# Ex-change:
# A community-based skill exchange platform

Course: SWE 4900A
Name: Chantal Pande
ID: 667020
Lecture: Prof.Ogore

# Title and project overview

**Brief description:**
- Ex-change is a web-based platform that allows people to exchange skills without involving monetary exchange.
- The target audience are students, professionals and members of the community that are looking for affordable learning opportunities.
- This is a solution for the problem of limited access to skill development due to financial constraints.

**Existing solutions and limitations:**
- Similar platforms focus on trial and paid services.
- They exclusion of users who do not rely on mutual aid and community collaboration.

**Unique aspect of Ex-change:**
- No monetary transactions.
- Skill-for-skill value exchange.
- Community-driven learning.
- Effort-based exchanges.

# Problem statement and objectives

### Problem statement

- Many individuals have valuable skills but cannot afford paid learning platforms or lack a structured way to exchange skills fairly. The current solutions prioritize money over community empowerment.

### Project objectives:

- To design and develop a web-based platform that enables skill exchange without financial transactions.
- Enable users to register and create profiles.
- Allow listings of offered and requested skills.
- Facilitate requests and approvals.
- Provide messaging and rating after exchanges.

# System design and architecture

**System overview:**
- Type: Web-based application
- Target users: Community members(Users) and administrators.

**Architecture:**
- Frontend: React.js, Tailwind CSS
- Backend: Node.js with Express.js
- Database: PostgreSQL
- Authentication: JWT-based authentication.

# Implementation and features

**Key features:**
- User registration and login.
- Skill listing (offer and request).
- Skill exchange request workflow.
- In-app messaging system.
- Rating and reviews after exchange.
- Admin moderation and reporting.

**Technologies used:**
- Languages: JavaScript.
- Frameworks: React, Express
- Tools: Git, VS Code

**Development methodology:**
- Agile methodology with iterative development with weekly milestones.

# Proposed Timeline

| Week | Activity |
| --- | --- |
| 1 | Proposal and approval |
| 2 | Requirements and system analysis |
| 3 | UI mockups & ER diagrams |
| 4 | Database design |
| 5 | Backend setup |
| 6 | Authentication |
| 7 | Skill listing module |
| 8 | Exchange workflow |
| 9 | Messaging |
| 10 | Admin dashboard |
| 11 | Testing and bug fixing |
| 12 | Documentation and presentation |