SOC!AL Project Update

3/31/2021

Student Team Leads:

Yue Chen, Cognitive Science
Chuizheng Kong, Mechanical Engineering
Tiffani Szeto, Neuroscience & Psych Dual

Advisors:

Alexander Ma, Chemistry
Alicia Walf, Cognitive Science

Recap: What is Soc!al + Our Story

Observe students struggling in dorms

Swersey Studio Challenge: “an idea that will impact the society and the globe in positive ways”

repeat for 2 days

Team Match

Team Match

Every student will take a 10 question survey upon creating an Soc!al account. Our system will collect survey data and other game data as inputs for matching algorithms.

Group Formation

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Based on student inputs, our AI matching system will group students into 4 person teams.

Intra-cooperative Challenges

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Teams will compete in various intra-cooperative challenges designed by RPI students.

Feedback / Team Evaluation

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At the end of each day, students will fill another survey to evaluate their teams (for better AI matching) and give feedback about the system if any.

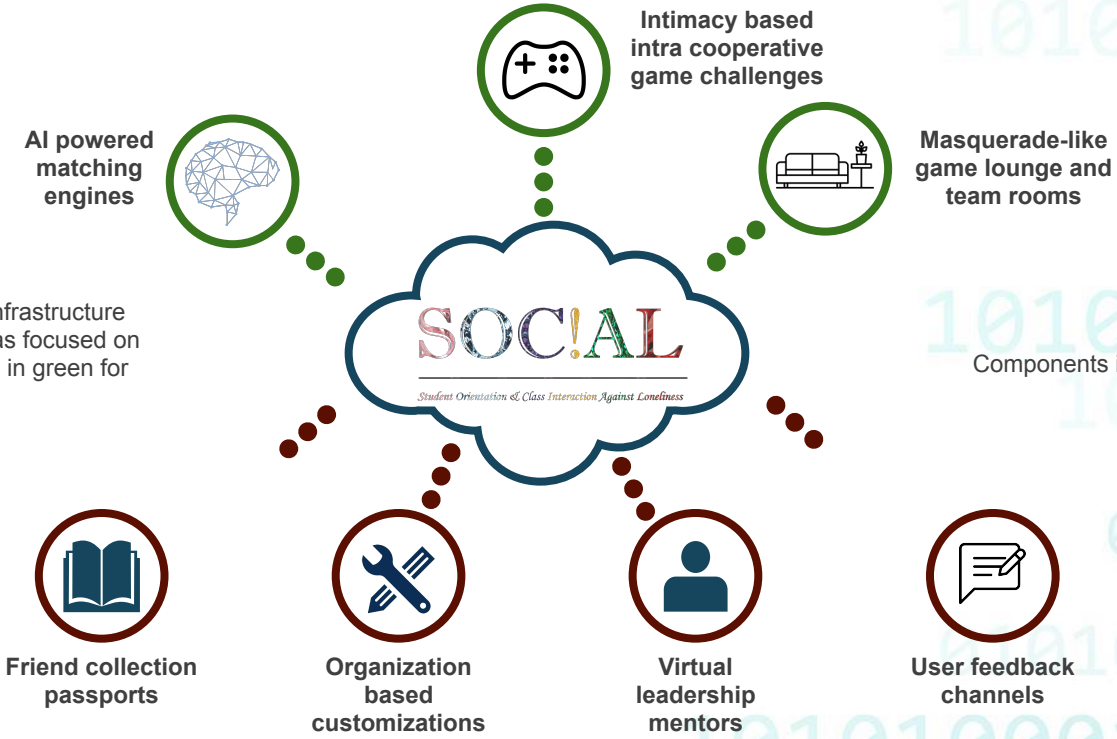
SOC!AL

Student Orientation & Class Interaction Against Loneliness

A game-like system that will help incoming college students create and foster long lasting friendships.

F2020 Burt Swersey Studio Challenge Winners!

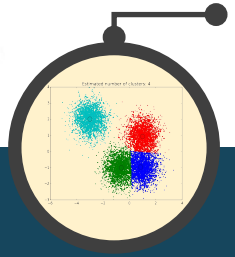
Web Infrastructure



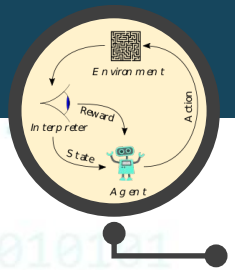
Our team setted up the basic infrastructure for our software system and was focused on developing components shown in green for the first half of the semester.

Components in red will be our future steps.

AI Matching



Clustering Algorithms
We use clustering algorithms to form the initial group of 4 based on data gathered from 10 matching survey questions.



Reinforcement Learning
We use reinforcement learning algorithms to improve future group formations based on student evaluation of their match (like: +1, neutral: 0, dislike: -1).

AI Matching System

SOC!AL's AI powered matching engine matches students that will be more likely to form steadfast bonds based on survey questions and evaluation feedback. We believe that finding suitable groups helps to improve student living and learning.

Matching Survey

01 **What kind of connections are you hoping to find?**

a.) Friends that like doing the same things as me
b.) Friends that will introduce me to new things
c.) Study buddies

02 **What tv show genre are you watching on your day off?**

03 **Are you a dog-person, cat-person, not-crazy-about-animals-person, or other?**
disclaimer: you don't have to own the animal to be an animal person!

04 **What kinds of games do you enjoy playing?**

05 **You get your food from a restaurant, and you asked for no sauce on your veggie burger, but the veggie burger you receive does in fact have sauce on it. What would you do? (In this instance, assume that there are no allergens present in the sauce)**
Example choice: Send the veggie burger back and ask for a new one

Thank you to Suhan Gui, '23 Computer Science & Math Dual for coding our surveys!

06 **What's your academic major at RPI? (select your primary major if you're a dual)**

07 **What's your least favorite subject in school?**
Example choice: Math / Physics—> who thought it was a good idea to mix numbers and letters? Ugh

08 **When it comes to school, I am the type to:**
Example choice: Study all day, every day— let's get this BREAD

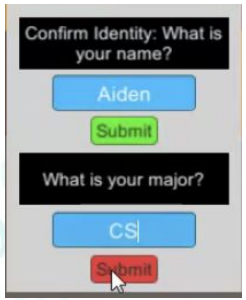
09 **In a new/unfamiliar situation, I am…**
Example choice:I would want to learn a little more about it before I participate

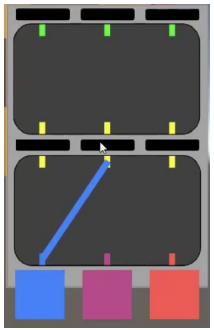
10 **What's your favorite thing to do in your free time?**
Free response

Mini-Games

Danger! Save the World

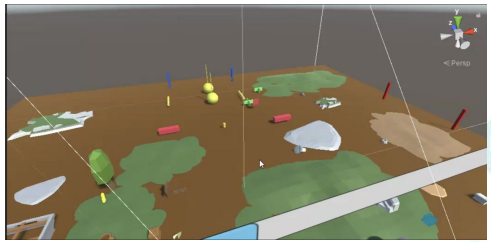
“Over the course of several timed rounds players will work together to complete simple jobs assigned to them around the map that escalate in the amount of cooperation and information needed from other players.”
~ Aiden Sullivan, ‘23 Computer Science





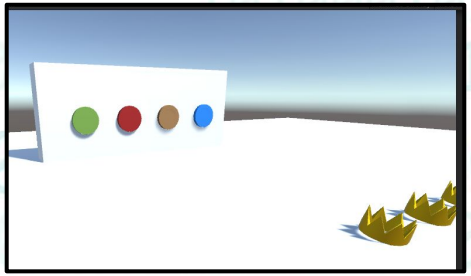
Strive Time

“The concept is that it’s a racing game in an obstacle course. The Racer team tries to complete the course in a certain amount of time while the Sabotager team earns points by hindering the Racers. Each cart contains 4 players that each have a different task: left turn only, right turn only, shield/attack, and navigation.”
~ Brian Lin, ‘23 Computer Science



The Hidden Treasure

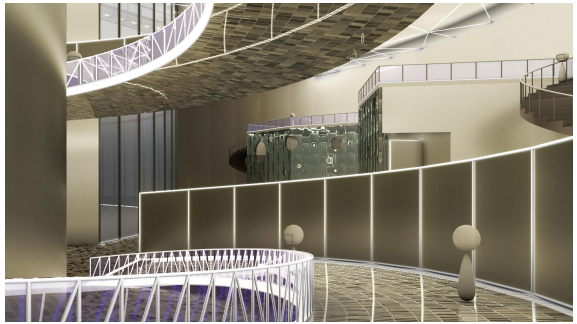
“An object is automatically hidden in plain sight in the room, and the goal is to identify the object within the time limit. 1 player (the Guide) knows the location of the ‘hidden treasure’. The trick is, the Guide will only have access to a compass-like light to communicate with their team.”
~ Jacky Xu, ‘23 Computer Science & GSAS Dual

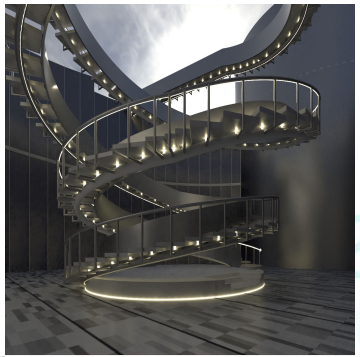


Lounge Design Concepts

We want to provide a virtual social space for students to safely to step out of their comfort zones. Our lounge design is inspired by art museums. We are planning to put RPI related pictures, memes, and descriptions on the walls. Students can learn more about RPI cultures as they team up to find “Easter eggs” hidden in these pictures.

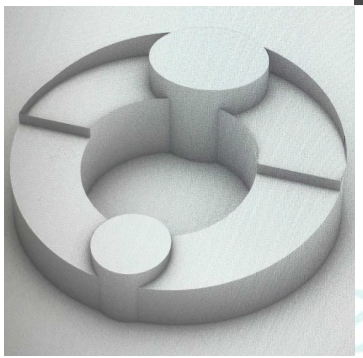
Lounge Design Prototype





3D Modeling

Left is our current model made by Merry Chu, 22’ Architecture.



Architecture Design

The big cylinder will be divided into two floors: first floor and second floor.
The second floor of the big cylinder will be the main social area for players.
The center area will be the spawning space for players, it will look like an indoor garden.
The small cylinder will be an “auction” room.
The hallways will be the art gallery.