Group-Name: Note Crafters
Project-Name: NoteX

Software Engineering Project

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Semester: Spring 2025
Group Number: 9
Coordinator: Espoir Muhumure
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1.0 INTRODUCTION

1.1 Software Engineers' Information

Brief resumes and skill sets of all the team members.

Espoir Muhumure

Discord (EspoirM) | email: Emuhumure1@student.gsu.edu

Projects:

Food-delivery app

Designed and developed a user-friendly mobile application using Flutter for seamless food ordering and delivery.

Integrated Firestore for efficient real-time database management and optimized the app's performance to ensure fast load times and smooth user experience.

Language interpreter

Wrote a simple language interpreter utilizing Python. Features included expression evaluation, variable assignment and evaluation, if-else statements, and while-for loops.

Chatbot systems

Developed intelligent chatbot systems with natural language processing capabilities, using Python(spacy library) and SQL**.**

Skills:

Application programming:

Flutter: Utilized Flutter to build cross-platform mobile applications with a focus on intuitive user interfaces and smooth performance.

Firestore: Experienced in integrating Firestore as a real-time database solution for mobile applications, ensuring efficient data synchronization and management.

Web-programming:

HTML: Skilled in designing and building web pages using HTML.

JavaScript: experience in using JavaScript for creating dynamic and interactive web content.

CSS: Proficient in styling web pages with CSS to ensure visually appealing and responsive designs.

SQLite: Experienced in using SQLite for managing and storing data in web and mobile applications, ensuring data integrity and security.

Dbeaver: Familiar with Dbeaver for database management, performing tasks such as querying, data visualization, and schema management.

Software development:

Python: Utilized Python to develop a wide range of applications, from automation to data analysis and machine learning.

Java: Skilled in using Java for software development, application programming, etc.

SQL: Experienced in writing SQL queries for database manipulation.

Rajdeep Gali

Trolling. (Discord) | rgali1@student.gsu.edu

Internship at Yokogawa Corporation of America

No Projects Outside of Work

Bachelors of Science – Computer Science at Georgia State University

Skills: SQL, Data Analysis, Power BI, Tableau, Swift Programming

Omar Lodin

olodin1@student.gsu.edu |

Education:

Bachelor of Computer Science – Expected Summer 2025

Georgia State University, Atlanta, GA

Programming Languages:

Fluent in Java, Python, C, R.

Skills:

Web development – HTML

Operating Systems – Linux (Expertise in Linux-based systems, command line usage, and system administration)

Machine Learning – Familiarity with machine learning algorithms, data preprocessing, and model development using Python libraries (e.g., scikit-learn, TensorFlow, etc.)

Analytical Problem-solving – Proven ability to identify, analyze, and resolve complex issues under tight deadlines in high-pressure environments

System Configuration & Troubleshooting – Expertise in assembling, configuring, and troubleshooting computer systems tailored to specific user requirements

Work Experience:

The Home Depot – Atlanta, GA - Customer Service & Order Fulfillment - Provided exceptional service to customers, managed orders, and ensured timely fulfillment and accurate deliveries.

The UPS Store – Marietta, GA - Customer Service, Shipping & Graphic Design - Assisted customers with shipping, packaging, and retail services. Managed custom print

orders, provided design services, and ensured high-quality outputs. Maintained strong customer relationships and delivered personalized solutions tailored to individual needs.

Janhavi Wadekar

jwadekar1@student.gsu.edu

Tech Experience:

1. Randstad USA: *Data Engineer Intern* [Atlanta, GA]
    - Developed and implemented an automated request intake system for data retention using Google BigQuery, Airflow, and other Google products, streamlining processes and improving accessibility for multiple teams.
    - Applied Scrum, Kanban, and LEAN principles to optimize workflows, enhance team collaboration, and manage project lifecycle activities, including planning, analysis, development, testing, and deployment.
    - Gained hands-on experience with data engineering tools such as Google BigQuery, Airflow, Talend, and Elasticsearch, while enhancing problem-solving abilities and fostering effective communication within a professional team setting.
2. ODeX India Solutions Pvt Ltd: *Application Developer Intern* [Mumbai, MH]
    - Gaining proficiency in Android Studio while enhancing existing applications by integrating new features and functionalities.
    - Staying updated with the latest trends, tools, and technologies in app development and seamlessly incorporating them into project tasks.
    - Diligently following specifications and guidance from senior developers and project leaders.

Education:

- Georgia State University (2023-Present) [Atlanta, USA]
    - Bachelor of Science in Computer Science
- Birla Institute of Technology, Dubai Campus (2021-2023) [Dubai, UAE]
    - Bachelor of Engineering in Computer Science Engineering

Skills:

Programming and Scripting: SQL, Python, Java, XML

Data Tools: BigQuery, Apache Airflow, Talend, ElasticSearch, Tableau, matplotlib, pandas, NumPy, Google Cloud Platform (GCP)

Arka Gantait

agantait1@student.gsu.edu

Education:

Georgia State University [Atlanta, GA]

Bachelor of Science in Computer Science [expected fall 2025]

Experience:

CIC Tutor

Guided over 10 students in foundational computer science concepts, including algorithms, data structures, and problem-solving, leading to improved academic performance.

Projects:

Pulse:

- Automated infrastructure deployment using Docker and Jenkins, reducing manual setup time by 40% and streamlining development pipelines.
- Configured a CI/CD pipeline that facilitated 100% automated testing and integration, increasing deployment efficiency by 35%.
- Deployed microservices on AWS, scaling applications to handle 10,000+ concurrent users with load balancers and auto-scaling.
- Monitored application performance using Grafana and Prometheus, ensuring 99.9% uptime and improving issue detection time by 20%.

Skills:

- Languages: Python, HTML5, CSS3, Java, C/C++, JavaScript/TypeScript, PowerShell, Assembly(x86), SQL, Scala
- Frameworks & Libraries: Next.js, Node.js, Tailwind CSS, Framer Motion
- Database tools: MySQL, Firebase
- Developer Tools: Wireshark, Jupyter Notebook, Git/GitHub, Figma, Visual Studio Code, Docker, Prometheus, Grafana

1.2 Planning and Scheduling

Assignee Name	Email address	Task	Duration (hrs)	Dependency	Due Date	Evaluation
Espoir Muhumure	Emuhumure1@student.gsu.edu	Activity diagram	2 hours	None	2/6/25	100% completed on time
Rajdeep Gali	rgali@student.gsu.edu	Teamwork basics	2 hours	None	2/6/25	100% completed on time
Omar Lodin	Olodin1@student.gsu.edu	Context diagram	2 hours	None	2/6/25	100% completed on time
Janhavi Wadekar	jwadekar1@student.gsu.edu	System requirements	2 hours	None	2/6/25	100% completed on time
Arka Gantait	agantait1@student.gsu.edu	System requirements	2 hours	None	2/6/25	100% completed on time

1.3 Teamwork Basics

Tasks would be distributed based on team member's skills and interests.

Responsibilities will be dispersed to the best of our ability.

Deadline Setting:

Deadlines would be set collaboratively during planning sessions.

Deadlines missed or not able to keep up should be notified about as soon as possible and an explanation for the delay. If repeated, understand why and give assistance and grace when needed.

Peer Review:

As work is submitted, everyone should grade the work from each member and critique it meaningfully. Our goal is to provide the best product we possibly can.

Recognize that some members work best under early planning while others thrive under last-minute pressure. Breaking projects into milestones can reduce overwhelming feelings and provide structure.

We have a facilitator to manage discussions and will rotate.

Primary communication is through Discord and meet after class.

1.4 Problem Statement

Product Overview

We are developing a mobile application designed to facilitate the sharing and exchange of classroom notes among students. The app will enable users to upload, categorize, and access notes from various courses and institutions, promoting collaborative learning and academic support. Targeting university and high school students, the app will help users acquire notes they missed or need for classes they're not currently enrolled in. This will be especially beneficial for revising prior information. Our app aims to provide a streamlined, centralized platform specific to this local university or school, unlike alternatives such as group chats, Quizlet, iCollege/Canvas, and Google Drive.

Target Customers

The primary users of the app will be students, professors, and teaching assistants. Students will be able to submit notes from different universities, rate user-submitted notes, and sort notes by rating or upload date. Users will have access to publicly available notes, while access to privately owned notes will require a request. A key differentiator is the ability to download notes for offline use and course-specific tagging.

Top-Level Objectives:

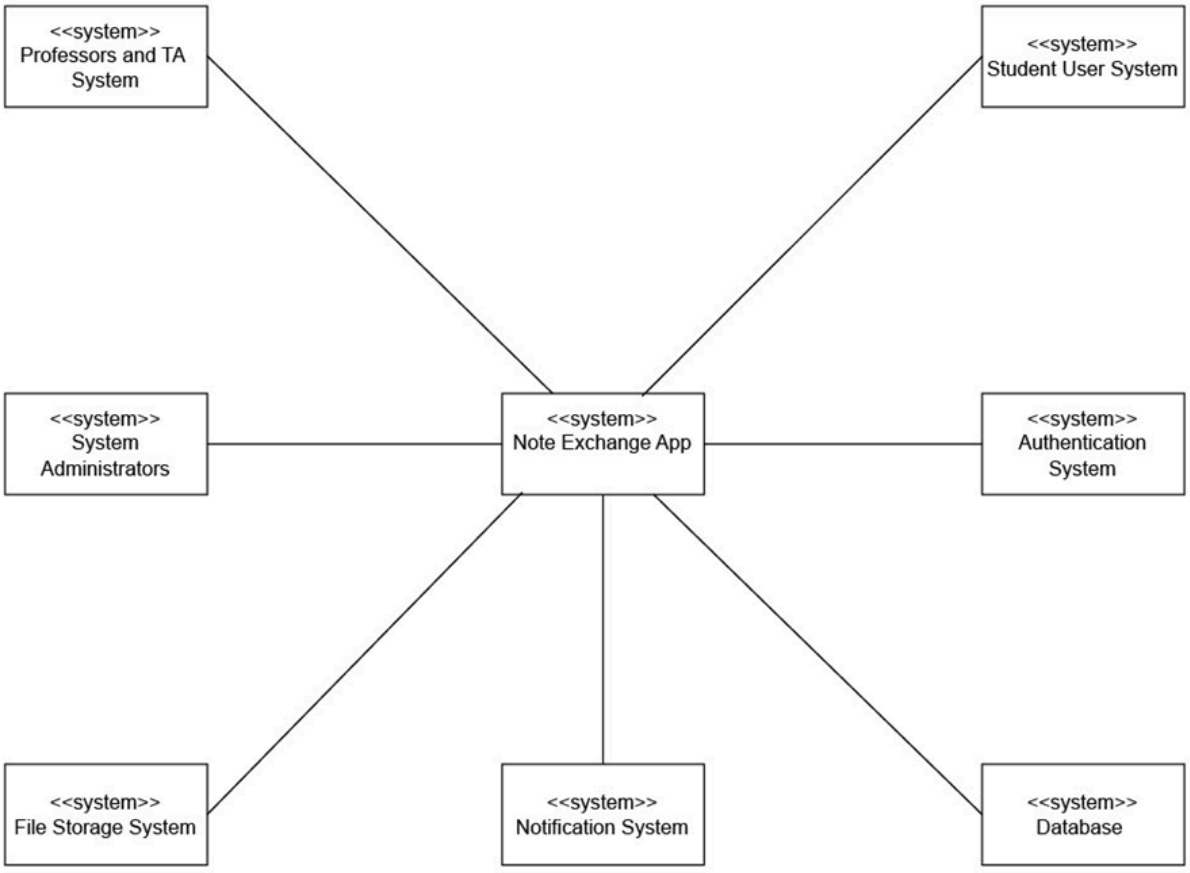
- Enable users to upload, browse, and search notes by subject and teacher.
- Include Student login and Professor login pages.
- Structure the app to fit the institution's needs and allow peer review.

Technical Details

The app will be developed using platforms like Android Studio for app design and structure, and SQL or Firestore for data storage and access. The technical challenges presented by this project will require various techniques to build and deploy the app, making it an interesting endeavor from a technical perspective.

1.5 System Requirements

1.5.1 Context Diagram



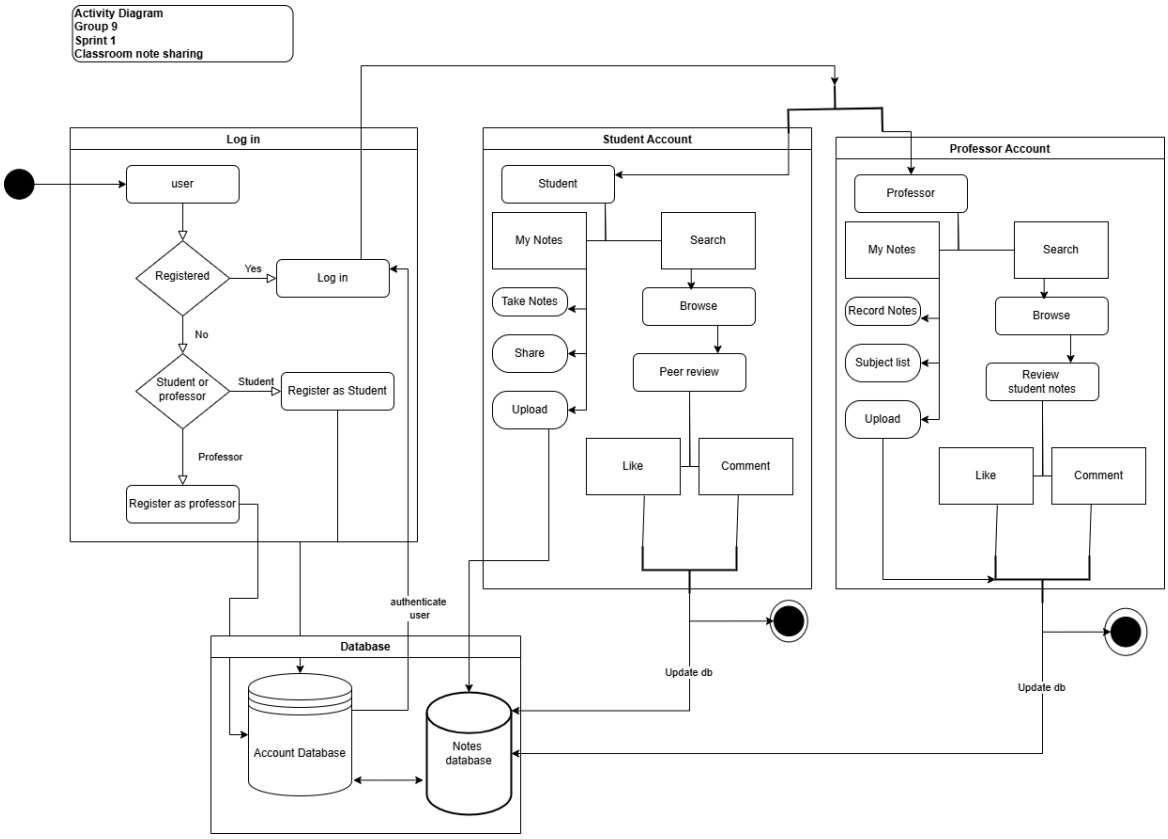
Description:

Student users can upload, download, rate, and request access to notes, enabling collaborative learning. Professors and teaching assistants can review and manage notes, as well as upload their materials for students to access. System administrators oversee user management and content moderation to ensure appropriate use of the platform. The authentication system secures user accounts and prevents unauthorized access. The database stores notes, metadata, and user profiles, ensuring efficient organization and retrieval. A notification system keeps users informed about important updates, including access requests and new uploads. Lastly, the file storage system allows users to save notes and access them offline.

1.5.2 Activity Diagram

Description:

- In the app, both professors and students will be able to create their individual accounts.
- Once logged in the student will have access to several functionalities.
- On a student account, students will be able to take or upload notes in the app and they can share notes with their peers. They can also review each other's notes.
- Once logged in the professors will have access to their own set of functionalities.
- On a professor account, they will be able to record or upload notes/recordings in the app and they can share and review student notes.



References: