Student hub

TEAM INFO 5100 - APPLICATION ENGINEERING AND DEVELOPMENT

PROF : Kal Bugrara

Team Members
Sumeet Rane   - 002304942
Siddhesh Sawant   - 002050108
Omkar Salian   - 002058340

Overview

Some of the key things about Student Hub:

- Organizational Structure.
- Enterprise-level Functionality:
- Role-based Access:
- Workflow and Request Management

Problem Statement

Title: Enhancing Housing and Campus Service Management for Universities

Universities often face challenges in managing their housing and campus services effectively. This includes maintaining dormitories, addressing maintenance issues, providing health and fitness services, and ensuring seamless communication between staff, students, and service providers.

Current systems are often fragmented, lack real-time integration, and rely heavily on manual processes, leading to inefficiencies such as:

1. **Delayed Service Requests**: Maintenance and repair issues are not addressed promptly due to lack of an automated work order system.
2. **Limited Role-Based Access**: Staff and service providers do not have defined roles, making it difficult to assign and track responsibilities.
3. **Inefficient Health and Fitness Support**: Students do not receive personalized health and fitness guidance due to disconnected systems between dieticians, trainers, and therapists.
4. **Inadequate Notification System**: Students and staff are not notified promptly of updates, schedules, or fitness plans.

These inefficiencies result in a poor user experience, lower productivity, and increased operational costs for the university.
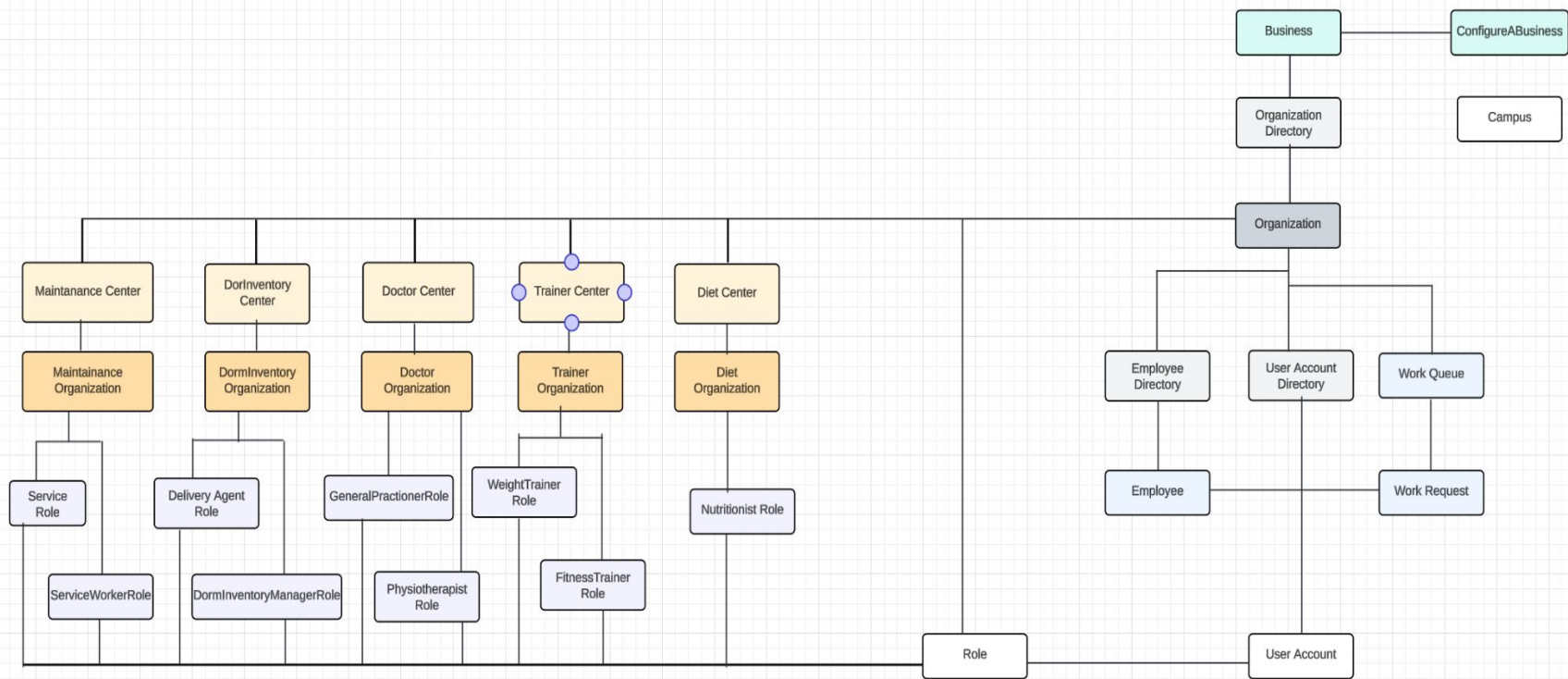
Technology Stack

Frontend

- Java Swing framework to create the graphical user interface (GUI).

Backend

- db4o object-oriented database management system.

RBAC System

The Student Hub application has a well-designed RBAC system that caters to a variety of user roles, each with their own specific responsibilities and access privileges.

- Nutritionist Role : Users with the Nutritionist role are responsible for managing nutritional information and dietary plans for students.
- Fitness Trainer Role : The Fitness Trainer role is responsible for overseeing the fitness and exercise programs for students.
- Weight Trainer Role : Users with the Weight Trainer role focus on specialized weight-related training and counseling for students.
- Physiotherapist Role : The Physiotherapist role is responsible for managing physical therapy and rehabilitation services for students.
- General Practitioner Role : Users with the General Practitioner role are responsible for providing basic medical care and consultation to students.

RBAC System

- Delivery Agent Role : The Delivery Agent role is responsible for the delivery and logistics of goods and services to students.
- Dorm Inventory Manager Role:Users with the Dorm Inventory Manager role oversee the management and maintenance of student.
- Service Role : The Service role encompasses users who provide various support services to students.
- Service Worker Role : Users with the Service Worker role are responsible for the execution of specific service tasks.

Student Hub Ecosystem

1. Login & Authentication

- Students log in using their credentials.
- Access personalized dashboard for services.

2. Diet Management

- Personalized diet plans based on health & fitness goals.
- Track meals, recipes, and daily intake.

3. Fitness Training

- Choose from predefined workouts or create custom plans.
- Track progress in weight, repetitions, and endurance.

Student Hub Ecosystem

4. Maintenance Services

- Request room cleaning and facility maintenance.
- Set priorities and track request status.

5. Consulting Service

- Real-time alerts for meal suggestions, workouts, and service updates.
- Keep students informed about all relevant activities.

6. Reporting & Analytics

- Access reports on diet, fitness, and maintenance progress.
- Analyze performance and stay motivated.

Key Benefits & Future Scope of Student Hub

Key Benefits:

- **Holistic Well-being**: Integrates diet, fitness, and maintenance services in one platform.
- **Personalized Experience**: Custom meal plans and fitness routines tailored to individual goals.
- **Convenience**: All services in a single app, simplifying student life.
- **Progress Tracking**: Monitors diet, fitness, and maintenance progress with reports and analytics.
- **Real-time Notifications**: Keeps students updated on meals, workouts, and services.

Future Scope:

- **Integration with Wearables**: Sync with fitness trackers for live health data.
- **AI-Driven Personalization**: AI to adapt plans based on changing needs and goals.
- **Expanded Services**: Add mental health support, counseling, and academic services.
- **Mobile App**: Future development of a mobile app for on-the-go access.
- **Gamification & Social Features**: Introduce challenges, rewards, and social sharing for motivation.

Thank you!