Analysis Domain Modeling

The Domain Analysis Model is a systematic approach for analyzing and understanding the key concepts, relationships, and constraints within a particular problem domain, often used in software engineering.

Boundary Object

A boundary object typically refers to an element or concept within the model that helps facilitate communication and understanding between different stakeholders or groups involved in the modeling process.These represent the interaction of system interface with actors of system in which each actor interact with at least one boundary object

1. Forms: The user fills forms to register
2. Report Generation: The user might generate report for a project
3. Profile: Profiles providing detailed information about each user, including roles, responsibilities, and contact details and allow to update information
4. Chat System: A real-time communication feature enabling users to discuss project-related matters efficiently.
5. Web Browser: The user interacts with the system through a web browser.
6. Dashboard: A centralized overview presenting key project metrics, progress, and performance indicators.

Entity Objects
Entities represent distinct and meaningful objects, concepts, or things within a specific domain or system. These entities are identifiable, have attributes that describe their properties, and are used to model and organize data in various applications, including databases, software systems, and information systems.

1. User: Admin
   Project Manager
   Employee
2. Project: Contains relevant information such as project name, description, start and end dates, and associated tasks.
3. Task: Represents individual activities or work units within a project, each with attributes like task name, description, assigned employee, status, and deadline.
4. Resources: The resource entity refers to resources that are required to complete the project.

5. Database: The system might access the database to provide information to the user.

Control Objects

Control objects represent entities or features within the system that facilitate control, monitoring, and management of the project and its associated activities. These control objects are instrumental in ensuring that the project stays on track, adheres to defined processes, and achieves its goals.

1. Permission and Access Control: This control object regulates access to the system and its functionalities based on user roles (admin, project manager, employee). It ensures that users can only access the features and data relevant to their roles and responsibilities
2. Task Management: The user generates and assign tasks to different users and also updates status of the task
3. Project Management:The user generates and assign project to different users
4. Resource Management: The user can add or remove resources
5. Time Tracking: The tool should have a time tracking feature that allows team members to log their hours worked on a specific task or project.
6. Reporting and Analytics: The tool should have reporting and analytics capabilities that allow users to track project progress, identify bottlenecks, and make data-driven decisions.
7. Communication Management: The system should enable users to communicate effectively within the team through email notifications, messaging, and comments.

Class Diagram

User

name: string

email: string

password: string

Admin

Login()

ViewProject()

CreateProject()

Add/RemoveManager()

AddEmployee()

RemoveEmployee()

Employee

Login()

UpdateTaskStatus()

ViewTaskProgress()

Chat()

Manager

Login()

CreateTask()

AddResource()

RemoveResource()

DeleteTask()

ApproveTask()

MonitorTaskProgress()

+ item: attribute

Project

projectID: int

name:string

description: string

startDate: DateTime

deadline:DateTime

Resources

ResourceName: string

avaibility: string

requestedBy: employee

availableTill: DateTime

Task

name:string

deadline: DateTime

description: string

TaskStatus:string

Manages

Creates

Requests

Assigned To

Allocates

Creates and Manages

ConsistOf

1   *   *   1   1