**WATERFALL DELIVERABLES PART- 1**

1. **Business Case Document**
* Why is this project initiated?

This project is initiated to address the growing need for a secure, scalable, and user-friendly email and cloud storage solution. The goal is to provide users with a seamless experience for managing emails and storing files in the cloud, while ensuring data security, accessibility, and collaboration features. The application will also help organizations reduce dependency on third-party services and improve data control.

* What are the current problems?
* Existing email and cloud storage solutions lack seamless integration.
* Security concerns with data breaches and unauthorized access.
* Limited storage options with high costs for upgrades
* Lack of efficient collaboration tools within email platforms.
* Downtime and reliability issues with existing platforms
* With this project how many problems could be solved?
* Seamless email and cloud storage integration.
* Advanced security features such as end-to-end encryption and multi-factor authentication.
* Cost-effective storage plans with flexible scalability.
* Built-in collaboration tools (real-time file sharing, version control)
* Improved reliability with minimal downtime through cloud redundancy.
* What are the resources required?
* Human Resources
* Project manager
* Business Analyst
* Software Developers (Frontend and Backend)
* UI/UX Designer
* QA Testers
* Devops Engineer
* Security Specialist
* Infrastructure
* Cloud Servers
* Secure Database Storage
* Developmental tools and Frameworks
* Database management System
* Security tools (encryption, firewalls, etc..)
* Financial Resources
* Development costs
* Infrastructure costs
* Training and Onboarding costs
* Maintenance and Support costs
* How much organizational change is required to adopt this technology?
* Employees will need to transition from existing third-party services to the new application. This may require changes in workflows and processes.
* Staff will need training to use the new application effectively.
* Encouraging employees to adopt the new system and trust its security and reliability.
* Upgrading or setting up new infrastructure to support the application.
* Time frame to recover ROI?

The estimated time frame to recover ROI is 2-3 years. This is based on:

* Savings from eliminating third-party subscription fees.
* Increased productivity due to improved collaboration and accessibility.
* Reduced operational costs associated with data breaches or inefficiencies in current systems.
* How to identify Stakeholders?
* Primary Stakeholders
* Business owners and executives who approve funding and strategy
* Development and security teams responsible for building the platform.
* Secondary Stakeholders
* End-users (businesses and individual customers).
* Complaince and regulatory bodies.
* Cloud service providers and third-party vendors.
* Stakeholder Identification Methods
* Conduct surveys and market research.
* Engage in stakeholder interviews and consultations.
* Analyse competitors' stakeholder engagement models.
1. **BA Strategy**

As a Business Analyst, we need to ensure the project meets business needs by bridging the gap between stakeholders and the development team. Below is the step-by-step approach:

* Elicitation Techniques:
* Interviews: Conduct one-on-one or group interviews with key stakeholders (e.g., clients, end-users, IT team) to gather detailed requirements.
* Workshops: Organize collaborative sessions to brainstorm and prioritize features.
* Surveys/Questionnaires:  Use these to gather input from a large group of users or stakeholders.
* Observation: Observe how users currently handle email and cloud storage to identify pain points.
* Document Analysis: Review existing systems, policies, and processes related to email and cloud storage.
* Prototyping: Develop wireframes/mockups to validate UI/UX expectations.
* Stakeholder Analysis:
* Identify Stakeholders: List all stakeholders (e.g., clients, end-users, developers, IT support, legal/compliance teams).
* Define roles, expectations, and communication preferences.

RACI Matrix (Responsible, Accountable, Consulted, Informed)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Task/Activity** | **Business Analyst** | **Dev Team** | **QA** | **Client** | **Project Manager** | **Compliance** |
| Requirements Gathering | R | C | I | A | C | C |
| Design Approval | C | A | I | R | C | I |
| Development | I | R | C | A | C | I |
| Testing | C | I | R | A | I | I |
| UAT Sign-Off | C | I | I | R | A | C |

* Documents to Prepare:
* Business Requirement Document (BRD): High-level business needs and objectives.
* Functional Requirement Document (FRD): Detailed functionalities (Email integration, Cloud storage, Security).
* Software Requirement Specification: Technical specifications for the system.
* User Stories and Use Cases: Define system interactions and workflow scenarios.
* Traceability Matrix (RTM): Map requirements to test cases.
* User Acceptance Testing (UAT) Plan: Outline UAT process and criteria for acceptance.
* Change Request Document: Manage scope modifications.
* Process to Sign Off on Documents:
* Document Review: Conduct internal and external stakeholder reviews.
* Feedback Collection: Ensure feedback incorporation before approval.
* Client Approval Process:
* Submit documents for review via email or project management tools (JIRA, Confluence).
* Hold review meetings and address concerns.
* Obtain formal approval via sign-off emails or e-signatures.
* Communication Channels:
* Project Management Tool: Use tools like Jira, Trello, or Asana to track tasks and progress.
* Email:  For formal communication and document sharing.
* Meetings & Stand-ups: Weekly sync-ups and monthly stakeholder reviews.
* Collaboration Platforms: Use platforms like Slack or Microsoft Teams for real-time communication.
* Status Reports: Share weekly or monthly progress reports with stakeholders.
* Handling Change Requests:
* Change Request Form: Create a standardized form for stakeholders to submit change requests.
* Impact Analysis: Assess the impact of changes on scope, timeline, and budget.
* Document Updates: Update relevant documents (e.g., BRD, FRD) to reflect approved changes.
* Project Process Updates:
* Dashboards: Use dashboards in project management tools to visualize progress.
* Status Reports: Share detailed reports with stakeholders, highlighting completed tasks, upcoming milestones, and risks.
* Milestone Reviews: Conduct reviews at key milestones to ensure alignment with project goals.
* UAT and Client Project Acceptance:
* Define UAT scope, test cases, and success criteria.
* Work with end-users to conduct UAT and log defects.
* Collaborate with the development team to resolve defects.
* Prepare a formal acceptance form for the client to sign off on UAT and project delivery.
1. **Functional Specifications:**

|  |  |
| --- | --- |
| Project name | Mail Smart App |
| Customer name | Tech Solutions Inc. |
| Project Version | 1.0 |
| Project Sponsor | John Doe |
| Project Manager | Jane Smith |
| Project Initiation date | Feb 5, 2025 |

**Functional Requirement Specifications:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Req ID** | **Req Name** | **Req Description** | **Priority** |
| FR0001 | Login | Users should be able to login to access the application | 10 |
| FR0002 | Sign Up | New users should be able to create an account | 10 |
| FR0003 | Forgot Password | Users should be able to reset their password via email | 9 |
| FR0004 | Email Compose | Users should be able to compose and send emails | 10 |
| FR0005 | Inbox | Users should be able to view received emails | 10 |
| FR0006 | Sent Items | Users able to view sent emails | 8 |
| FR0007 | Attachments | Users should be able to attach files to emails | 9 |
| FR0008 | Cloud Upload | Users should be able to upload files to cloud storage | 10 |
| FR0009 | Cloud Download | Users should be able to download files from cloud storage | 10 |
| FR0010 | File Sharing | Users should be able to share stored files via emails or links | 9 |
| FR0011 | Storage Management | Users should be able to view and manage their storage usage | 8 |
| FR0012 | Email Filtering | Users should be able to filter emails by sender, date and type | 8 |
| FR0013 | Search Emails | Users should be able to search emails using keywords | 9 |
| FR0014 | Search Files | Users should be able to search files in cloud storage | 9 |
| FR0015 | Two- factor Authentication | Users should be able to enable two-factor authentication for security | 9 |
| FR0016 | Logout | Users should be able to securely log out | 10 |

1. **Requirement Traceability Matrix:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Req ID** | **Req Name** | **Req Description** | **Design**  | **T1** | **D1** | **D2** | **T2** | **UAT** |
| FR001 | Login | User must be able to access the application | Yes | Pending | No | Yes | Yes | Yes |
| FR002 | Forgot password | Users must be able to reset passwords via email | Yes | Pending | No | Yes | Yes | Yes |
| FR003 | Email Compose | Users must be able to compose and send emails | Yes | Pending | No | Yes | Yes | Yes |
| FR004 | Email Inbox | Users must be able to view and receive emails | Yes | Pending | No | Yes | Yes | Yes |
| FR005 | Email Search | Users must be able to search emails by keyword | Yes | Pending | No | Yes | Yes | Yes |
| FR006 | Cloud Upload | Users must be able to upload files to cloud storage | Yes  | Pending | No | Yes | Yes | Yes |
| FR007 | Cloud Download | Users must be able to download stored files | Yes | Pending | No | Yes | Yes | Yes |
| FR008 | File Sharing | Users must be able to share files via link or email | Yes | Pending | No | Yes | Yes | Yes |
| FR009 | Security & Encryption | User data must be encrypted in transit and at rest | Yes | Pending | No | Yes | Yes | Yes |
| FR0010 | Performance | App shud handle large users | Yes | Yes | Yes | Yes | Yes | Yes |

**Key to RTM Columns:**

* Req ID: Unique identifier for the requirement.
* Req Name: Name of the requirement.
* Req Description: Detailed description of the requirement.
* Design: Indicates if the requirement has been addressed in the design phase (Yes/No).
* T1 (Unit Test): Indicates if the requirement has passed unit testing (Yes/No/Pending).
* D1 (Integration Test): Indicates if the requirement has passed integration testing (Yes/No/Pending).
* D2 (System Test): Indicates if the requirement has passed system testing (Yes/No/Pending).
* T2 (Regression Test): Indicates if the requirement has passed regression testing (Yes/No/Pending).
* UAT (User Acceptance Test): Indicates if the requirement has passed user acceptance testing (Yes/No/Pending).
1. **Business Requirement Document**

**Project Name:** Mail Smart Application
**Project ID:** ECS-001
**Version ID:** 0.1
**Author:** YOGESH

* **Document Revisions:**

|  |  |  |
| --- | --- | --- |
| **Date** | **Version Number** | **Document Changes** |
| 6/3/2025 | 0.1 | Initial Draft |

* **Approvals**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Role** | **Name** | **Title** | **Signature** | **Date** |
| Project Sponsor | John Doe | VP of Product Development | Signed | 6/3/25 |
| Business Owner | Jane Smith | Director of Operations | Signed | 6/3/25 |
| Project Manager | Mike Johnson | Project Manager | Signed | 6/3/25 |
| System Architect | Sarah Lee | System Architect | Signed | 6/3/25 |
| Development Lead | Chris Brown | Senior Development Lead | Signed | 6/3/25 |
| User Experience Lead | Emily Davis | UX Design Lead | Signed | 6/3/25 |
| Quality Lead | David Wilson | QA Manager | Signed | 6/3/25 |
| Content Lead | Laura Green | Content Strategist | Signed | 6/3/25 |

* **RASCI CHART**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Task** | **Project Manager** | **Business Analyst** | **System Architect** | **Developer** | **QA Testers** | **Dev Engineer** | **User** |
| Requirements Gathering | A | R | S | C | I | I | C |
| System Design | A | C | R | S | I | I | I |
| Implementation | A | I | S | R | I | C | I |
| Testing | A | I | I | C | R | S | I |
| Deployment | A | I | I | C | I | R | S |
| Maintenance | A | I | I | R | C | S | C |

**Codes Used in RASCI Chart**

* R (Responsible): The person/role responsible for completing the task.
* A (Accountable): The person/role ultimately answerable for the task.
* S (Supportive): The person/role providing support or resources.
* C (Consulted): The person/role whose input is sought.
* I (Informed): The person/role who needs to be kept informed.
* **INTRODUCTION**
* **Business Goals:**

The organization aims to provide a secure, scalable, and user-friendly email and cloud storage solution to enhance communication and data management for businesses and individuals. The application will streamline workflows, improve collaboration, and ensure data accessibility across devices.

* **Business Objectives:**
* Secure email communication with end to end encryption.
* Cloud storage for files with version control and sharing capabilities.
* Cross-platform compatibility (web, Android, iOS).
* Integration with third-party applications (e.g., calendar, task management).
* User-friendly interface with customizable features.
* **Business Rules:**
* All users must comply with data privacy regulations
* Data retention policies will be enforced based on organizational requirements.
* Access to sensitive data will require multi-factor authentication (MFA).
* **Background:**

The project was proposed to address the growing need for secure and efficient communication and data storage solutions. The legacy systems currently in use lack scalability, modern security features, and user-friendly interfaces. The proposed solution aims to resolve these issues and provide a competitive edge in the market.

* **Project Objective:**

The objective is to develop a scalable, secure, and user-centric email and cloud storage application that aligns with the organization’s business goals. The product will integrate seamlessly with existing systems and provide a seamless user experience across platforms.

* **Project Scope:**

**In-Scope Functionality:**

* Email functionality with encryption and spam filtering.
* Cloud storage with file sharing and version control.
* Mobile applications for Android and iOS.
* User authentication (MFA, OAuth).
* Integration with third-party tools (e.g., calendar, task management).

**Out-Scope Functionality:**

* Development of hardware infrastructure.
* Advanced AI-based email categorization.
* Offline functionality for cloud storage.
* **ASSUMPTIONS:**
* Users will have access to stable internet connectivity.
* Third-party integrations will provide necessary APIs for seamless integration.
* The organization will provide adequate resources for development and testing.
* The system will be cloud-based with third-party security compliance
* Mobile apps will be maintained for compatibility with latest OS versions
* **CONSTRAINTS:**
* The project must comply with data privacy regulations
* The application must support a minimum of 1 million concurrent users.
* Development must be completed within 12 months.
* Budget limitations
* Limited initial user adoption and training requirements
* **RISKS:**

|  |  |  |
| --- | --- | --- |
| **RISK TYPE** | **RISK DESCRIPTION** | **STRATEGY** |
| Technological Risks | Integration challenges with third-party APIs | Mitigate |
| Skills Risks | Lack of expertise in cloud security | Transfer |
| Political Risks | Changes in data privacy regulations | Accept |
| Business Risks | Market competition | Avoid |
| Requirements Risks | Unclear or changing requirements | Mitigate |
| Other Risks | Delays in development timeline | Mitigate |

* **BUSINESS PROCESS OVERVIEW:**
* **Legacy System (AS-IS)**

The legacy system lacks modern security features, has limited storage capacity, and does not support cross-platform compatibility. Users face challenges with data accessibility and collaboration.

Currently, businesses use third-party solutions that pose security and compliance risks. Integration with internal systems is limited, leading to inefficiencies.

**Process Flow diagram:**

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* **Proposed Recommendations (TO-BE)**

The proposed system will provide a secure, scalable, and user-friendly solution with cross-platform compatibility, advanced security features, and seamless integration with third-party tools.

The new system will offer a secure, integrated email and cloud storage solution with customizable policies, access controls, and a seamless user experience.

**Process Flow:**

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* **BUSINESS REQUIREMENTS**
* **High priority Requirements**

These are critical features without which the application cannot function.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Req ID** | **Requirements** | **Description** | **Use Case Reference** | **Category** |
| BR001 | User Authentication | Users must be able to securely log in using email and password. Two-factor authentication (2FA) should be supported. | UC-001 | Security |
| BR002 | Email Functionality | Users must be able to send, receive, and manage emails (compose, reply, forward, delete). | UC-002 | Email |
| BR003 | Cloud Storage | Users must be able to upload, download, and manage files in the cloud. | UC-003 | Storage |
| BR004 | Data Encryption | All emails and files must be encrypted during transmission and storage. | UC-004 | Security |
| BR005 | User Interface | The application must have an intuitive and responsive user interface for web and mobile. | UC-005 | Usability |

**Medium-Priority Requirements**

These are important features that enhance the application but are not critical for the initial release.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Req ID** | **Requirements** | **Description** | **Use Case Reference** | **Category** |
| BR006 | Search Functionality | Users must be able to search emails and files by keywords, date, or sender. | UC-006 | Email, Storage |
| BR007 | File Sharing | Users must be able to share files with others via email or direct links. | UC-007 | Storage |
| BR008 | Storage Quota Management | Users should have a storage limit with options to upgrade. | UC-008 | Storage |
| BR009 | Email Filters | Users must be able to create filters to organize emails (e.g., by sender, subject). | UC-009 | Email |
| BR010 | Notifications | Users should receive notifications for new emails and file uploads. | UC-010 | Usability |

**Low-Priority Requirements**

These are nice-to-have features that can be added in future updates.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Req ID** | **Requirements** | **Description** | **Use Case Reference** | **Category** |
| BR011 | Integration with Third-Party Apps | Integrate with tools like Google Drive, Dropbox | UC-011 | Integration |
| BR012 | Customizable Themes | Users should be able to customize the look and feel of the application. | UC-012 | Usability |
| BR013 | Offline Access | Users should be able to access emails and files offline. | UC-013 | Usability |
| BR014 | Collaboration Tools | Allow multiple users to collaborate on shared documents in real-time. | UC-014 | Storage |

**Non-Functional Requirements**

|  |  |  |  |
| --- | --- | --- | --- |
| **Req ID** | **Requirements** | **Description**  | **Category** |
| NFR-001 | Performance | The application must support up to 10,000 concurrent users with a response time of less than 2 seconds. | Performance |
| NFR-002 | Scalability | The system must scale horizontally to accommodate future growth. | Scalability |
| NFR-003 | Availability | The application must have 99.9% uptime. | Reliability |
| NFR-004 | Security | The application must comply with GDPR and other data protection regulations. | Security |
| NFR-005 | Compatibility | The application must be compatible with major browsers (Chrome, Firefox, Safari) and mobile devices (iOS, Android). | Compatibility |

**Key Reference Material**

* **Use Case Documentation**: [Link to Use Case Document](https://chat.deepseek.com/a/chat/s/070f4c30-c7a5-4d5e-ba96-05598df3afe2)
* **Technical Design Document**: [Link to Design Document](https://chat.deepseek.com/a/chat/s/070f4c30-c7a5-4d5e-ba96-05598df3afe2)
* **Test Plan**: [Link to Test Plan](https://chat.deepseek.com/a/chat/s/070f4c30-c7a5-4d5e-ba96-05598df3afe2)
* **Security Compliance Guidelines**: [Link to Security Guidelines](https://chat.deepseek.com/a/chat/s/070f4c30-c7a5-4d5e-ba96-05598df3afe2)

**Appendices:**

**List of Acronyms**

* MFA: Multi-Factor Authentication
* SSO: Single Sign-On
* HRMS: Human Resource Management System
* LMS: Learning Management System

**Related Documents**

* System Architecture Document
* Compliance and Security Guidelines
* User Training Materials