HUSKY LIVES

UNIVERSITY HOUSING MANAGEMENT SYSTEM

AED FINAL PROJECT – 12/10/2023

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Problem statement

- Increasing Complexity of Student Well-being: Today's students face a myriad of challenges, necessitating a comprehensive approach to their health, diet, and living arrangements.
- Diverse Student Needs: Students at Northeastern University have unique dietary preferences, health concerns, and dormitory service requirements, making a tailored support system crucial.
- Lack of Integrated Solutions: Currently, there's a gap in communication and collaboration between key entities such as Dormitory Services, Dieticians, Doctors, and Fitness Coaches.
- Goal: To create a collaborative Ecosystem that addresses these challenges, fostering a holistic and supportive environment for student well-being.
- Emphasis on Collaboration: The objective is to move beyond individualized efforts and leverage the collective capabilities of Dormitory Services, Dieticians, Doctors, and Fitness Coaches to enhance student welfare.
- The project aims to demonstrate that the collaborative efforts of these entities yield more significant benefits for student well-being than their individual contributions.

Solution

- Our solution revolves around creating a holistic well-being ecosystem, integrating Dormitory Services, Dieticians, Doctors, and Fitness Coaches into a unified platform.
- Establishing a centralized hub that facilitates seamless communication and collaboration among the various entities involved in student well-being.
- Crafting use-cases that cater to specific student needs, such as dietary management, medical consultations, fitness programs, and dormitory service requests.
- Ensuring a dynamic and interconnected system where Dormitory Services, Dieticians, Doctors, and Fitness Coaches can share relevant information and insights for personalized student support.
- Implementing a robust authentication module to secure user access, ensuring that sensitive student data is handled with the utmost privacy and confidentiality.
- Emphasizing that the collaborative effort of Dormitory Services, Dieticians, Doctors, and Fitness Coaches leads to a well-rounded and more effective support system, providing greater value to the students

Stakeholders - Building a Collaborative Ecosystem: Identifying Key Participants

- Students: Primary beneficiaries of the system, seeking holistic support for their well-being, including dietary, medical, and fitness needs.
- Dormitory Services: Manages student accommodation, handles service requests, and contributes to the overall living experience.
- Dieticians: Provides nutritional guidance, dietary plans, and collaborates with other entities to ensure students' health and wellness.
- Doctors: Offers medical consultations, health assessments, and contributes to the overall health and safety of the student population.
- Fitness Coaches: Designs fitness programs, monitors progress, and collaborates with other stakeholders to promote a healthy lifestyle among students.
- Administrators:Oversee the implementation and maintenance of the system, ensuring it aligns with the university's goals and standards.

USE CASES

Use Case 1: Dietary Management

Actors: Student, Dietician

- Student logs in to the system and enters dietary preferences, allergies, and health goals.
- Dietician accesses the information to create personalized dietary plans.
- System notifies the student of suggested meals, considering their preferences and nutritional needs.
- Dietician and Student can communicate within the system for adjustments and updates to the dietary plan.

USE CASES

Use Case 2: Medical Consultation and Appointment Scheduling

Actors: Student, Doctor

- Student schedules a medical consultation through the system based on their availability.
- Doctor accesses the appointment details and reviews the student's medical history.
- During the consultation, Doctor updates the system with diagnosis, prescriptions, and recommendations.
- System sends notifications to the student for follow-up appointments or medication reminders.

USE CASES

Use Case 3: Fitness Program Enrollment

Actors: Student, Fitness Coach

- Student expresses interest in fitness programs available within the system.
- Fitness Coach reviews student profiles to recommend suitable programs.
- Student enrolls in a fitness program through the system.
- System tracks progress and updates both the Fitness Coach and Student on achievements and milestones.

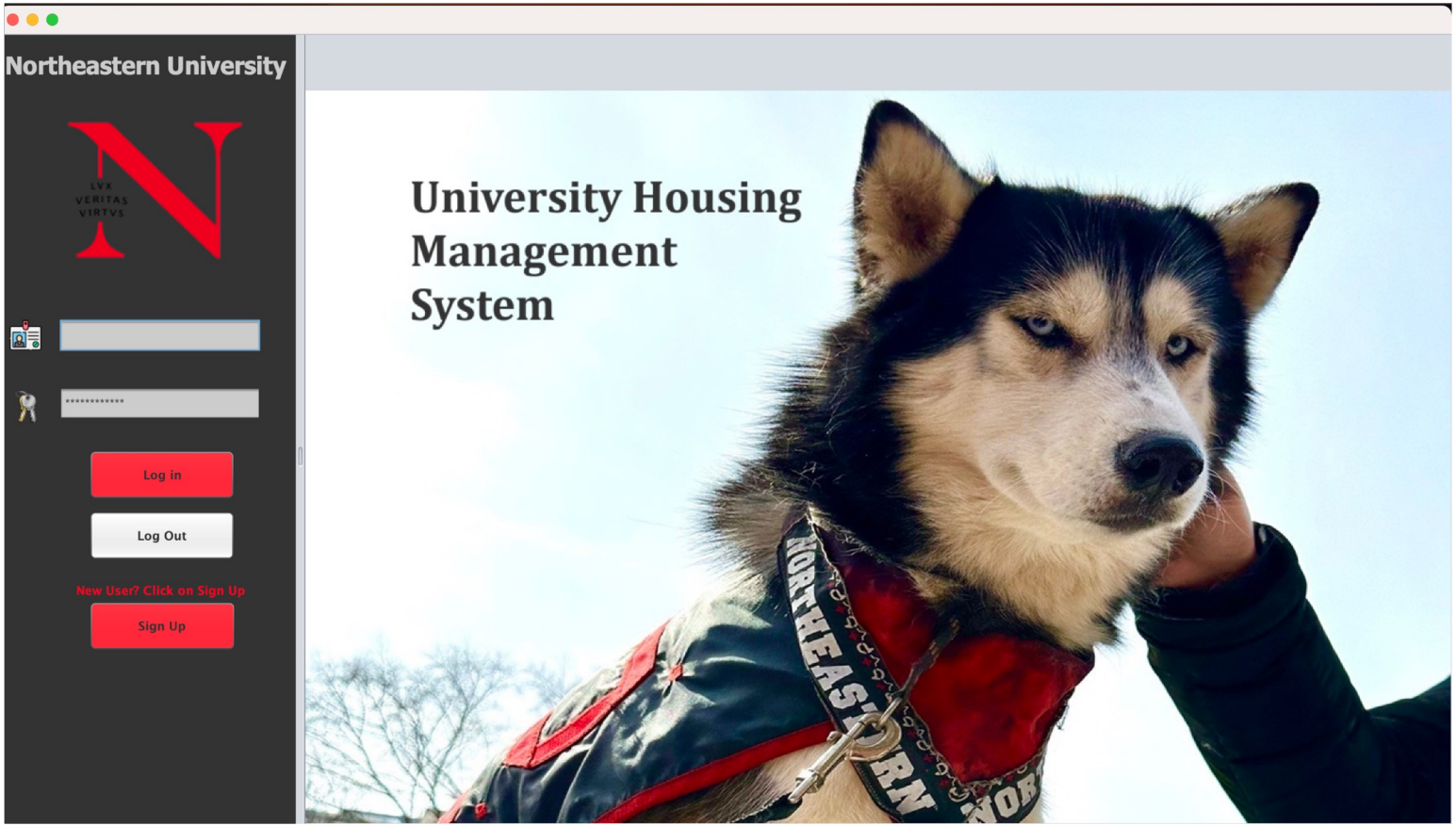
USE CASES

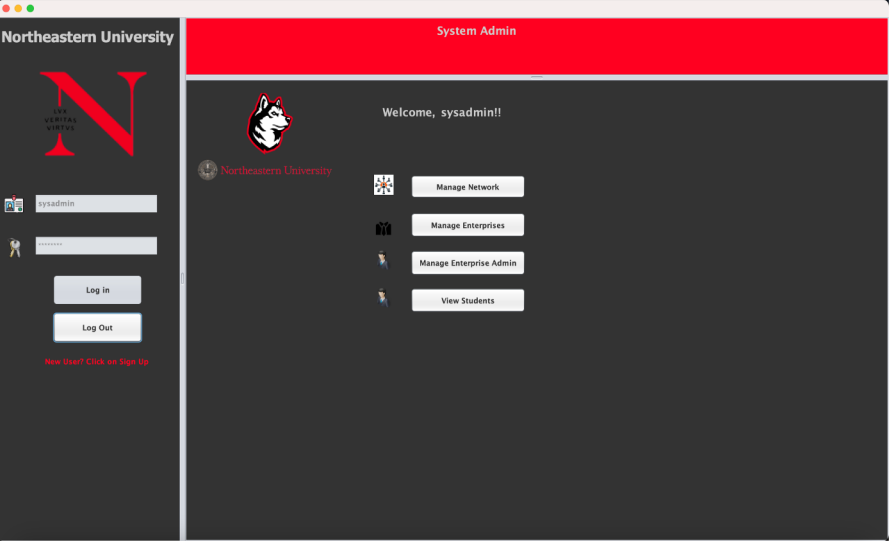
Use Case 4: Dormitory Service Requests

Actors: Student, Dormitory Services

- Student submits a service request through the system for maintenance or other dormitory-related issues.
- Dormitory Services reviews and prioritizes requests based on urgency and availability of resources.
- System updates the student on the status of their request and completion timelines.
- Dormitory Services and Student can communicate within the system for additional details or updates.

DESIGN AND UI LAYOUT

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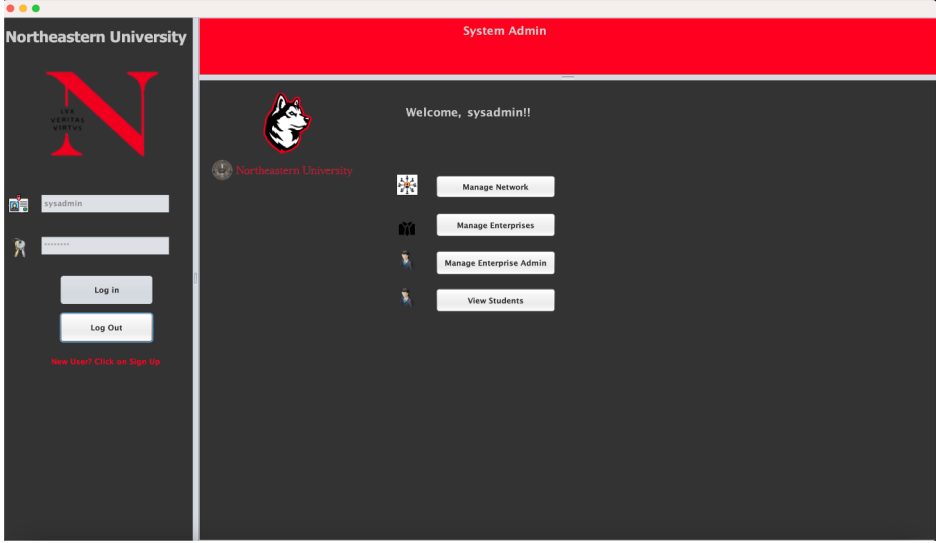
System Admin
sysadmin
Log in
Log Out
New User? Click on Sign Up
Welcome, sysadmin!!
Northeastern University
Manage Network
Manage Enterprises
Manage Enterprise Admin
View Students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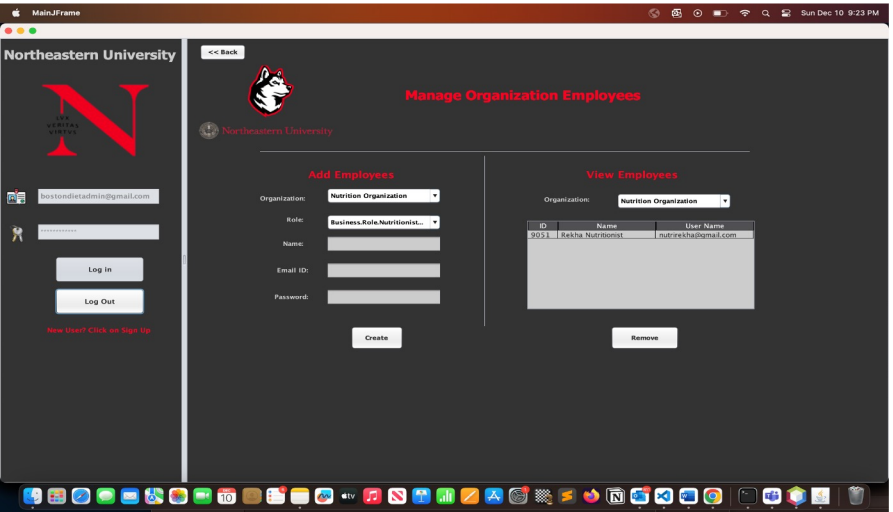
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Manage Organization Employees
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Log in
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New User? Click on Sign Up
Add Employees
Organization:
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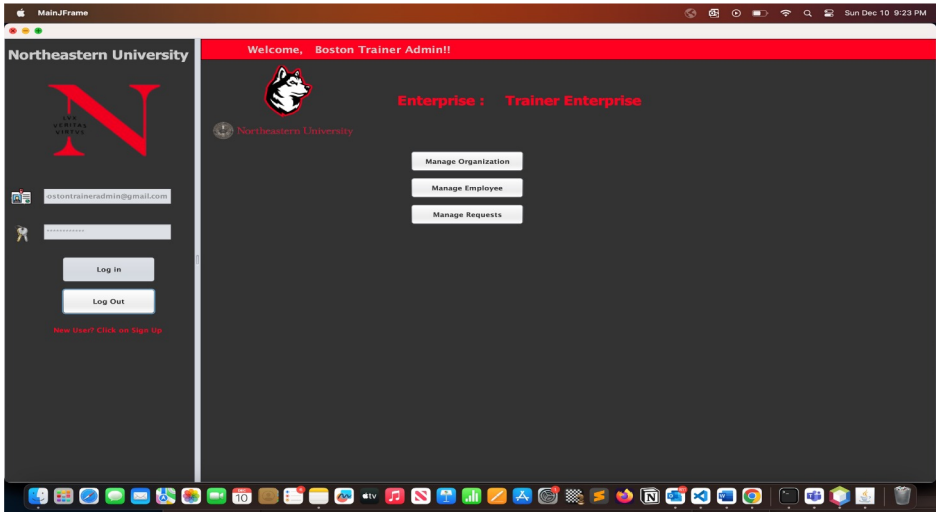
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Welcome, Boston Trainer Admin!!
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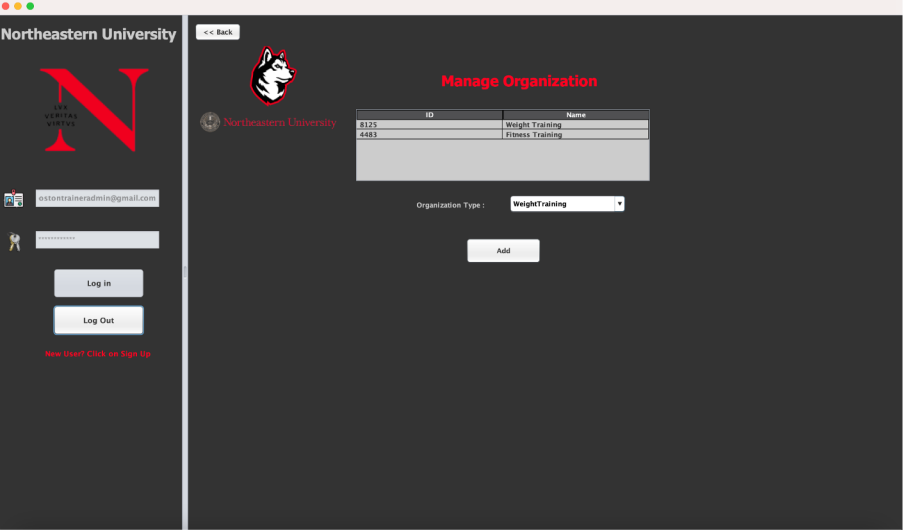
ostontraineradmin@gmail.com
Log in
Log Out
New User? Click on Sign Up
Enterprise : Trainer Enterprise
Manage Organization
Manage Employee
Manage Requests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Log in
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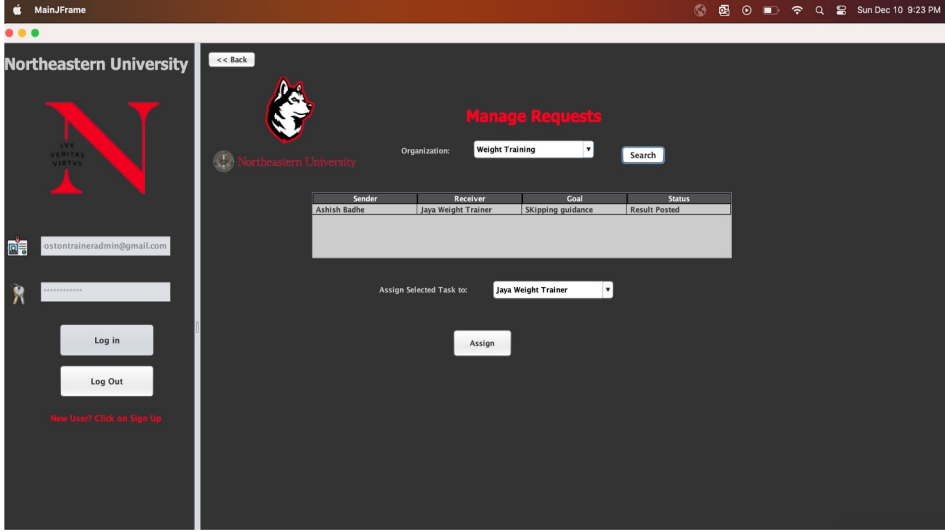
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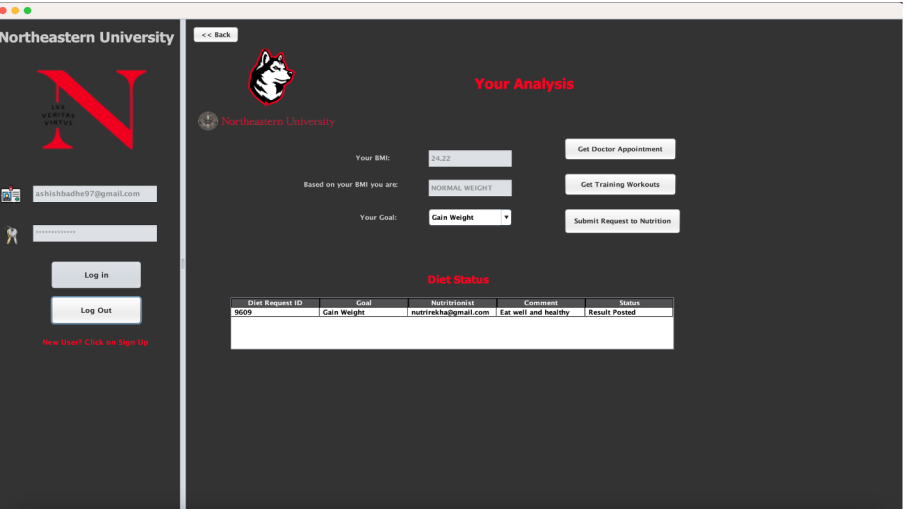
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ashishbadhe97@gmail.com
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Your Analysis
Northeastern University
Your BMI:
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Based on your BMI you are:
NORMAL WEIGHT
Your Goal:
Gain Weight
Get Doctor Appointment
Get Training Workouts
Submit Request to Nutrition
Diet Status
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Goal
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Comment
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Gain Weight
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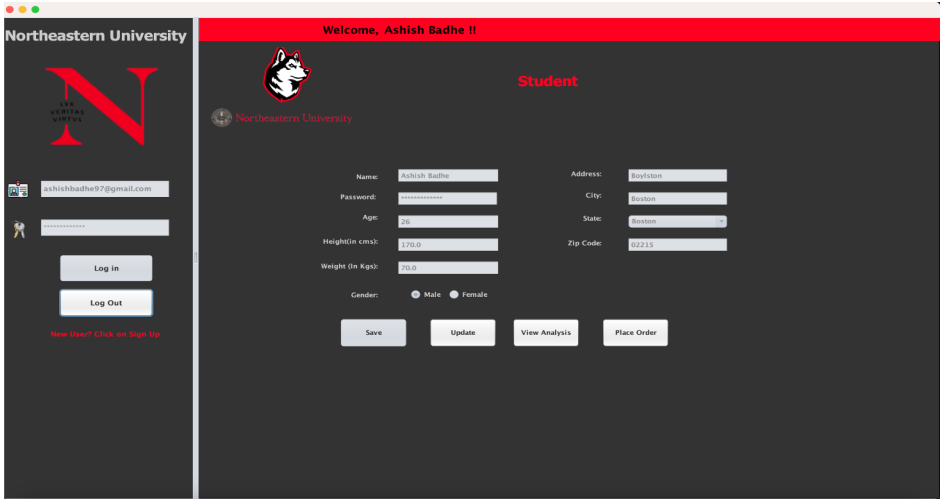
Eat well and healthy
Result Posted


Northeastern University
ashishbadhe97@gmail.com
Log in
Log Out
New User? Click on Sign Up
Welcome, Ashish Badhe !!
Student
Northeastern University
Name:
Ashish Badhe
Password:
Age:
26
Height(in cms):
170.0
Weight (In Kgs):
70.0
Gender:
Male
Female
Address:
Boylston
City:
Boston
State:
Boston
Zip Code:
02215
Save
Update
View Analysis
Place Order

IMPLEMENTATION TECHNIQUE

1. Architecture:

   - We've adopted the Model-View architecture to ensure a modular and maintainable codebase.
   - Clear separation of concerns facilitates easier development, testing, and future modifications.

2. Swing Components:

   - Leveraging Java Swing components (JFrame, JPanel, etc.) to design an intuitive and user-friendly interface.
   - Provides a familiar and responsive GUI for efficient user interactions across different modules.

3. Database Integration (DB4O):

   - Integrating DB4O for database operations, implementing CRUD operations for entities like students, appointments, and service requests.
   - Efficient storage and retrieval of data, ensuring the persistence and integrity of our system's information.

4. Authentication Module:

   - Implementing a role-based authentication system with secure password handling for user access.
   - Ensures data security and restricts access based on predefined roles (Student, Dietician, Doctor, Fitness Coach, Dormitory Services).

IMPLEMENTATION TECHNIQUE

5. Exception Handling:

- Implementing robust exception handling mechanisms to gracefully manage errors and provide meaningful error messages.
- Enhances the application's reliability, making it more resilient to unexpected issues.

6. Version Control and Code Review:

- Utilizing version control (e.g., Git) for managing changes and conducting regular code reviews.
- Ensures code quality, facilitates collaboration, and establishes a systematic approach to development and maintenance.

7. Documentation:

- Maintaining clear and comprehensive documentation for the codebase, including Javadoc comments for methods and classes.
- Enhances code readability, aids future development, and facilitates collaboration within the team.