PeerMe
Project Demo

(CS 5704 Software Engineering)

TEAM NEXAS

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Members:

- **Nayaab Azeem**   nayaab@vt.edu
- **Evan Phaup**   phaupe22@vt.edu
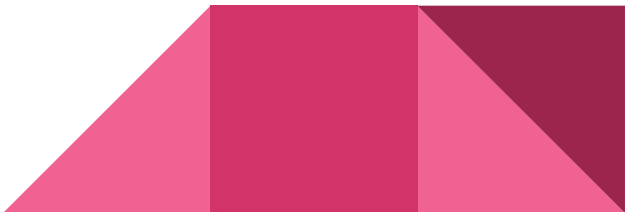- **Sadath Ullah Khan Mohammed**   msadath@vt.edu
- **Adeyemi Aina**   ainababs0@vt.edu

What is the Problem?

- Software Engineers have to constantly upgrade themselves and keep up with new technologies.
- Self-Development is enhanced when done collaboratively
- No dedicated collaborative-learning platform focused on matchmaking coders
  - Existing platforms are focused on being online resumes or facilitating ask-and-respond interactions for skill development
  - Lack of transparency regarding skill set of peers
  - No filtering of peers by skill set

Our Motivation

Collaborative learning enhances interest in the subject particularly for asynchronous skill development

Changing Students' Perceptions: An Analysis of the Supplementary Benefits of Collaborative Software Development | IEEE Conference Publication | IEEE Xplore 19th conference on software engineering education and training.

Table 1: Changes in collaboration experiences

#	Question	Sig,	Trend
Q1	When working with another person, I feel responsible for my partner's success.	0.326	Positive
Q2	I am more organized when I work with others on assignments.	0.001^*	Positive
Q3	When solving a difficult problem, I ask other students' advice.	0.085	Positive
Q4	I tend to procrastinate when I work by myself.	0.692	None
Q5	Working with another student saves homework time.	0.024^*	Positive
Q6	I prefer to work on assignments with another student. †	$< 0.005^*$	Positive
Q7	I would prefer to work alone on large projects.	0.015^*	Negative
Q8	I learn more from working problems out on my own. †	0.084	Negative
Q9	I could avoid a lot of coding errors if I was paired with another student. †	0.254	Positive
Q10	If given a choice, I would always work alone.	0.931	None
Q11	I get new ideas about solving problems from other students. †	0.354	Negative
Q12	When I explain my logic to my partner, I sometimes find errors in my thinking.	0.241	Positive

* denotes statistical significance at $p \leq 0.05$

Proposed Solution

- A web-based platform to connect with fellow coders

- Employs an K-Nearest Neighbours algorithm to match users based on academic/coding learning

- Users can be filtered based on their technical profile
  - Programming Languages
  - Domain
  - Years of Experience
  - Coding Platform

USE CASE: Recommended Matches for New User

USE CASE : Recommended Matches for New/Existing Users

OBJECTIVE : To invoke the matching algorithm that suggests users based on similar interests and expertise which further facilitates learning and collaboration among Engineers/users with similar backgrounds and interests.

Use Case Scenario :

1. Pre-Conditions:

- User has access to the web application, has a valid e-mail address, and meets system requirements

2. Main Flow:

- **User Sign-up:** User visit the web application and sign up by providing their email address and creates account
- **Profile Creation:** personal and technical information, including their **interests** and **areas of expertise**

3 Post-Conditions:

- **Recommended Connections:** The algorithm matches users based on their interests and skillsets and let users **browse through a range of recommended matches.**

USER DIAGRAM

localhost:3000/login

Update
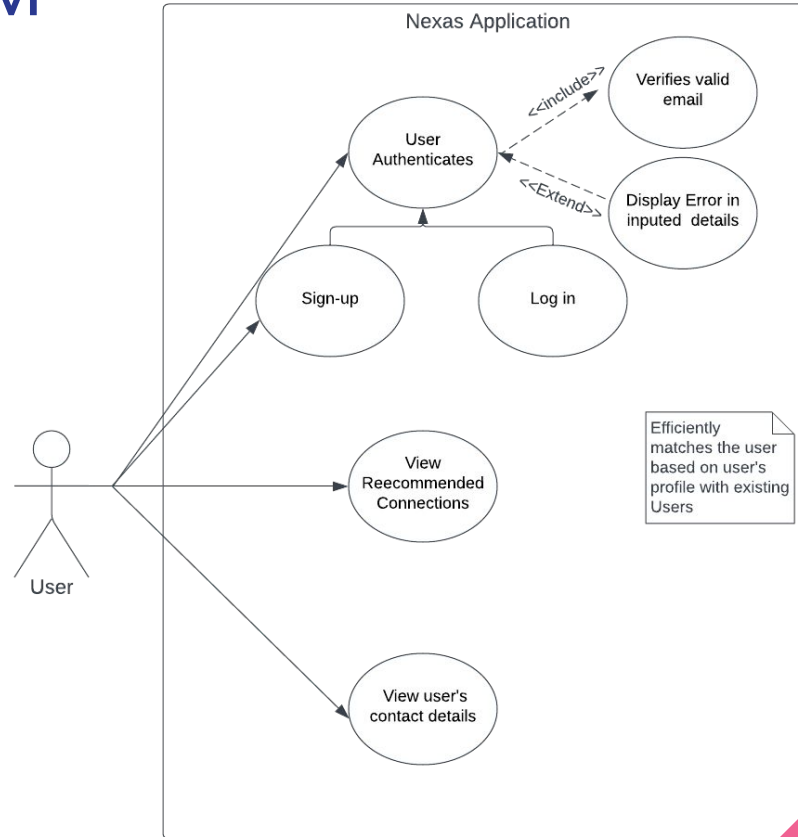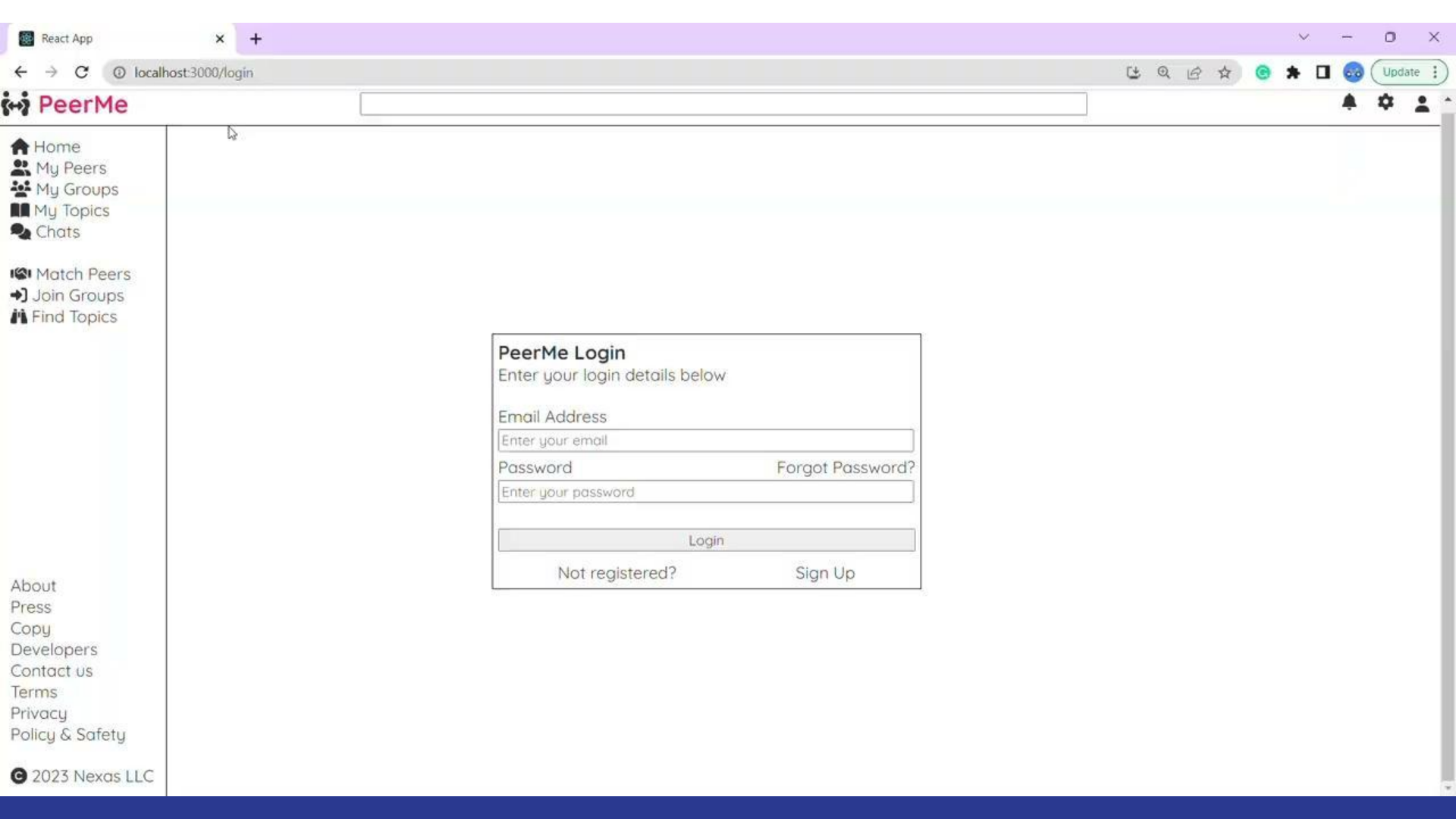
PeerMe

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- My Peers
- My Groups
- My Topics
- Chats

- Match Peers
- Join Groups
- Find Topics

PeerMe Login

Enter your login details below

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Enter your email

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Enter your password

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Limitations

While our application provides valuable steps toward resolving the problem at hand, some limitations to our study should be noted.

- Limited number of features
- All features given equal weights

Future Work

- Get the model trained on larger, more diverse database.
- Messaging features
- Open Project Groups
- Deployment on server

Reflection

Went Well

- Full-Stack Application
- Upskilled
- Integrated ML code with node.js

Didn't

- Need proper time estimation
- Lack of time to do end-to-end testing
- Google Sign-in

Learnings

- Agile Methodology
- Standup Meetings
- Kanban boards
- Version Control
- Documentation