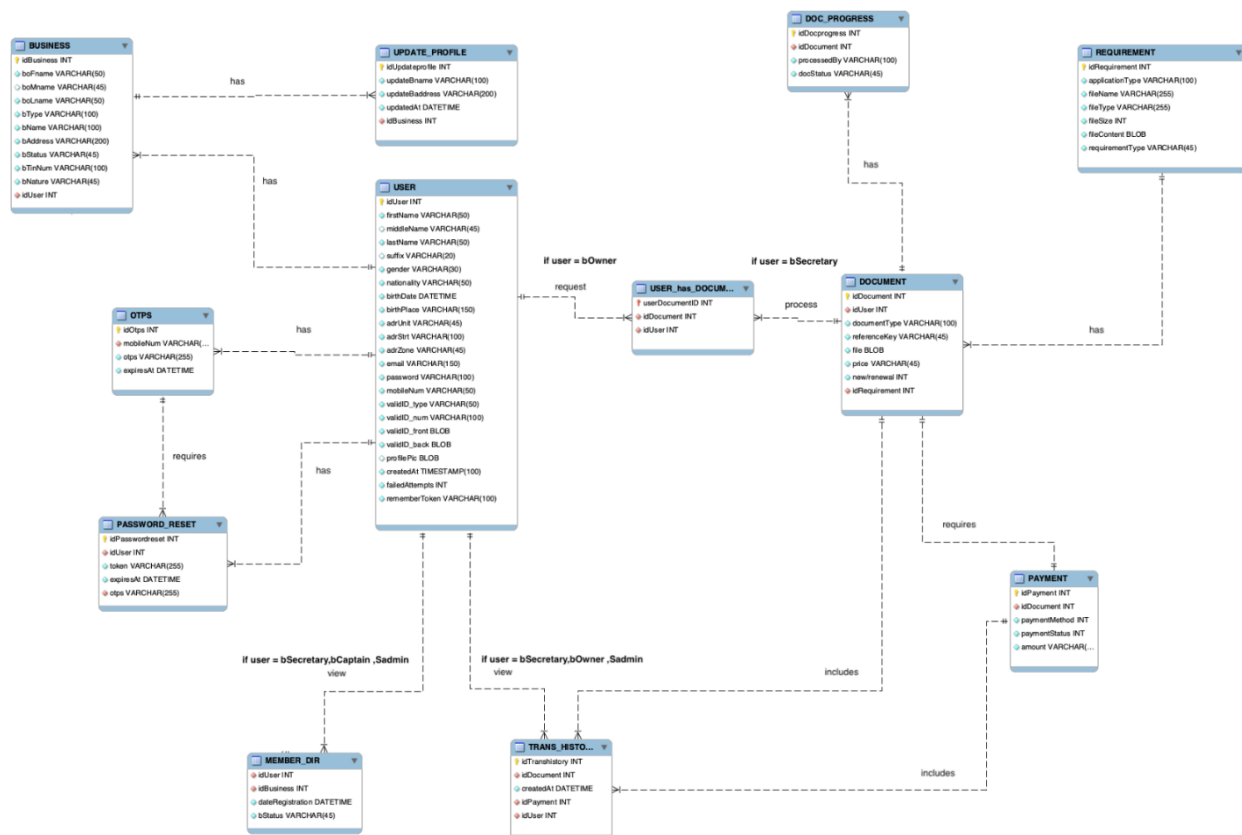**Figure 6.6 Data Flow Diagram Level 1 (Process 4)**

Figure 6.7 Entity-Relationship Diagram

Appendix C: To Be Determined List
<Collect a numbered list of the TBD (to be determined) references that remain in the SRS so they can be tracked to closure.>