<u>Programming Analogies</u>

Design Support Document

Application name: Programming Analogies

<u>UX Consultants:</u>

Ketan Patil
Kirk Thelen

<u>Development Team</u>:

Grayson Wagner - Product Owner
Emilie Rummer - Technical Lead
Dee Paulson - Developer
Ethan Jones - Developer
Jack Grant - Developer
Josh Staples - Developer
Kevin Kulich - Developer

System Description

The app will store analogies for computing concepts. Computer science instructors will be able to search the analogies to find new ways to explain complex concepts to their students. Instructors will also be able to create new analogies that they use in their own classrooms so that other people will be able to use them in their own teaching.

Stakeholder Analysis

Stakeholder Onion Diagram:
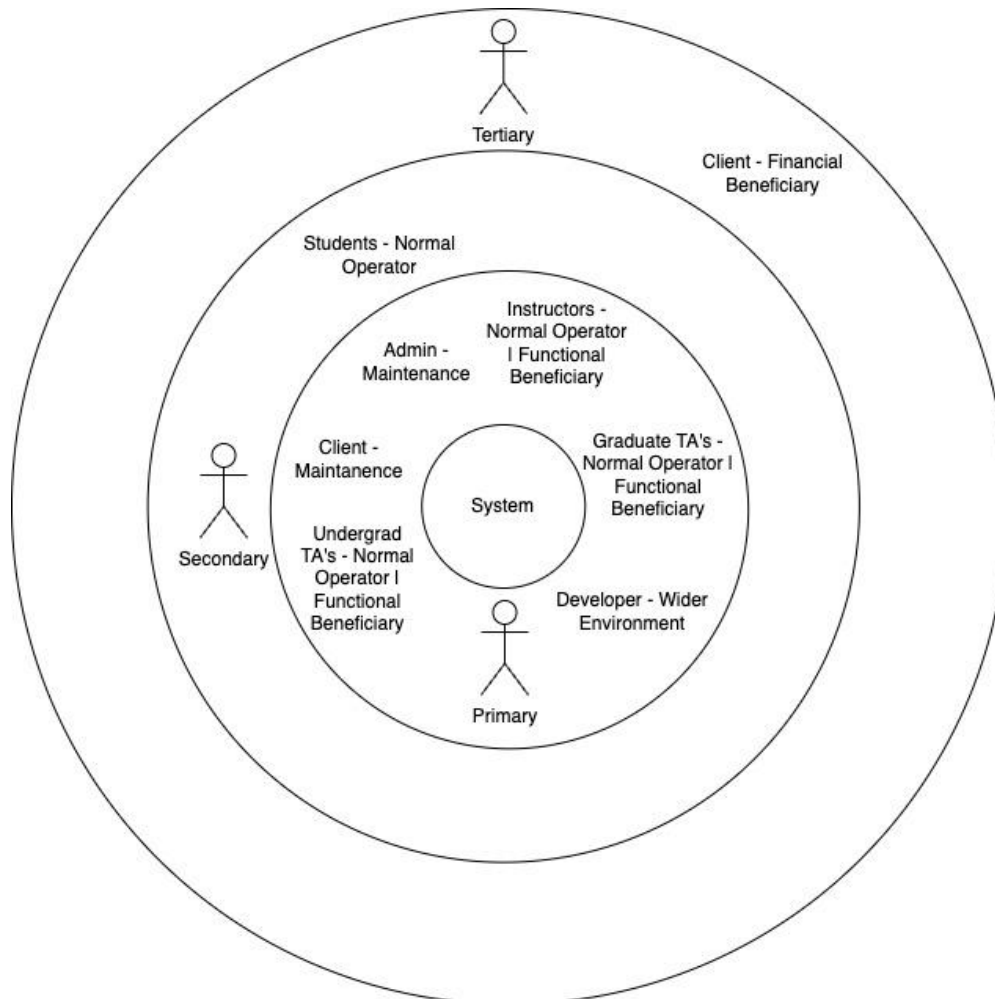
Stakeholder Description:

- Primary stakeholders:
    - **Professors/Instructors**: Instructors from the Computer Science department of the university/school.
    - **High School teachers**: Teachers who are teaching Computer Science subjects in high school.
    - **Undergraduate Teaching Assistants**: Senior undergraduate students who are Teaching Assistants for Instructors and Professors.
    - **Graduate Teaching Assistants**: Graduate students who are Teaching Assistants for Instructors and Professors.
    - **Client**: Scientist/Client who proposed the problem statement.
    - **Developers**: Development team of the application.
    - **Admin**: Administrator of the application.
- Secondary stakeholders:
    - **Students**: University, College, and High school students who will be using the app to learn programming concepts.

Stakeholder Goal Influence Table:

Stakeholder	Name	Goal	Influence
Primary	Professors/Instructors/High School teachers	Professors/Instructors/High School teachers will hope that students understand the concepts through the analogies they use/create.	High - Professors/Instructors/Teachers are the primary contributors, since they will be using maximum functionalities of the application which includes creation, deletion, updation, and comparison of analogies.
Primary	Undergraduate and Graduate Teaching Assistants	Undergrad and Graduate TA's will hope that students understand the concepts through analogies prepared by	High - Just like Professors/Instructors/Teachers, TAs should be well acquainted with the application.

		themselves or in the application.	
Primary	Admin	- Manage the system, prevent spam accounts, and regulate analogies. - Help the primary stakeholders with maintenance and troubleshooting problems.	High - Admins will make sure everything is smooth and running. They will also take care of t
Primary	Developers	Provide application updates, security patches, and fulfill all future client requirements.	High - Gathering and analyzing new requirements for the app. Adding software updates and security patches.
Primary	Client	All requirements are satisfied.	High - Suggesting new requirements and features.
Secondary	Students	Student's goal will be to successfully learn a programming concept through an analogy.	Medium - Students will grasp the concepts through multiple analogies depending on their level of understanding and their preference toward a or a set of analogies.

Personas

Primary Users:
- Professors/Instructors/High School teachers:
  - Personas
    - **Peter**

Age range: 32 to 58
Expertise with technology: Intermediate to Expert
Education: PhD in Computer Science

- Peter is quite young and intelligent. Peter hopes that he will be able to fully utilize the application and its functionality.
- Peter is agile and an expert when it comes to all things technology and management.
- Peter has a kid. He is very friendly and affable hence his colleagues and friends enjoy hanging out with him.

■ **Lois**

Age range: 58 to 84
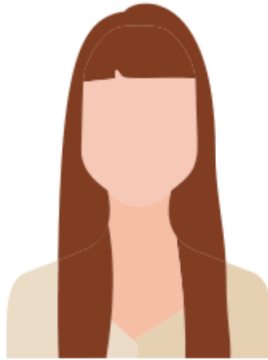Expertise with technology: Intermediate to Advanced
Education: PhD in Electrical Engineering

- Lois is not experienced with the latest set of technologies and wants to get properly acquainted with the application.
- Lois is a bit erratic. She is clumsy when it comes to using and understanding modern web and desktop softwares. Being old she has a hard time navigating and understanding the functionalities of advanced applications.
- Lois has three kids and a pet. She is kind but always seems frustrated and hence she frequently has a lot of conflicts with her colleagues and students.

- Undergraduate/Graduate Teaching Assistant:

○ Personas
  ■ **Meg**

  Age range: 23 to 28
  Expertise with technology: Intermediate to Advanced
  Education: MS, Software Engineering
  - Meg is pursuing her Master's education and is a brilliant student. Meg hopes to use her strong leadership and technical skills to teach her students and make sure they understand the programming concepts through analogies saved in the application.
  - Meg is young and is experienced with web development since she has done courses and projects in the same.
  - Meg is super active in sports and hangs out with her college friends on weekends.

  ■ **Chris**

  Age range: 20 - 24
  Expertise with technology: Novice to Intermediate
  Education: Second Year, Computer Science
  - Chris is a second year Computer Science undergraduate student with intermediate experience with technology. Chris hopes to
  - Chris is heavy into cybersecurity and game development.
  - Chris is an hardcore gamer and plays games that are super responsive and have good graphics. He is not used to and hates slow, less responsive and visually less appealing applications given his penchant for gaming. He has an aggressive personality in general.

Secondary Users:

- Students:
  - Personas
    - **Stewie**

      Age range: 16 - 21
      Expertise with technology: Novice to Intermediate
      Education: First Year, Computer Engineering
      - Stewie has some experience with programming since he likes mathematics and hopes to learn more about the underlying concepts and enhance his programming skills.
      - Stewie is an avid reader and really enjoys blogging. He writes articles about technology and its applications and frequently tweets about the same.
      - Stewie loves meeting new people and he also has a girlfriend. He enjoys spending quality time with his close friends and family and is a very approachable person.
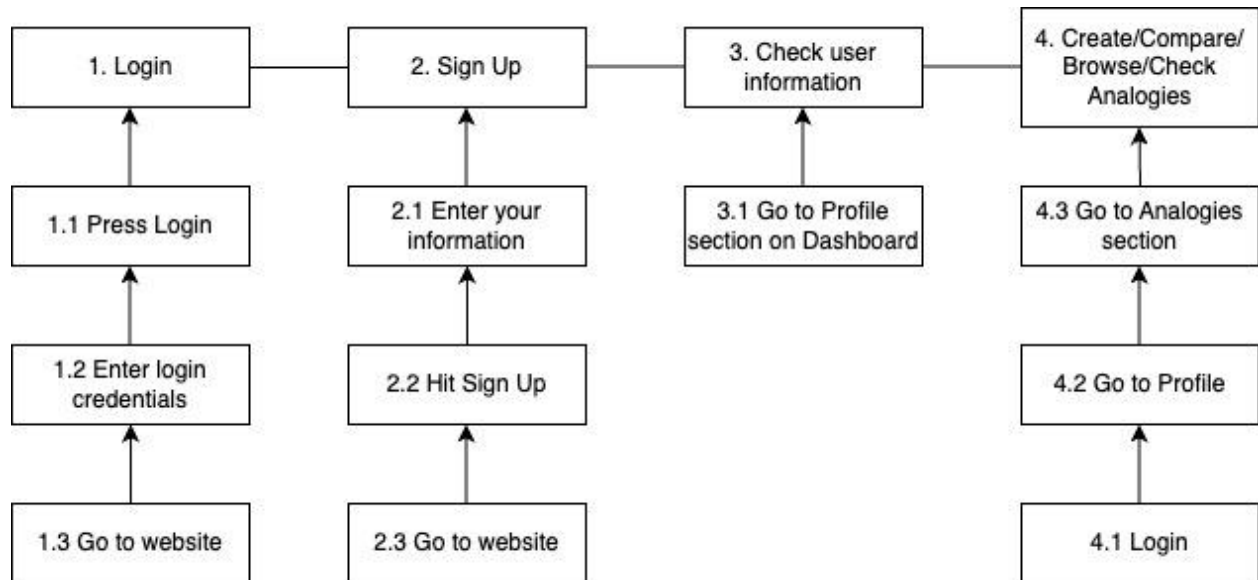
    - **Glenn**

      Age range: 12 - 19
      Expertise with technology: Novice
      Education: High School
      - Glenn hopes to understand concepts in computer science, math, and programming since he has never been introduced to the said subjects.
      - Glenn is a couch potato and spends most of his time on the internet and watching television.
      - Glenn is an introvert and has very few friends.

Hierarchical Task Analysis

1. Login	2. Sign Up	3. Check user information	4. Create/Compare/ Browse/Check Analogies
↑	↑	↑	↑
1.1 Press Login	2.1 Enter your information	3.1 Go to Profile section on Dashboard	4.3 Go to Analogies section
↑	↑		↑
1.2 Enter login credentials	2.2 Hit Sign Up		4.2 Go to Profile
↑	↑		↑
1.3 Go to website	2.3 Go to website		4.1 Login

Notes

- As a UX consultant, I was essentially focused on the application's user experience and usability. The development team's queries addressed the majority of the points and concerns.
- Meeting notes have been recorded in the following:
  - [MOM - 17th Jan 2023](#)
  - [MOM - 24th Jan 2023](#)