

INTRODUCTION

This document defines the system requirements for the Reddit platform. It outlines the intended functionality, performance, security, and operational features required to achieve the goals specified in the project plan. The primary goal is to create an organized and user-friendly forum platform for users worldwide to engage in discussions, share ideas, and interact with like minded communities. This document contains the following:

Functional and non-functional requirements.

Input, output, process, performance, and security specifications.

Detailed descriptions of the system's operations and anticipated outcomes.

This document serves as a guide for developers, stakeholders, and testers to ensure the Reddit platform meets user needs while delivering a seamless experience.

DESCRIPTION MODEL

The Reddit platform is designed as a community-driven forum where users can post content, engage in discussions, and explore specific topics of interest through Subreddits. Below are the requirements categorized into output, input, processes, performance, and security.

Output Requirements

Display Subreddits, threads, and comments sorted by relevance (meaning which ones have been getting lots of upvotes recently) or user preferences (e.g., trending, new, or top-rated).

Generate personalized user feeds based on subscribed Subreddits and interaction

history. Deliver notifications for new messages, replies, or upvotes. The data in this

notifications will display what a user has messaged them or what text there reply

contained along with who it came from.

Provide analytics for moderators, such as user activity and content performance

metrics. Some analytics includes number of upvotes a post has, number of users who

interacted with a post, etc.

Input Requirements

Allow users to create accounts and log in securely. Usernames can be a mix of letters and numbers and can be used so long as the username isn't taken by another user, it is more than 3 characters and does not exceed 20 characters. Passwords must be at least 8 characters, have a capital letter, a lowercase letter, a number, and a special character (such as a question mark).

Enable users to submit threads, comments, and replies within

Subreddits. Threads can be up to 40,000 characters long (not including the 100 character long title). Comments can be up to 10000 characters long.

Provide options to upvote, downvote, or report content.

Facilitate subreddit creation and customization by moderators. Subreddits can be customized with their own descriptions and a custom icon picture and heading.

Process Requirements

Sort and prioritize content based on user interactions (upvotes, downvotes) and system algorithms.

Moderate content using automated tools and manual oversight by subreddit moderators. Facilitate user profile updates, including avatar uploads and account preferences. Manage subreddit configurations, including membership rules and content filters. **Performance Requirements**

Ensure seamless navigation and content loading times of less than 2 seconds.

Handle concurrent users with minimal downtime, scaling up to 1 million active users. Optimize algorithms for efficient sorting and retrieval of content.

Security Requirements

Implement secure user authentication via password encryption and optional multi-factor authentication (MFA).

Protect user data and ensure compliance with privacy laws such as GDPR.

Prevent spam, malicious content, and unauthorized access through content filtering and robust moderation tools.

Secure data transmission using HTTPS protocols.