

# CSC 648 Software Engineering

## Milestone 1

### Team 02

**Team members:**

Alberto Ramirez
Emily Do
Shailendra Hamal
Thomas He
Abhijai Singh
Raymond Zuo

## **Summary**

Our website Golden Tutors is created for San Francisco State students interested in getting extra help with their courses from real, well qualified tutors. We strive to make it simple and easy for busy students to schedule sessions with tutors. On the other hand we also would like to make the tutors be comfortable helping in courses and having their time and work taken into account.

Golden Tutors will allow tutors to set their price points and choose what SFSU courses they would like to help in. We want to make sure tutors and students are compatible. Tutors will be required to make a profile where they can provide information about their education backgrounds, expertise, completed courseworks, and any fun facts about themselves. Students will be able to use a variety of filters that will narrow down the results for classes and find the right tutor. Filters will bring up results such as upper or lower division courses, scheduling to make sure tutoring sessions can be attended even in busy times, price-points, and gender so that students feel as comfortable as possible.

The Golden Tutor's team, Team02, is made up of six San Francisco State Students. The team lead, Alberto Ramirez, a senior majoring in computer science, looking forward to graduation and taking on real world roles in the tech industry. His background consists of several retail jobs specifically in sales of different technical devices. Emily Do, front end lead, is a senior computer science major. She has never worked in a team of this size before and is looking forward to seeing how things are structured for larger projects. Shailendra Hamal, front end dev is a senior majoring in computer Science. He has never worked on any big project and is willing to work and learn. Thomas He, back-end lead, is a senior and aspiring developer. His main relatable experience comes from working in a development team as an intern. Abhijai Singh, back-end developer, is also a senior Computer Science major with some experience working in group projects. The majority of his technical experience has come in the form of data analyst intern roles with startups in the Bay Area. Raymond Zuo, is the github master for this project. This is his first time working on a management role of any kind and is trying to get as much experience with working with git as possible out of this team project.

# Personas



## Joyce Taylor Admin

### Background

Joyce is an admin for the site. She is a very friendly person and loves to engage in different hobbies and keep busy. She stays very active, her favorite pastime is to go hiking and running with her dogs. She has worked in the tech industry, managing teams and knows her way around computers.

 25

 San Francisco, CA

 Admin

### Needs

- Site needs to be organized. If there are many pending posts that need approval, there should be no clutter.
- Removing items off the website should be easy with no errors. If there are any posts or users that are harmful or inappropriate, removal of the items should be instant.
- Wants to be respectful to others. Needs site to disable the ability to edit and change users information.



## Greg Harper Tutor

### Background

Greg is a tutor for the site. He is a graduate student at San Francisco State University. He loves to help others and is heavily involved in his community. He volunteers at the boys and girls club and at various soup kitchens. He is a very kind person and wants to tutor to make a little money on the side.

 27

 Oakland, CA

 Graduate Student

### Needs

- Needs options, would like to be able to choose what courses he can tutor in.
- Wants potential clients to be able to relate with him and feel comfortable around him, needs to be able to give a description of who he is, and a background of himself.
- Needs to make sure his work and time is valued. Needs to be able to set his prices.



# Ava

## Non-Registered User

### Characteristics:

Ava is a 22 year old college student. She is concerned about her grades.

### Goals:

Ava is looking for help. She wants to find a tutor, but does not know which site to use. She is in the process of comparing the sites she has found so far.

### Pain Points:

Ava does not like sites that force her to sign up before being able to gauge if she will actually use the site. She prefers to be able to get a preview of how the site will work, and if it will suit her needs.

# John

## Registered User

### Characteristics:

John is a 23 year old college student. He is very busy and studies a lot.

### Goals:

John's homework is confusing him and he needs someone to explain certain concepts or problems to him. He wants to be able to communicate with a real person knowledgeable about his class.

### Pain Points:

John is very busy and is on a tight schedule. He needs flexibility with his tutors and somewhat fast replies in case his homework is due soon or he has a test coming up.



## Use Cases

Actor: Ava

A student, Ava is struggling in lectures and needs tutoring for his SFSU Math 324 class. He has gone to other tutors for lessons similar to Math 324, but they cannot help him with his Math 324 specific problems. He goes onto the website and tries to register as a SFSU student and get a tutor for Math 324. Not everyone can gain access to being a student, so only those that have a @sfsu.edu email and SFSU ID can successfully be verified. He enters his information, and then an email will be sent to AJ to verify his email, and he will then gain permissions that will let him search for classes he needs help in, tutors that can help in the class, and tutors' information. He will now be able to get help for his class through a good search and selection of a tutor.

Actor: John

John, a freshman at SFSU, purchases a tutoring service for the class they are having trouble with. John has found a tutor, Greg, a senior at SFSU, that could help him in his class, CSC 210. He adds the tutoring service to his cart, and then it will show up in the check out page. After purchasing, and payment has been confirmed, John will gain permissions to directly message Greg. Greg will get a notification about John's purchase, and Greg, who has taken CSC 210 and knows the material from when he took it, can either accept or deny the request, then the money will be refunded. They can negotiate what hours to meet and how to meet this way, what material that the session will be for. Greg accepts. John now has a tutor for the exact material they teach in CSC 210, and Peter gets paid for teaching John. Both users are happy.

Actor : Greg Harper

- Use Case 3: (Scenario) A Tutor registers with Golden Tutors to create a profile and offer their services to students in need via our platform. Greg Harper is a graduate student willing to spend his time tutoring current undergraduate students in specific SFSU Computer Science courses. He first registers with his personal information and university credentials. Then he creates his external profile containing his Personal Bio, Profile Picture, Academic History and Achievements, and specific SFSU classes and/or subjects he wishes to specialize in. He can also choose to set/adjust his per hour rate with the company as well as payment methods, and his preferred hours of availability. Communication channels between tutor and student include links to Zoom and e-mail addresses can be opened at the discretion of Greg.

Actor : Joyce Taylor

- Use Case 4: (Scenario) An Admin is receiving reports about an inappropriate post made by a Registered Student on the Golden Tutors site. Joyce Taylor is the site admin for Golden Tutors, and she needs to take down a problematic post from the site created by a Registered Student that was reported by a Tutor. She logs into her Admin account, selects the post, and subsequently deletes the post after a thorough review of the content. If the Registered

Student that created the post has been reported multiple times by Tutors for either misconduct or inappropriate behaviour, Joyce has the ability if needed to disable that User's account. She should exercise this admin privilege only if the User has been found to explicitly violate Golden Tutors' Terms of Service.

# **List of main data items and entities**

## Admin

- Highest level of permission on the site
- Will be responsible for approving new tutors
- Will have the authority to delete any harmful posts or users

## Tutor

- Has filled out a profile form introducing oneself
  - Form has to be approved
- Will set prices for their services
- Will select what courses to tutor in

## Registered User

- Attends SFSU, has the credentials, and has signed up for Golden Tutors
- Someone looking for a tutor

## Non-Registered User

- Referring to a person that has not signed up and made an account
- Someone who may be browsing the site
  - May be a potential tutor, or a student looking for help
    - Site does not require a login to browse

## Search

- Used to find tutors for classes
  - Filters: will narrow down results
    - Will include, gender, class, price points, scheduling options, upper/lower division courses

## Profile

- Tutors will have a profile introducing themselves to potential clients
  - Admin approved
- Information about Tutor
  - Education background
  - Completed courseworks
  - Expertise
  - Fun fact about themselves

## Account

- Will be made by the User and house their profile
- Will have the users payment method stored

## Payment method

## **Initial list of functional requirements**

### Non registered User:

1. Users shall be able to register for accounts.
2. Users shall receive a verification email after account creation.
3. Users shall be able to log in.
4. Users shall be able to log out.
5. Users shall be able to view a list of tutors.
6. Users shall be able to view tutors profiles.

### Registered User:

7. Users shall be able to connect with tutors through chat or video call.
8. Users shall be able to rate tutors.
9. Users shall be able to delete their comments on tutor.
10. Users shall be able to upload their profile picture.
11. Users shall be able to browse the tutor posts.
12. Users shall be able to filter the posts by tutor name, date
13. Users shall be able to create posts.
14. Users shall be able to add a payment method.

### TUTOR:

1. Tutors shall be able to register for accounts.
2. Tutors shall be able to receive a verification email after account creation.
3. Tutors shall be able to log in.
4. Tutors shall be able to log out.
5. Tutors shall be able to view a request from the user.



6. Tutors shall be able to view user profiles.
7. Tutors shall be able to connect with users through chat or video call.
8. Tutors shall be able to see their rating from the user.
9. Tutors shall be able to include their name, a short biography, and their location.
10. Tutors shall be able to upload profile pictures.
11. Tutors shall be able to list education and work experiences on their profile.
12. Tutors shall be able to create a post.

#### ADMIN:

1. They shall be able to add and remove the tutor.
2. They shall be able to erase the posts.
3. They shall be able to disable the users reported by tutors.

## **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 Milestone 0. Application delivery shall be from chosen cloud server
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 must render well on mobile devices
4. Data shall be stored in the database on the team's deployment cloud server.
5. No more than 50 concurrent users shall be accessing the application at any time
6. Privacy of users shall be protected and all privacy policies will be appropriately communicated to the users.
7. The language used shall be English (no localization needed)
8. Application shall be very easy to use and intuitive
9. Application should 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 e-mail clients shall be allowed.
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. Application shall be media rich (images, video etc.). Media formats shall be standard as used in the market today
16. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development
17. For code development and management, as well as documentation like formal milestones required in the class, each team shall use their own github to be set-up by class instructors and started by each team during Milestone 0
18. The application UI (WWW and mobile) shall prominently display the following exact text on all pages "SFSU Software Engineering Project CSC 648-848, Fall 2021 For Demonstration Only" at the top of the WWW page. (Important so as to not confuse this with a real application).

## **Competitive analysis**

Feature	<a href="#">Tutor.com</a>	<a href="#">Smarthinking</a>	<a href="#">Skooli</a>	<a href="#">GoldenTutor</a>
---------	---------------------------	------------------------------	------------------------	-----------------------------

Text search	-	O	O	O
Boolean search	-	O	OO	O
Browse	O	-	OO	O
SFSU search	-	-	-	O
Mobile Version	-	O	OO	-

OOO: Best Feature

OO: Better Feature

O: Has Feature

-: Missing feature

The main features that we will be working on is how accurate the text search and boolean search are. Seeing that other companies have these features we plan to get ahead of them by making the most accurate search results based on what the student is looking for. We plan to have a good browsing feature that allows students and tutors to search for each other. Our site will not only allow the students to search for tutors but tutors to look for students who posted about needing help. There will also be specific things for students as it is being made for SFSU students. This will allow the students to import their information about themselves through a sfsu ID.

## **High-level system architecture and technologies used**

- Server Host: AWS - EC2
- Operating System: Amazon Linux 2/3.3.5
- Database: MySQL

- Web Server: nginx/1.20.0
- Server-Side Language: Python 3.7
- Additional Technologies: Flask
- Front-End UI: BootStrap CSS & JS; Jinja

## **Team and roles**

- Team Lead: Alberto Ramirez
- Front-End Lead: Emily Do
- Front-End Dev: Shailendra Hamal

- Back-End Lead: Thomas He
- Back-End Dev: Abhijai Singh
- GitHub Master: Raymond Zuo

## **Checklist**

- So far all team members are engaged and attending ZOOM sessions when required: **OK**
- Team found a time slot to meet outside of the class: **OK**

- 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: **ON TRACK**
- Team lead ensured that all team members read the final M1 and agree/understand it before submission: **DONE**
- Github organized as discussed in class (e.g. master branch, development branch, folder for milestone documents etc.): **DONE**