SW Engineering CSC 648-848 Fall 2023
Wise Guidance And Tutoring Outreach Resource (wiseGATOR)
Team 6

Team Member	Role
Joaquin Warren jwarren3@mail.sfsu.edu	Team Lead
Ronnie Huang	Github Master
Karl Moreno	Front-end Lead
Darien Banuelos	Front-end Developer
Sean Ryan	Back-end Lead
Philip Karnatsevich	Back-end Developer

Milestone 1

Revision History

Date Submitted	10/01/23
Date Revised	10/05/23

1.Executive Summary:

If you're a student, you're familiar with the struggle of juggling multiple classes and meeting overlapping deadlines. Time is money when you're in college, and with our new application, we can save our users both! We relate to the challenges students face when looking for convenient and affordable access to tutoring services on campus. That's why we started developing wiseGATOR, a brand new SFSU Guidance and Tutoring Outreach Resource. It's not only important to pass the classes, but to understand and retain the key concepts in each course. wiseGator allows SFSU students to find SFSU tutors relevant to their coursework, to get fast help and mentorship. SFSU students often depend on one another to get assistance with their classes and homework. This application will bridge the gap between students in need of tutoring services and experienced students that can offer specialized help.

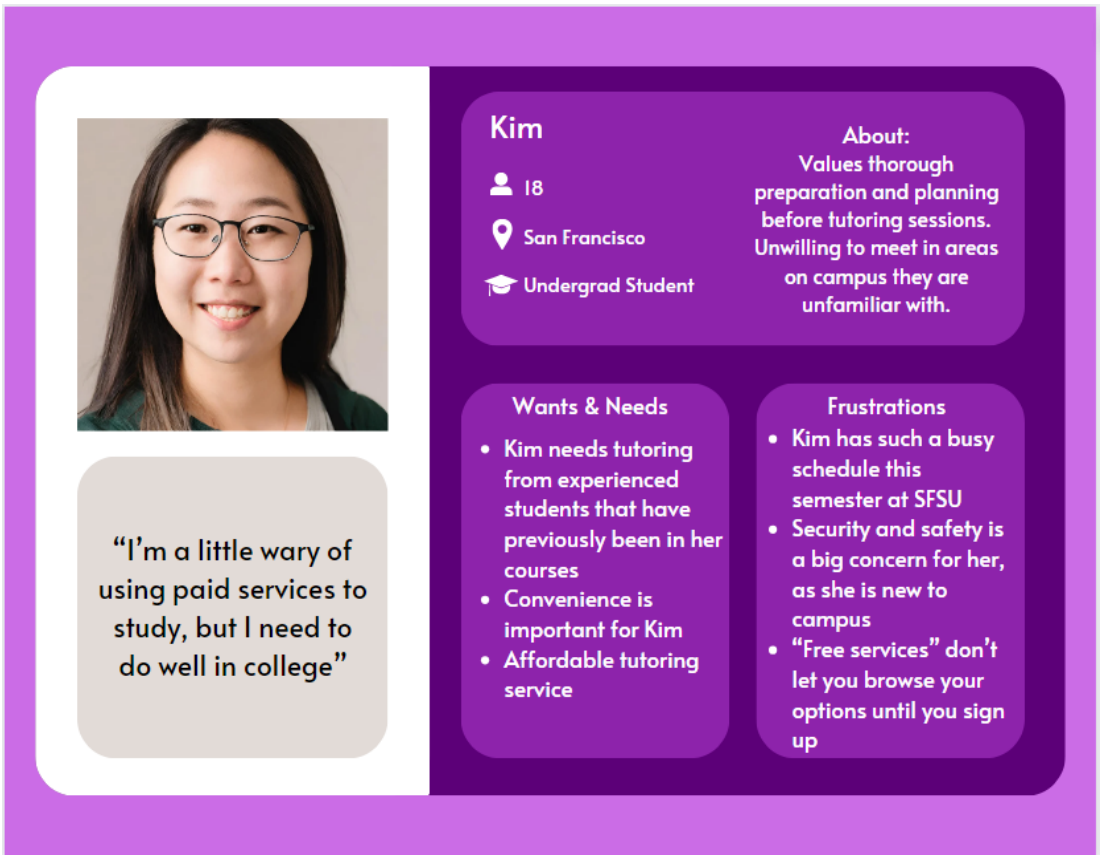
Our application aims to quickly connect students to tutors and students interested in becoming tutors to paid mentorship roles. Students at SFSU are already footing the bill when it comes to tuition prices, and they're on the rise as of September 2023. We can save students time and money by skipping the Chegg membership or paying for Quizlet premium. Students can get 1 on 1, specific help with homework assignments, coursework, study guides, and more at a reasonable, cost-efficient rate. This is also a great opportunity for SFSU students that excel in their courses to make money by becoming a mentor and offering tutoring services on our site to other SFSU students. It's a one stop shop for any SFSU student seeking or offering expert help. Our goal is to streamline the process of finding tutoring, by allowing students to filter by subject and by courses offered at SFSU. This way, students are learning from one another in the same courses, and they do not have to rely on outdated and irrelevant internet forums or paid services from people that have never even been in that class. What makes our application so unique is that it is exclusive to San Francisco State University, whether you want to find a tutor or tutor others in any of the courses offered at SFSU. Searching by courses and subjects will optimize the experience for students seeking tutoring services, and SFSU tutors will be able to cater their service directly to SFSU students.

The team behind wiseGATOR is a group of 6 ambitious computer scientists at San Francisco State University. With a startup funded by Professor Petkovic of the College of Science & Engineering, this team is dedicated to bringing wiseGATOR to personal devices of SFSU students by the end of 2023. Team 6 has experienced team members with a strong background in both Web and Software Development. Our values are aligned with the interest of both students and professors alike to provide a successful experience for all of our users in their educational careers. It is important to

us as students that we can make a meaningful positive impact on our peers and utilize our best talents to extend that to more students and alumni of SFSU.

2. Personae and main Use Cases:

Personas:



"I could use a little extra money, so I ought to put my free time and talent to use"

Victor

23

San Francisco

Graduate Student

About:
Desperately needs a part time job and has great tutoring experience and familiarity with other sites. Enthusiastic about helping fellow students succeed but grows impatient with unintuitively designed applications.

Wants & Needs

- Adamant on helping peers succeed in their academic journey and wants to sign up to be a tutor for SFSU
- Platform to advertise his skills and knowledge to acquire tutoring job

Frustrations

- Just transferred to campus, not aware of what is available yet
- Although willing to help students, not patient with bad UI/UX
- Does not need to learn how to use website

"I'm looking for a position that will allow me to apply my knowledge of databases and take on an administrative role"

Jamie

22

San Francisco

Undergrad Student

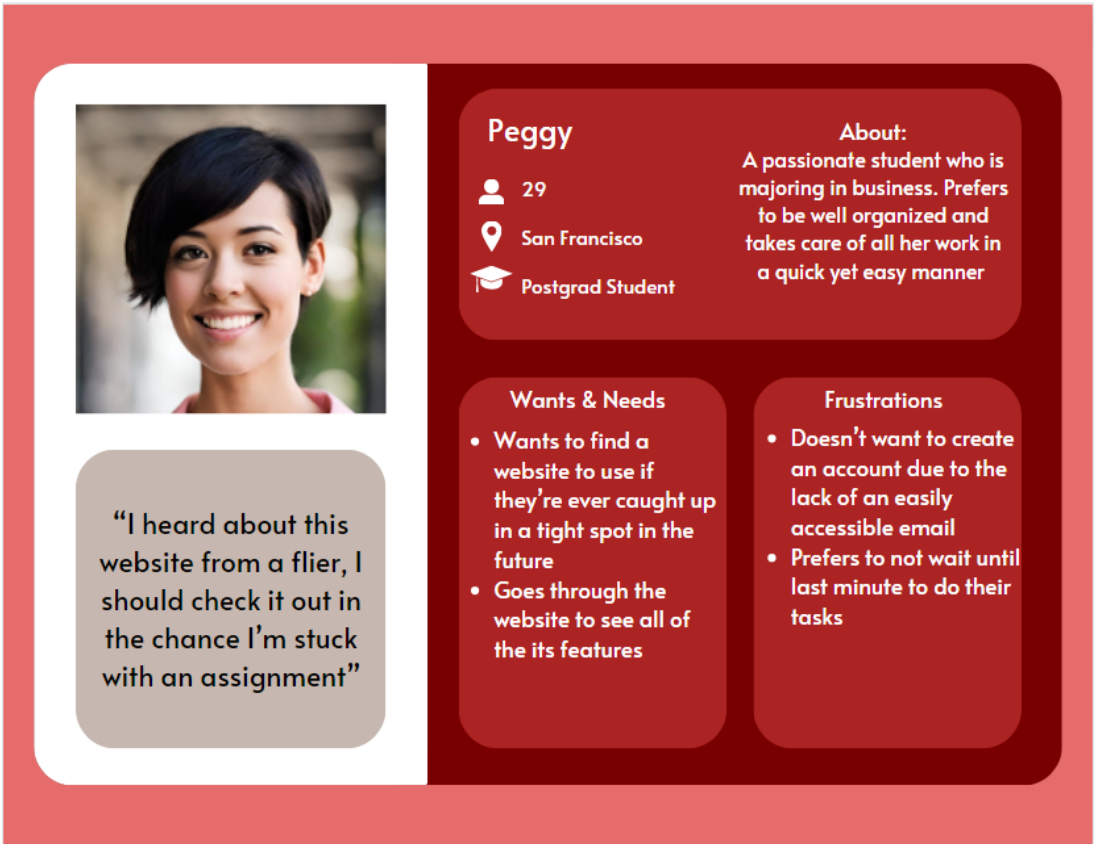
About:
Aspiring database administrator, looking to work with a startup of students from SFSU. Needs to keep his schedule balanced while he studies

Wants & Needs

- Administrative role that complements his experience and area of interest
- Reasonable schedule as a grad student
- Meaningful work that helps him grow as a potential systems manager

Frustrations

- Overly complicated applications make it hard for him to effectively utilize his time
- Does not want to learn any brand new technologies but rather practice with familiar ones



Use Cases:

1. **User-friendly Interface & Messaging:** Kim wants to efficiently set up a safe tutoring appointment. She filters through her choices of tutors with the conveniently accessible interactive calendar. Here she can put in classes where he needs help and is prompted with multiple openings that month. She also is able to safely choose the location e.g. "Burk Hall" while setting up an appointment. Before setting up an appointment she is prompted to log in or register. She is able to discuss further details with her client via direct messaging, such as to confirm the tutoring appointment time, location, or even to easily send her homework to her tutor. Upon trying to send a message, she is prompted to sign up.
2. **Tutor Dashboard:** Victor wants to become a tutor on our site. After accessing our website he selects the easy to select tutor application button and is requested to log in or register, as tutors must be registered users. He is given a list of subjects to choose from and is then presented with SFSU exclusive classes related to the subject(s) selected; he then chooses the classes he wishes to tutor for. After appropriately moving forward he is able to input his available times to tutor and will promptly receive any related session information regarding potential tutees. If Victor wishes to do so, he may browse the tutor listings already on the site and until he chooses to apply to become a tutor, he will not be

required to register or sign in. Victor's posts will be reviewed by an admin before going live, which means that anyone who accesses the site can view his post. As a registered user, Victor navigates to the dashboard and sees any messages he has received from other registered users, inquiring about his tutoring service.

3. **Submission Review:** Jamie wants to be an admin for our site. Upon applying to become an admin he is to acquire a special administrator account, this is because to administer our website you must have permissions that exceed those of our users. As an admin he will have access to our database and tables in relation to our website e.g. students, tutors, times, etc. Admins will also have full access to our site's functionalities and features for admin or tutoring related use. The main responsibility of an admin is to approve posts submitted by tutors before they are published on our website for anyone, registered or not, to view.
4. **Unregistered User Browse:** Peggy is a smart college student who's just browsing the site. In the past she's gotten a lot of spam emails from her time at applying to college, and is now very hesitant on giving her email out. One day, while walking around campus at SFSU, she sees a flier advertising the tutor website and decides to check it out. She's aware of places advertising tutoring (such as Discord servers or users on "Twitter/X"), but they're all different in terms of features, price, and accessibility, so she has no clue what to expect from this site. Upon visiting, she notices the option to sign-up, yet she ignores this, assuming that they'll likely require her to enter her email. She checks out the features of the site such as available tutors and searching by name of course. She is able to freely browse the site and look at any of the available tutors. She can click on them to learn more and even preview their posts and its content. The search bar also contains a drop down menu so that she can identify what subjects the site has tutors for. After seeing the site, she takes note of it for future use.

3.List of main data items and entities:

Users:

Unregistered User
An unregistered user is any person who is browsing the site without being logged into any account. They can browse all available tutors and perform searches. They can apply to be a tutor at any time but will be prompted to register.

Registered User
Unregistered users become a registered user when they sign up for an account or if they log in to an existing one. Registered users have all of the permissions an

unregistered user has with the added bonus of being able to submit a message to a tutor and apply to be a tutor.

Admin
Admin is logged in to the web service or registered user, and is a person who is responsible for managing and supporting a tutoring web service. Admin has full access to all features and functionalities of the web service and its database. They will accept and reject tutor posts in accordance to terms of use and ethical guidelines.

Types of actions:

Search
Anyone regardless of registered or unregistered status can perform searches on the site. The feature can be accessed by clicking the search bar on the top. The search function allows users to filter out tutors based on the subject.

Data:

Topic
A subject is a type of class for tutors to identify their services with so that students know what the tutor specializes in. For example, a tutor may be for the subject English (ENG) and tutor students in reading and or writing. This will be a fixed list in our database.

Registration Record
Registered users inherit the permissions of unregistered users but may apply to be a tutor and send messages to tutors. They will have the following metadata in our database.

- ID Number
- Name
- Email
- Password (encrypted)

Tutor Record
Tutors are registered users that have applied to become a tutor and had their post approved by the administrator. They will have a table in our database with the following metadata.

- ID Number
- Name
- Topic
- Description

- CV/Resume
- Picture (Optional)
- Video (Optional)

Message
Messages will be shared to a tutor from a student, inquiring about their post to get more information. This will be form data, an input from a registered user and then made visible to the tutor on their dashboard after storing it to the database.

- Tutor ID (Prefilled)
- Sender ID (Prefilled)
- Date (Prefilled)
- Text (User input)

4.Initial list of functional requirements:

Non Registered Users:
1. Non registered users shall be able to have access to tutor information (pictures, videos, description, reviews)
2. Non registered users shall be able to filter tutors based on topic/subject e.g. MATH, ENG
3. Non registered users shall be able to narrow search results by searching course number
4. Non registered users shall be able to view all available tutors as default
5. Non registered users shall be able to register
6. Non registered users shall be able to apply to become a tutor, and will be prompted to register or log in
7. Non registered users shall be able to log in
8. Non registered users shall be able to benefit from our structured database system containing information on students, tutors, available times, dates, classes, and days.
9. Non registered users shall be able to draft a message to a tutor, but are prompted to register upon submitting

Registered Users: (Will inherit all previous permissions listed above)
10. Registered users shall be able to click “Forgot Password” if they have trouble logging in
11. Registered users shall be able to apply to be a tutor, submitting their information
12. Registered users shall be able to view dashboard, containing any messages received from other registered users

13. Registered users shall be able to upload a video
14. Registered users shall be able to upload a photo
15. Registered users shall be able to upload their CV or Resume
16. Registered users shall be able to send a message to a tutor
17. Registered users that apply to be a tutor shall be prompted to choose what topic(s) they tutor.
18. Registered users shall be able to log out of their account

Administrator: (Will inherit all previous permissions listed above)
19. Admin shall be able to view database
20. Admin shall be required to approve registered users to become tutors
21. Admin shall be able to reject user posts before they are published

5.List of non-functional requirements:

1. Application shall be developed, tested and deployed using tools and servers approved by
Class CTO and as agreed in M0
2. Application shall be optimized for standard desktop/laptop browsers e.g. must render correctly on the two latest versions of two major browsers
3. All or selected application functions shall render well on mobile devices
4. Data shall be stored in the database on the team's deployment server.
5. No more than 50 concurrent users shall be accessing the application at any time
6. Privacy of users shall be protected
7. The language used shall be English (no localization needed)
8. Application shall be very easy to use and intuitive
9. Application shall follow established architecture patterns
10. Application code and its repository shall be easy to inspect and maintain
11. Google analytics shall be used
12. No email clients shall be allowed. Interested users can only message to sellers via in-site
messaging. One round of messaging (from user to seller) is enough for this application
13. Pay functionality, if any (e.g. paying for goods and services) shall not be implemented nor simulated in UI.
14. Site security: basic best practices shall be applied (as covered in the class) for main data
items

15. Media formats shall be standard as used in the market today
16. Modern SE processes and tools shall be used as specified in the class, including collaborative and continuous SW development
17. The application UI (WWW and mobile) shall prominently display the following exact text on all pages "SFSU Software Engineering Project CSC 648-848, Fall 2023. For Demonstration Only" at the top of the WWW page nav bar. (Important so as to not confuse this with a real application).

6.Competitive analysis:

Feature	Gator Wise	Competitor A	Competitor B	Competitor C
Tutors attend SFSU	++	+	-	-
Search by Class	++	+	-	-
Ease of registering for tutors	++	-	-	+
Lazy Login	++	-	+	+
Browse all tutors	++	-	+	+
Search tutors by class	++	-	-	-

** – Lacking Feature ** + Has Feature ** ++ Has Superior Feature

We will be implementing a search bar that features a drop down menu and takes input from users. The drop down menu will be a non-specific search by SFSU course topics to narrow down the list of tutors visible to the user,so if users do not know the name of tutors, they can still search by their subject, similar to other tutoring websites. The key feature of our application is that the subjects available to browse will pertain to courses offered at SFSU and tutors on our site will identify themselves with at least one, so that users are aware of their options for tutors. Additionally, users can narrow results with or without the subject dropdown by using the search bar to type in information about our tutors and it will filter results by comparing it to the tutors we have in our database. This information could be the name of the tutor, what classes they've taken, or what topics

are covered in certain courses. For example, a user may need help in MATH which is a subject that tutors can identify themselves with, but if the user wishes to search “Calculus” specifically, the site will find any tutors that have disclosed their experience in Calculus. The courses/subjects available will be specific to SFSU, which streamlines the experience for our users, allowing them to find exactly what they are looking for in a tutor with our advanced search feature.

7.High-level system architecture and technologies used:

Software Stack:

Server Host: AWS
Operating System: Ubuntu 16.2
Database: MySQL v8.0.34
Web Server: NGINX 1.24
Server-Side Language: JavaScript

Additional Technologies:

Web Framework: ExpressJS
IDE: VSCode
Web Analytics: Google Analytics
SSL Cert: Lets Encrypt (Cert Bot)
We plan to use ChatGPT: YES

Browsers:

Google Chrome
Mozilla Firefox

ChatGPT:
Not used for M1

8.Use of ChatGPT:

ChatGPT was not used for this milestone. The AI text to image generator provided by Canva was used in the creation of the Personas’ pictures.

9.Team and roles:

Joaquin Warren - Team Lead
Ronnie Huang - Github Master
Karl Moreno - Front-End Lead
Darien Banuelos - Front-End Team Member
Sean Ryan - Back-End Lead
Philip Karnatsevich - Back-End Team Member

10. Checklist:

So far all team members are engaged and attending team sessions when required

On Track

Team found a time slot to meet outside of the class

Done

Back end, Front end leads and Github master chosen

Done

Team ready and able to use the chosen back and front end frameworks and those who need to learn are working on learning and practicing

Done

Team reviewed class slides on requirements and use cases before drafting Milestone 1

On Track

Team lead ensured that all team members read the final M1 and agree/understand it before submission

On Track

Github organized as discussed in class (e.g. master branch, development branch, folder for milestone documents etc.)

DONE