

SYSTEM REQUIREMENT SPECIFICATION

Functional Requirements

Project Management

The system shall allow project owners to create, configure, and publish projects.

Recruitment & Assignment

The system shall allow collaborators to apply and owners to approve applicants.

Task Lifecycle Management

The system shall manage task states: *In Progress* → *Submitted* → *Approved / Revision*.

Submission Versioning

Each submission shall create a timestamped, immutable version.

XP Automation

The system shall award XP only after explicit approval by the project owner.

XP Calculation Rules

XP shall be calculated using:

- Task difficulty
 - Deadline adherence
 - Rework penalty
- Final XP = Base XP + Bonus – Penalty

Mentorship Support

The system shall allow mentors to provide guidance and recommendations without evaluation authority.

Audit Logging

All critical actions shall be logged immutably.

Administration & Enforcement

The system shall support warnings, suspensions, and account bans.

Non-Functional Requirements

Transparency

All workflow transitions must be traceable through audit logs.

Determinism

XP calculation shall be rule-based and deterministic.

Security

Role-based access control must be enforced.

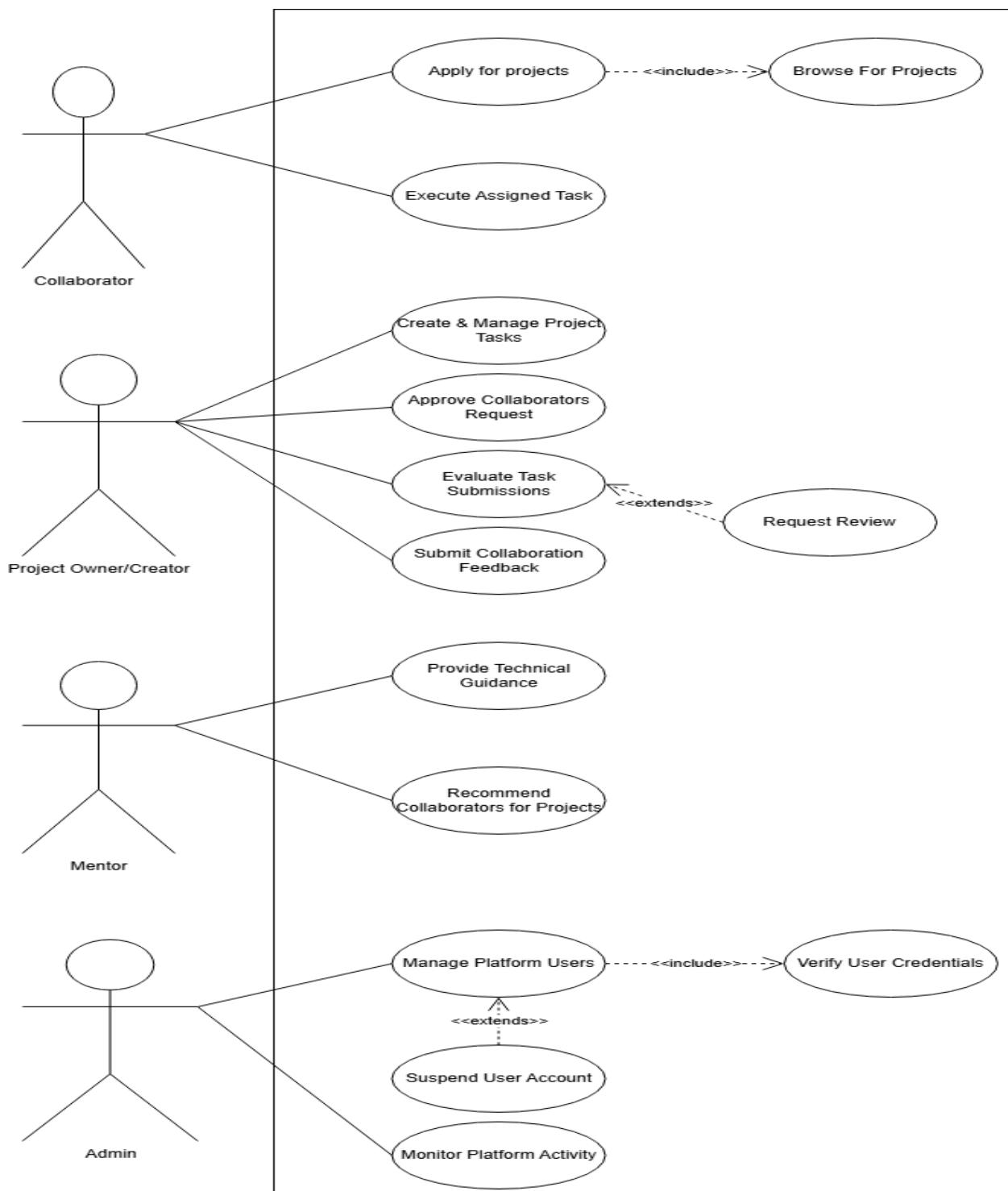
Reliability

XP transactions must be idempotent (exactly once).

Scalability

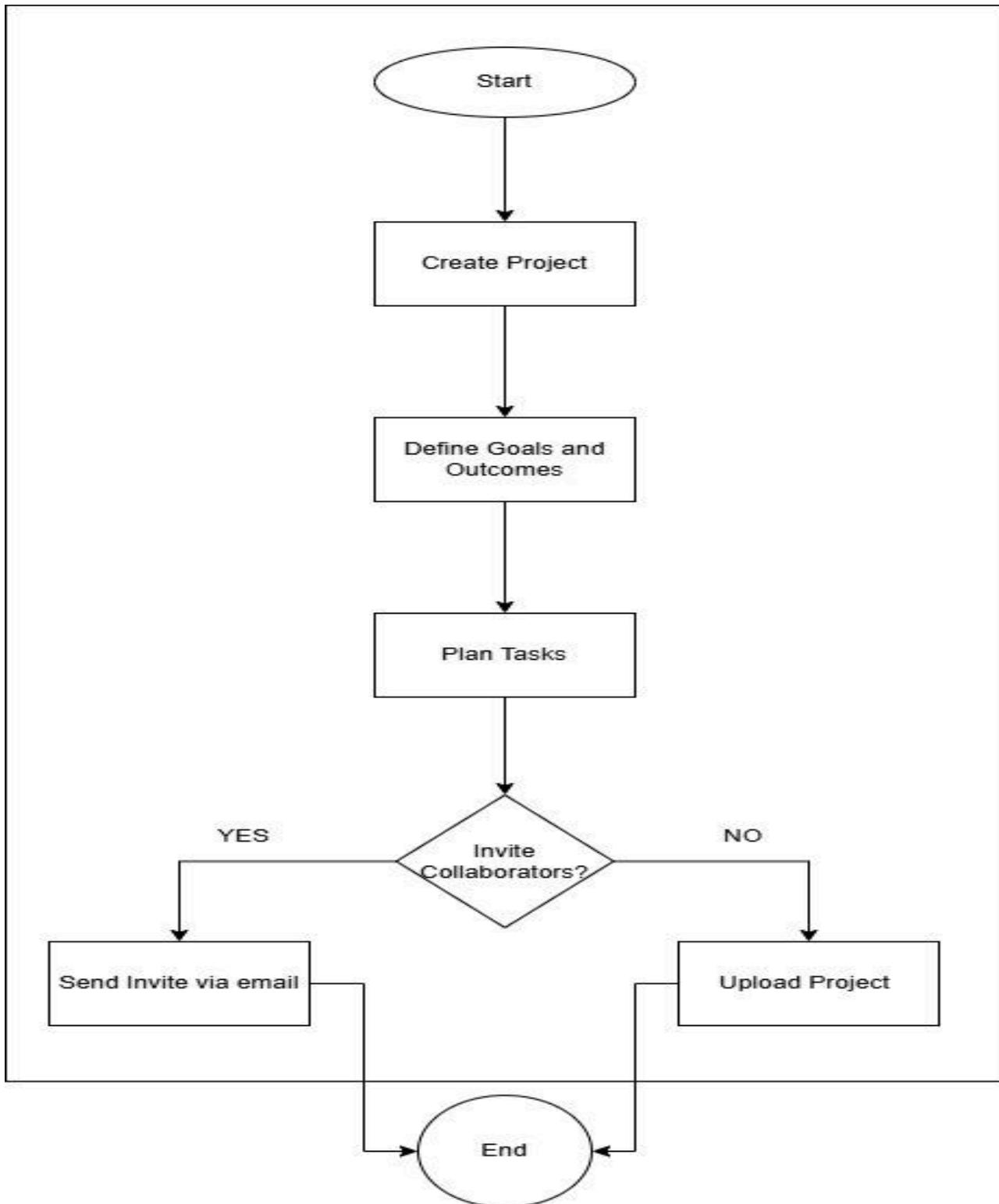
System shall support concurrent users and multiple projects.

USE CASE DIAGRAM

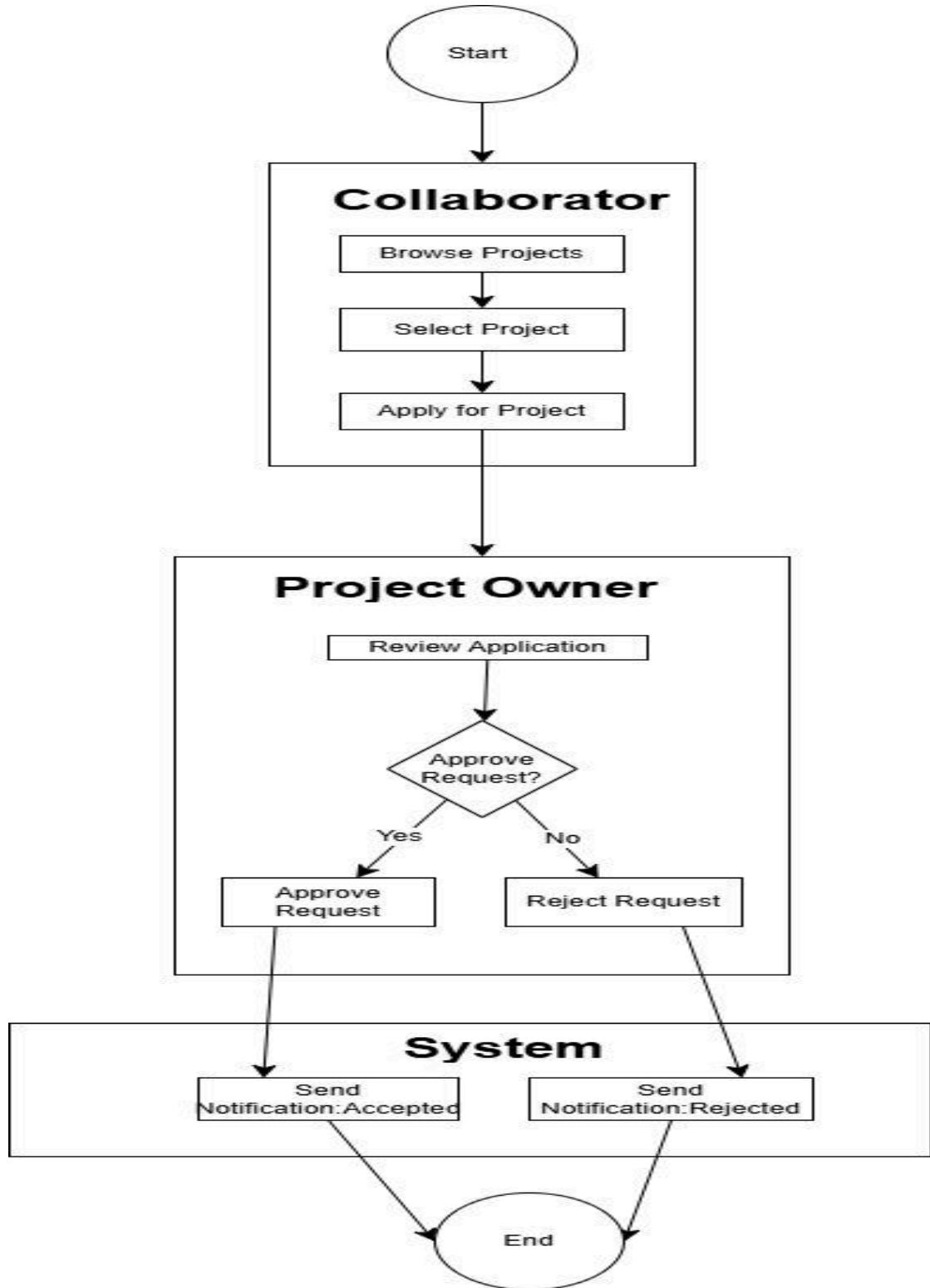


ACTIVITY DIAGRAMS

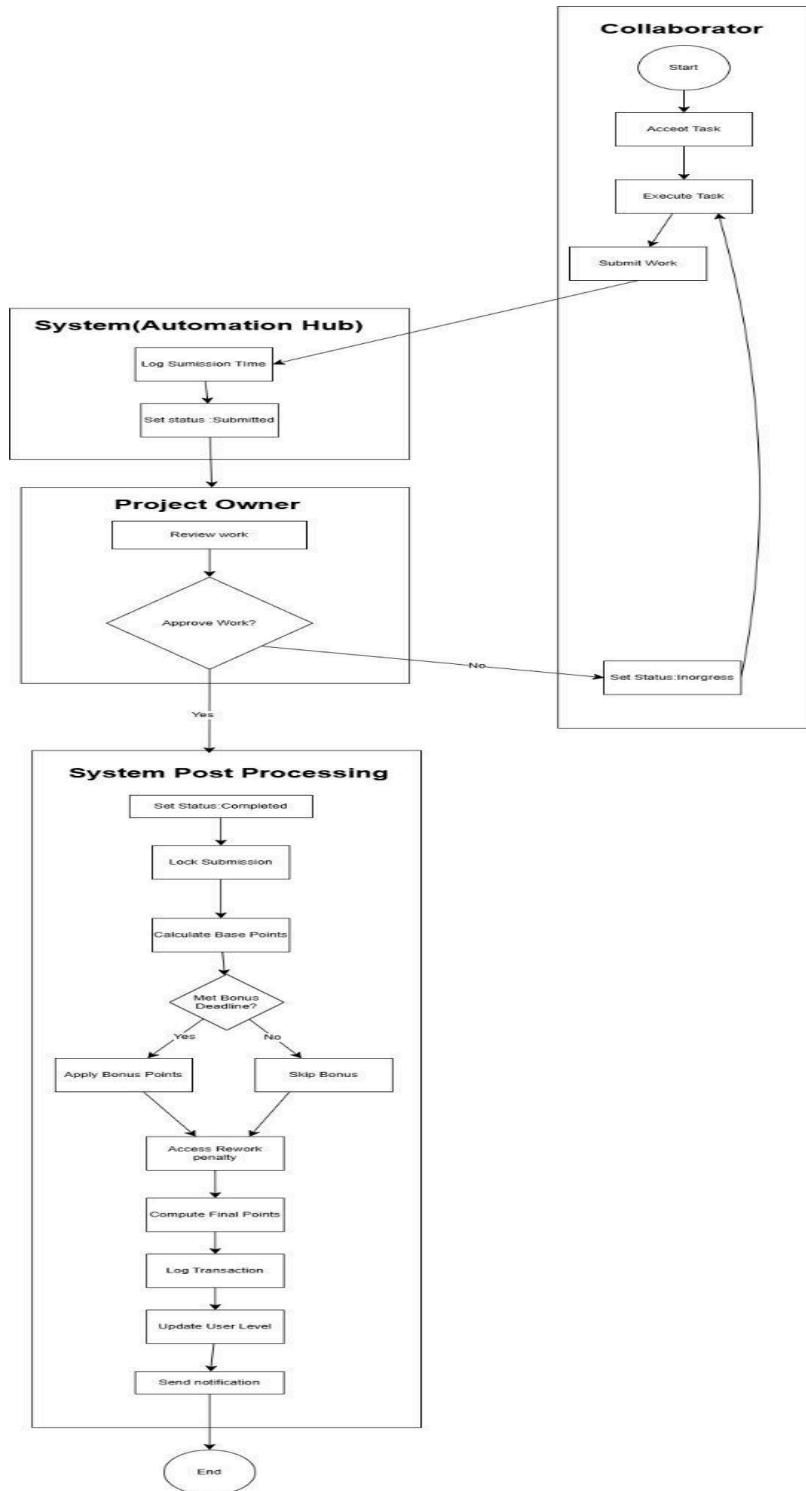
PROJECT CREATION



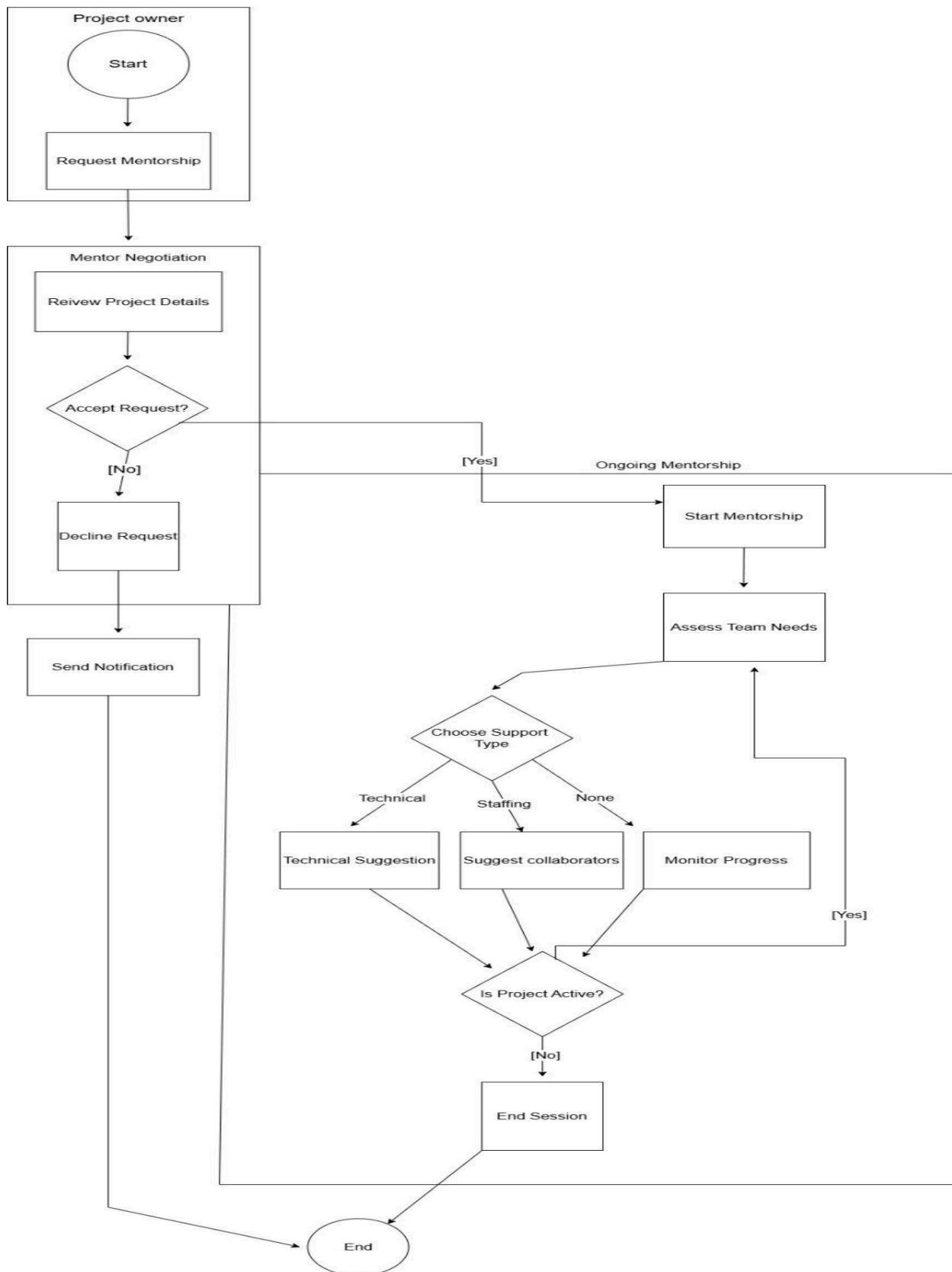
RECRUITMENT



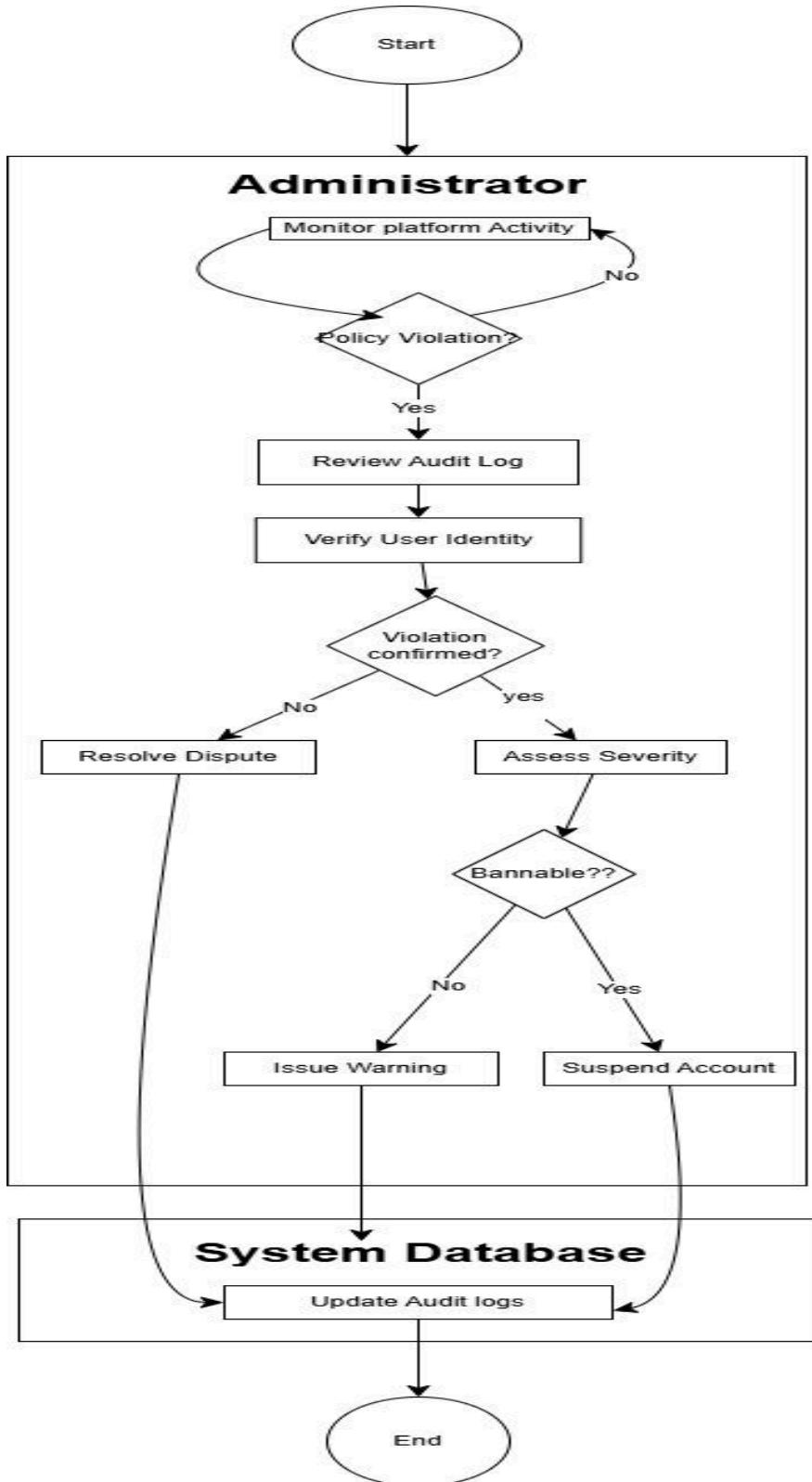
TASK EXECUTION



MENTORSHIP WORKFLOW



ADMIN WORKFLOW



SEQUENCE DIAGRAM

