ChatPond 1.0 -

Product Requirement Document

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# **Executive Summary**

ChatPond is an organization level communication and collaboration platform designed to enhance productivity, streamline teamwork, and provide a secure environment for internal communication. It brings together multiple modes of interaction including chat, group messaging, audio calls, video calls, file sharing, and collaboration tools into a unified application tailored for enterprise use.

The purpose of ChatPond is to address communication gaps, reduce dependency on external tools, and ensure compliance with organizational policies. With an intuitive interface and advanced features such as rich text formatting, task management, channelbased collaboration, and adminlevel security controls, ChatPond enables employees to communicate effectively and work together seamlessly.

From an organizational perspective, ChatPond ensures:

* Improved Productivity – Employees can connect instantly through 1:1 or group conversations, share files, and collaborate in dedicated channels.
* Secure Communication – Multifactor authentication, single signon (SSO), and compliance controls protect sensitive data.
* Unified Collaboration – Teams can manage tasks, track progress, and share information in realtime without switching between tools.
* Scalability & Flexibility – Designed to support organizations of all sizes, with adminlevel configurations to manage policies, access rules, and analytics.

Overall, ChatPond provides a comprehensive, secure, and userfriendly solution that empowers organizations to streamline communication, foster collaboration, and maintain data integrity while reducing costs associated with multiple thirdparty applications.

# **Introduction**

## Purpose

The purpose of this Business Requirement Document (BRD) is to define the **objectives, scope, and requirements** of ChatPond, an organizationlevel chat and collaboration system. This document serves as a single source of truth for stakeholders, business teams, and development teams to ensure a **shared understanding** of the product vision and requirements.

## Scope

ChatPond is designed as a **comprehensive enterprise communication platform**. It enables employees to interact through **1:1 messaging, group chats, channels, audio/video calls, file sharing, and task management** in a secure environment. The platform also offers **administrative controls, authentication mechanisms, and compliance features** to meet organizational security and governance needs.

## Key inscope functionalities:

* **Communication**: 1:1 chat, group chat, rich text formatting, message reactions, file sharing, chat history search, pinning messages, audio and video calls.
* **Collaboration**: Channels for structured communication, file management, task creation and tracking, threaded discussions.
* **Team & Organization Management**: Admin policies, compliance recording, analytics, external access controls.
* **Security & Access**: Authentication methods (SSO, MFA, OTP login), conditional access, devicelevel restrictions, guest access controls.
* **User Management**: User signup and profile creation.

## Objectives

The primary objectives of ChatPond are to:

* Provide a **centralized communication system** for organizations.
* Improve **team collaboration** and reduce reliance on multiple thirdparty tools.
* Ensure **secure communication** with enterprisegrade authentication and compliance policies.
* Support **scalable growth** through configurable admin policies and reporting features.
* Enhance **employee productivity and engagement** by integrating chat, calls, and collaboration into one unified platform.

# **Overview of Role – End User**

The **End User** represents a regular employee of the organization who uses Chatpond for daily communication and collaboration. This role has access to the **core functionalities** of the application, enabling seamless interaction with colleagues and teams.

## Key Responsibilities & Capabilities

* **Profile Management**
  + Sign up using mandatory details (Full Name, unique Email) with an optional profile picture.
  + Manage personal settings such as notifications and availability.
* **Chat & Messaging**
  + Send and receive **1:1 and group messages**.
  + Edit or delete messages.
  + Use **rich text formatting** (bold, italics, lists).
  + Share and forward messages.
  + React to messages with **emoji, GIFs, or stickers**.
  + Search chat history and **pin important messages** for quick access.
* **Calls & Meetings**
  + Initiate and participate in **audio calls and video calls**.
  + Use advanced options such as **hold/resume calls** and **voicemail support**.
* **Collaboration Tools**
  + Participate in **channels**: create, reply, and pin conversations.
  + Upload and download files for team use.
  + Create, assign, and track **tasks in the planner**, marking tasks as complete when finished.
* **Security & Access**
  + Sign in using secure methods like **Microsoft account, Single Sign-On (SSO), Multi-Factor Authentication (MFA), or Email OTP**.
  + Access the platform from a single device with auto-logout from others, ensuring account safety.

## End User Value Proposition

The end user benefits from a **centralized, easy-to-use communication hub** that:

* Reduces reliance on multiple apps for chat, calls, and file sharing.
* Ensures secure communication without added complexity.
* Improves productivity through integrated task and channel-based collaboration.

# **Functional Requirements**

Functional requirements describe **what the system must do** to meet the needs of the **End User**. Each requirement is linked to a feature and prioritized.

## 4.1. Role: End User

### 4.1.1. Profile & Authentication

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| --- | --- | --- | --- |
| **ID** | **Requirement** | **Description** | **Priority** |
| END-FR-01 | User Signup | End User must be able to sign up using Full Name (mandatory), unique Email (mandatory), and optional Profile Picture. | High |
| END-FR-02 | Secure Login | Support multiple login methods: Microsoft account, Single Sign-On (SSO), Multi-Factor Authentication (MFA), and Email OTP (passwordless). | High |
| END-FR-03 | Device Restriction | Allow only **single device login** at a time; auto logout from other devices if new session starts. | High |
| END-FR-04 | Session Management | Automatic logout after configurable idle time (e.g., 30 mins). | Medium |

### 4.1.2. Chat & Messaging

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| **ID** | **Requirement** | **Description** | **Priority** |
| END-FR-05 | 1:1 Chat | Send and receive direct messages with individual colleagues. | High |
| END-FR-06 | Group Chat | Participate in multi-user conversations. | High |
| END-FR-07 | Edit/Delete | Ability to edit or delete own messages with timestamp/version tracking. | High |
| END-FR-08 | Rich Text | Use formatting (bold, italic, underline, lists) in messages. | Medium |
| END-FR-09 | File Sharing | Share documents, images, and other files via chat (with size limits defined by Admin). | High |
| END-FR-10 | Forward | Forward a message from one chat/channel to another. | Medium |
| END-FR-11 | Reactions | React to messages with emojis, GIFs, and stickers. | Medium |
| END-FR-12 | Search | Search chat history by keywords, sender, or date range. | High |
| END-FR-13 | Pin Message | Pin key messages for quick retrieval. | Medium |

### 4.1.3. Calls & Meetings

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| **ID** | **Requirement** | **Description** | **Priority** |
| END-FR-14 | Audio Call | Initiate and join audio calls. | High |
| END-FR-15 | Video Call | Initiate and join video calls with screen sharing option. | High |
| END-FR-16 | Call Controls | Put calls on hold, resume, mute/unmute, add participants. | Medium |
| END-FR-17 | Voicemail | Record voicemail if user unavailable. Playback available in app. | Medium |

### 4.1.4. Channels (Collaboration)

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| **ID** | **Requirement** | **Description** | **Priority** |
| END-FR-18 | Create Channel | Create channels for team or project collaboration. | High |
| END-FR-19 | Rename Channel | Ability to rename channels by channel owner. | Medium |
| END-FR-20 | Threaded Replies | Reply within conversation threads. | High |
| END-FR-21 | Pin Post | Pin important posts at channel level. | Medium |
| END-FR-22 | Notification Control | Mute/unmute notifications per channel. | High |

### 4.1.5. Tasks & Planner

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| **ID** | **Requirement** | **Description** | **Priority** |
| END-FR-23 | Create Task | Create new tasks with title, description, due date. | Medium |
| END-FR-24 | Assign Task | Assign tasks to members of the channel/group. | Medium |
| END-FR-25 | Track Progress | Update and track task status (Not Started → In Progress → Completed). | Medium |
| END-FR-26 | Mark Complete | Mark task as complete and notify assignee. | Medium |

### 4.1.6. File Management

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| **ID** | **Requirement** | **Description** | **Priority** |
| END-FR-27 | Upload File | Upload files in chats/channels (check type and size limits). | High |
| END-FR-28 | Download File | Download files shared in chats/channels. | High |
| END-FR-29 | File Preview | Preview common file types (PDF, images, docs) without download. | Medium |

# **Non-Functional Requirements**

Non-functional requirements (NFRs) define **how the system should perform** rather than what it should do.

## Performance & Scalability

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| **ID** | **Requirement** | **Priority** |
| NFR-01 | System shall support at least **1,000 concurrent users**. | High |
| NFR-02 | Video calls shall support **100 participants simultaneously**. | High |
| NFR-03 | Chats and API calls shall respond in **≤2 seconds** under normal load. | High |
| NFR-04 | System shall be horizontally scalable to support organizational growth. | High |

## Security & Compliance

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| **ID** | **Requirement** | **Priority** |
| NFR-05 | All communication encrypted via **TLS 1.2+** with end-to-end encryption for chat/calls. | High |
| NFR-06 | Must support **SSO, MFA, and OTP login**. | High |
| NFR-07 | Strict **role-based access control** (User, Admin, Guest). | High |
| NFR-08 | Must comply with **GDPR, ISO 27001** data protection standards. | High |
| NFR-09 | Provide **audit logs** for message edits/deletes, file uploads/downloads, and login attempts. | Medium |

## Availability & Reliability

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| **ID** | **Requirement** | **Priority** |
| NFR-10 | Ensure **99.9% uptime** (excluding planned maintenance). | High |
| NFR-11 | Daily backups with recovery in **≤4 hours**. | High |
| NFR-12 | Data loss prevention mechanisms in place (e.g., retry on failure). | High |

## Usability & Maintainability

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| **ID** | **Requirement** | **Priority** |
| NFR-13 | Provide **responsive UI** across desktop, web, and mobile. | High |
| NFR-14 | Application UI must be **intuitive** for non-technical employees. | High |
| NFR-15 | Modular architecture for **easy upgrades** and bug fixes. | Medium |
| NFR-16 | Support **cloud (Azure/AWS)** and **on-premises deployments**. | Medium |

## Monitoring & Extensibility

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| **ID** | **Requirement** | **Priority** |
| NFR-17 | Monitor system health with **real-time alerts** for failures. | Medium |
| NFR-18 | Allow integration with future modules (e.g., third-party productivity apps). | Medium |
| NFR-19 | Support **multi-language localization** for global teams. | Low |