

SCHOOL OF COMPUTING

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CS 4500 SENIOR CAPSTONE

# DEMO DAY

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APRIL 24, 2019

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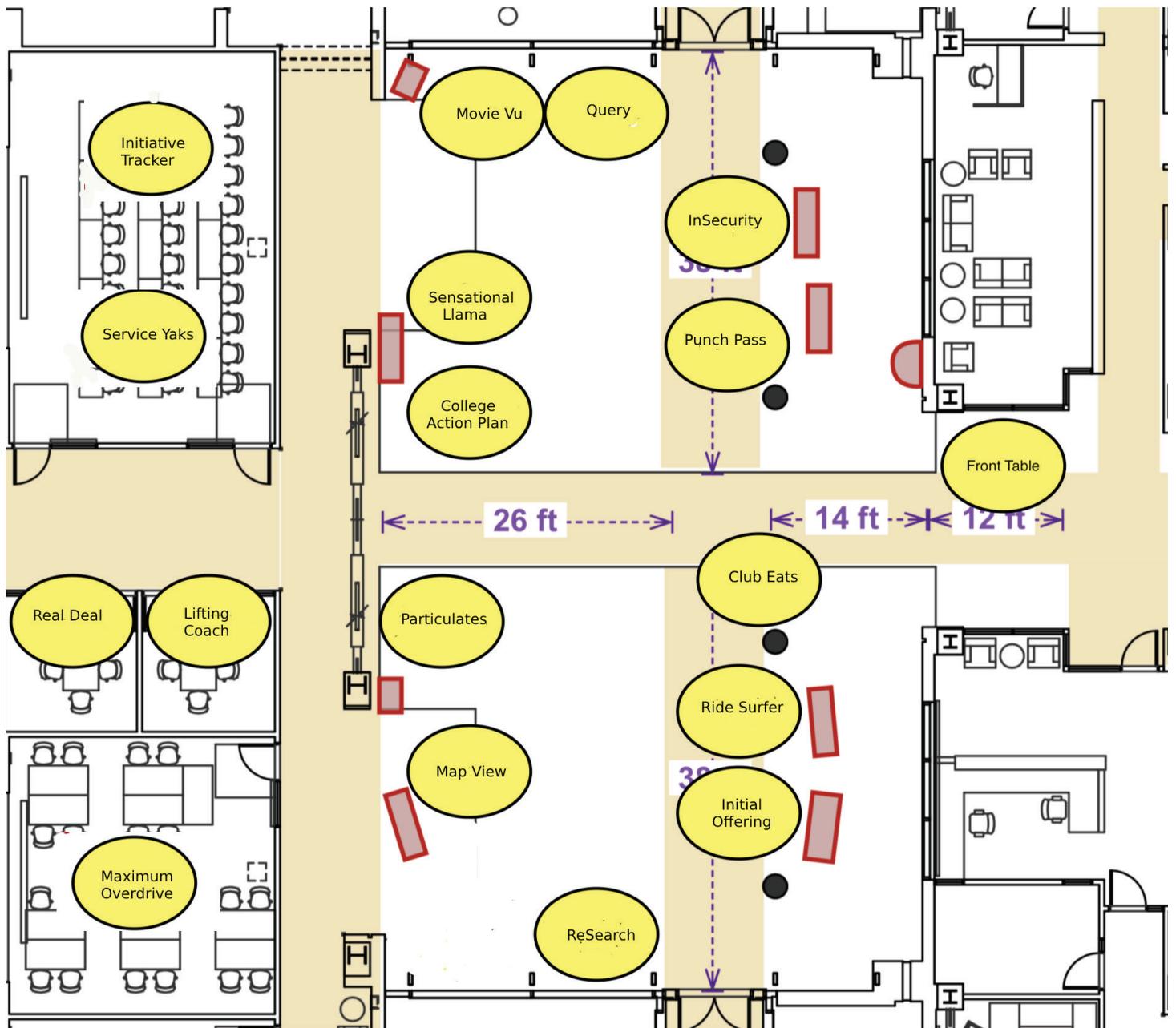
**SCHEDULE**

1:30 - 4:30PM

CATMULL GALLERY

AWARDS & PIZZA 4:30 - 5:00PM





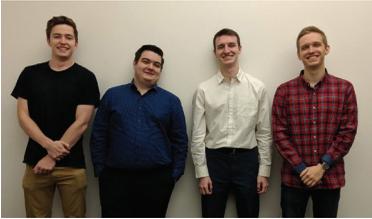


**Team:** Club Eats

**Project name:** Club Eats

**Team members:** Asher Sorensen, Brayden Carlson, Philipp Hojnacki, Vladimir Srdic

**Website:** <https://eng.utah.edu/ClubEats/ClubEats.html>



**Project description:** Club Eats is a social network with heavy emphasis on meal planning. To accomplish this goal, we provide the user with typical social media features such as user profiles, friends, messaging, and grouping. In order to aid with meal planning we have created a cookbook which allows users to create, save, and organize recipes. Additionally in our groups users can create meal plans by designating dates and voting on meals that our program suggests. These meal plans appear to users on the group's calendar where they have the option to add, swap, and remove plans at will. Our app is cross-platform and created in Xamarin with a .net backend hosted on AWS.



**Team:** College Action Plan

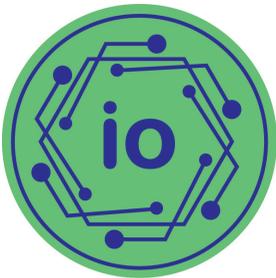
**Project name:** College Action Plan

**Team members:** Dallin Van Mondfrans, Scott Krstyen, Jasper Slaff, Ashlee Kurys

**Website:** <http://degreeblueprintservices-env.3ppssrxtv.us-east-1.elasticbeanstalk.com/>



**Project description:** Currently, during student-advisor meetings, advisors have to manually fill out the degree plans for each individual student every time that student has an appointment. This is time-consuming and reduces the overall effectiveness of these short meetings. Our solution addresses this problem by allowing advisors and students to graphically manage a student's degree plans. This project entails an interactive user interface that uses degree-specific rules created by administrators to help them ensure their course schedule will meet degree requirements. Further, students can view their required courses before enrolling in a class and plan out their college career with ease.



**Team:** Initial Offerings

**Project name:** Initial Offerings

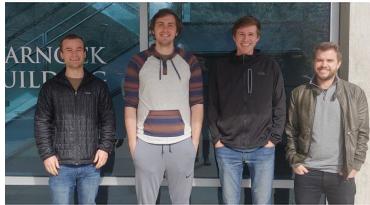
**Team members:** Christian Purdy, Stephen Hogan, Daxton Wilson, Chasen Chamberlain

**Website:** [initialoffering.com](http://initialoffering.com)



**Project description:** Startups have become a major avenue for investing. Venture capital firms and high networth individuals are the primary investors in Startups. These investors range widely in the stage of the business they invest and the quantity of funding. Startups are seen as a way to get great returns, however, investments in startups take an average of 8 years to return; which requires investors to "lock-up" their money for significant periods of time. The lack of liquidity in startup investing makes it difficult for Startups to receive funding and investors to take the risk.

To solve this problem, we proposed building a marketplace to allow for startup share trading. Similar to the current stock market where company shares are bought and sold, a web-based platform can be built to create a startup share market. Utilizing Stellar Lumen's Blockchain as the backing structure, Startups can create their own shares and offer them on our web application. Investors can then purchase these shares, providing Startups access to the capital needed to continue their business without the same level of commitment from investors. Trading of the shares will then occur, making it possible for Startup investments to be liquid. Shares will rise and fall in value as startups release new information and trading occurs, creating a better market for startups to grow.



**Team:** Initiatives

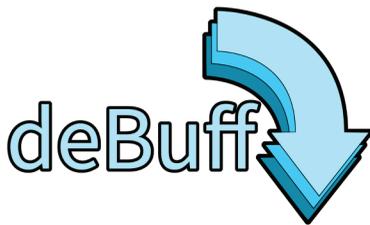
**Project name:** Initiative Tracker

**Team members:** Luke Kingsley, Patrick Ekel, Enea Mano, Kevin Lung

**Website:** <https://initiativetracker.xyz>

**Project description:** Initiative Tracker is a continuous improvement based web and mobile application. The goal of our project is an application that allows companies to look internally at how they operate and find ways to become more successful. It works by letting a user create an initiative which is typically a problem that needs to be addressed or a suggestion to improve the current workflow.

Once this initiative is created it is assigned to all relevant users and using custom surveys created by the initiative owner the progress is tracked. Once this initiative is completed and all the feedback is collected the users can present this data within the application to see how everyone who participated felt about this new idea. Finally the initiative is given an overall aggregated rating from everyone involved and it is then archived so anyone else in the company can search this initiative and review its success.



**Team:** deBuff

**Project name:** deBuff

**Team members:** Keaton Bruce, Braeden Diaz, Jason Langevin, Brayden Wright

**Website:** <https://project.debuff.info/>

**Project description:** deBuff is a Peer-to-Peer content delivery system that distributes content among in-browser clients utilizing WebTorrent and by dedicated peers running on volunteered user machines. Our project provides the infrastructure for a more decentralized website that can offload some of its bandwidth usage to volunteers. That is, instead of users directly donating money to help cover server costs, or having to view advertisements to support the website, they instead donate bandwidth and disk space. A volunteer's contributed bandwidth is tracked and accessible to the website administrator, allowing the administrator to provide special rewards based upon the total amount of contributed bandwidth.



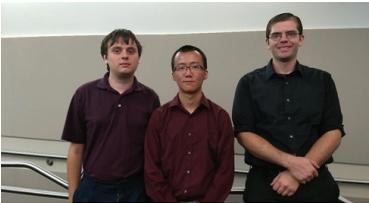
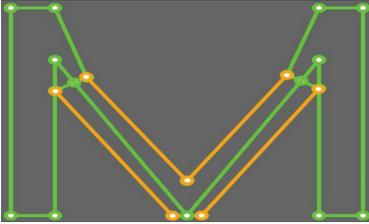
**Team:** Lifting Coach

**Project name:** Lifting Coach

**Team members:** Brianne Young, Alexandra Bertagnolli, Ben Allred, and Hannah Potter

**Website:** <https://liftingcoach.weebly.com>

**Project description:** Lifting Coach is a software system designed to monitor and correct lifting behaviors that are risky to the musculoskeletal system. This software system is split into two major parts: a mobile application that pairs with wearable sensors and a website application. The Android app is designed for individual manual laborers. It connects via Bluetooth to the Lifting Coach insoles provided by the University of Utah Ergonomics Lab. These insoles gather information about the wearer's activities and will alert them with a notification when they are performing a risky activity. The mobile app also provides several charts for viewing the data. The website is designed for managers over employees who do manual labor. It allows managers to view the insole data of the employees under them both in a high level overview and in detailed graphs. This helps managers monitor the musculoskeletal risk exposure of their employees.



**Team:** MapView

**Project name:** MapView

**Team members:** Michael Loper, Zhi Bin Wu, Seth Kingston

**Website:**

**Project description:** Our application allows you to turn 2D floorplan images into 3D models and texture them using photos taken from a 360-camera with both creation and exploration of floorplans hosted on a website. We aim to guide users in a visual and intuitive way by recreating what a user might see as if they were walking through the building themselves. A user may also choose to use our project to simply tour or explore the building to learn about its uses and facilities through text and visual elements embedded into the panoramic view.



**Team:** Maximum Overdrive

**Project name:** Dragline

**Team members:** John Young, Kameron Paulsen, Josh Christensen, Atul Sharma

**Website:** <http://dragline.info/>

**Project description:** In motor-sports there is a concept of a 'Racing Line'; an optimal path around a racetrack which, if followed, should allow the driver to achieve the best possible lap times. For this project, we have worked hard to build a software system that will map out a race track, determine an optimal path, and then deliver that path back to the driver in real time while simultaneously collecting data about the state of the car. The system will be utilized by the University of Utah Formula SAE Racing team to be integrated into their formula car. We fondly refer to our project as Dynamic RAcinG LINE or simply, DRAGLINE.



**Team:** MovieVu

**Project name:** MovieVu

**Team members:** James Collier, Charlie Clausen, Alex Hawks, Ben Anderl

**Website:** <http://movievu.club>

**Project description:** MovieVu is a movie-centric web platform that simplifies how you discover, share, and enjoy movies by providing lean curation tools and the capability to connect with your friends. Track the movies you're excited to watch next and easily find where to stream them. Involve your friends by sharing movie recommendations, having conversations, scheduling watch parties, and more. MovieVu fills a unique role in the market by streamlining movie interactions and prioritizing the movie recommendations from your friends.



**Team:** Particulates

**Project name:** Particulates

**Team members:** Trevor Chapman, Connor Ottenbacher, Trenton Taylor, Gaitlan Knudson-Hammon

**Website:** <https://download-dot-neat-environs-205720.appspot.com/welcome>

**Project description:** Pollution is a constant problem in the Salt Lake Valley, and there is a team of researchers here at the University of Utah that studies the cause and effects of it. A series of first generation sensors are spread throughout the valley that are constantly gathering data and sending it to a remote database. However, for the researchers to set up these sensors and access the gathered data is a long and tedious process that is usually done by an admin staff per request. Also the first generation sensors produce noisy data and are expensive. This project aims to improve the sensor functionality, make them more cost effective, and create a web portal for researchers to easily view and download sensor datasets. Additionally we have created an Android app that assists in connecting a sensor to a network and viewing live data from it. The app comes with a pollution tracking feature that will inform users about how much pollution they've been exposed to along with the adverse effects. We hope that this encourages community engagement and conversation.



**Team:** PunchPass

**Project name:** PunchPass

**Team members:** Russell Kennington, Scott Steadham, Daniel Merrell, Gabe Kerr

**Website:** <https://www.punchpassapp.com/>

**Project description:** PunchPass is an iOS application that consolidates restaurant rewards programs of participating businesses into a single app. PunchPass lets users manage rewards and receive communications from their favorite restaurants while maintaining complete control over their personal information. PunchPass provides business owners with the ability to track how many customers are coming into their restaurant and how many passes have been redeemed. Businesses can also send notifications to all or some of their customers based on certain criteria.



**Team:** Query

**Project name:** Query

**Team members:** Kyle Benson, Nathan Milot, Jin He, John Chambers

**Website:** <https://queryme.io/about>

**Project description:** Query is a live online question board meant to facilitate better communication between presenters and their audience. Selectively anonymous participants of a presentation can post questions either before or during a presentation and fellow participants can rank the importance of the question via upvotes and downvotes. There are two major problems this system solves: it ensures the most prevalent questions are visible to the presenter, and it removes the awkward social barrier that may prevent participants from asking questions. The goal is to make the communication between a presenter and an audience a more satisfying experience for all involved.

# REAL DEAL



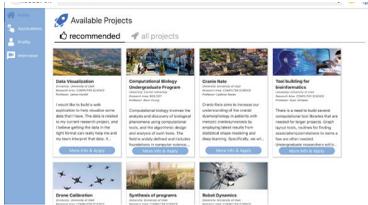
**Team:** Real Deal

**Project name:** Real Deal

**Team members:** Michael Kim, Bryce Goddard, Christopher Kim, Clayton Hislop

**Website:** [www.realdealcs.com/aboutus](http://www.realdealcs.com/aboutus)

**Project description:** Real Deal was built as a web application that syncs with various on-line stores and displays real time information about their prices of available products. Thus enabling users to compare the current prices of a product across multiple storefronts. Users are able to create an account to help keep track of products that they are interested in via a wishlist and will receive email alerts when the price of that product has dropped to their desired threshold value.



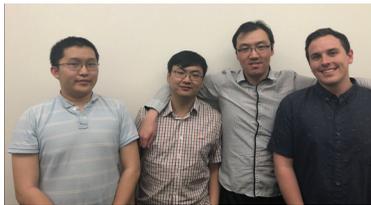
**Team:** ReSearch

**Project name:** ReSearch

**Team members:** Ryan Williams, Haoren Chen, Yijie Guo, William Li

**Website:** [www.reusearcher.com](http://www.reusearcher.com)

**Project description:** Research Experiences for Undergraduates (REUs) are extraordinary opportunities for college students to apply class knowledge into practical projects, find passion in their interest areas, and challenge their limits. REUs are also excellent opportunities for professors to discover overreaching students for private projects they don't have the time to explore. ReSearch aims to provide a centralized web platform for connecting students to professors with research projects. Within ReSearch, students can describe their interests and skills, upload their resumes, then search for research opportunities, all without leaving our site. On the other hand, professors are able to publish customized research projects and positions, review applicants' profiles and resumes, receive notifications on application progress, interview with prospective students, and accept or reject applicants. We aim to create a simple and all in one web application to bridge the gap between students and professors via research projects to help both students and professors succeed. We appreciate any help in publicizing our platform - please use our platform to publish and apply for REU opportunities!



# Ride Surfer



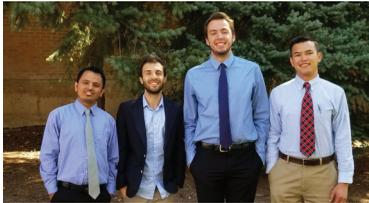
**Team:** Ride Surfer

**Project name:** Ride Surfer

**Team members:** Ethan Ransom, Osama Kergaye, Rachel Brough, Thuy Nguyen

**Website:** <https://ride-surfer.herokuapp.com/>

**Project description:** In order to fight the challenges of pollution, traffic, and population increase, cities will need better transportation options. To solve this we've implemented Ride Surfer, a transportation system that may be more convenient for people by using mobile/web technology to connect drivers to passengers via pre-arranged or on-the-fly means. Our solution provides the ease of ride-hailing apps while being as efficient as public transportation. At a high level, drivers and riders open our iOS or Android app and input their desired routes. Our ride-matching algorithm will show potential matches for users whose routes have enough overlap. Users will view their potential ride mates' information, then send and accept "ride requests" with each other. When it's time to go, riders will see live updates of their driver's location and be given directions to walk to a common meeting place. Ride Surfer has significant advantages over other transportation options. Ride Surfing increases the utilization of existing roads and private vehicles, reducing pollution and traffic. Other apps have attempted to facilitate carpooling, but they do not ask the rider to walk to a convenient meeting point. We are more flexible than buses and do not require the expensive infrastructure of rail. Our app has the potential to reuse our existing roads in a new way and finally solve the burden of traffic and parking.



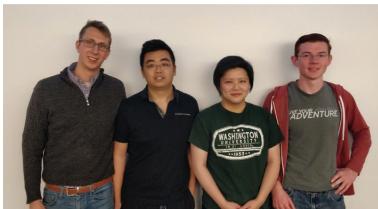
**Team:** Sensational Llama

**Project name:** Sensational Llama

**Team members:** Madan Bhattarai, Riccardo Sonsini, Samir Mulahalilovic, Jonathan Call

**Website:** [www.SensationalLlama.com](http://www.SensationalLlama.com)

**Project description:** Sensational Llama - Let us read the news so you don't have to! Sensational Llama is a stock market research tool, which ranks stocks in the S&P 500 based on public opinion. We generate public opinion scores by collecting news articles and running them through our unique Natural Language Processing tool. Investors can look up individual companies and see the latest stock market news along with charts comparing public opinion against news volume and historical stock price. Free to use and with an open API, Sensational Llama never sleeps - working 24/7 to analyze over 10,000 news items per day, giving investors an edge and insight into the stock market that cannot be found anywhere else.



**Team:** Service Yaks'

**Project name:** Service Yaks'

**Team members:** Kody Kendall, Lingxi Zhong, Skylar Shyu, Owen Webb

**Website:** <http://blog.serviceyaks.com/>

**Project description:** Service Yaks' eponymous product is a CRM web application for small business that render in-home services. The application aims increase business productivity by centralizing all the necessary information online— safely storing customer information, scheduling appointments, tracking job progress, and more! Features such as data visualizations, invoice generation, and quick customer import allows businesses to smoothly transition from pen & paper, reduce time spent on redundant tasks, and access a company's strengths and weaknesses.