OPEN HOUSE

YING WU COLLEGE OF COMPUTING

SPRING 2018 CAPSTONE PROGRAM

CAMPUS CENTER ATRIUM FEB 3RD 12:00 - 5:00 PM

Spring 2018 Executive Members

Capstone Director

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Executive Team

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Agenda

12:00 PM	Refreshments
12:15 PM – 1:45 PM	Sponsors very brief **2-minute** introductions about their organizations, their projects and their support & opportunities.
1:45 PM – 3:30 PM	Students and Sponsors interview each other at Sponsors' tables.
3:30 PM- 5PM:	Finalizing teams, projects selections and allowing the first **"scope agreement"** meeting between sponsors and their finalized teams.

Industry Sponsored Projects

1. **Association for Women in Science, New Jersey Chapter**
   Association Website Updates
   Kamana Misra (President)
   The outreach of our organization has expanded recently to offer New Jersey women in STEM opportunities like STEM Entrepreneurship Challenge, MedHealth Challenge, Mentoring awards and High School STEM Scholarships. We are therefore looking to update the website currently self hosted through Wordpress to accommodate submissions etc of various projects for different programs we offer.

2. **RDE Systems**
   Interconnecting Essential System Services
   Jesse Thomas (Vice President)
   Virtualize an entire enterprise system infrastructure utilizing essential services such as AD, WSUS, IIS, and protocols such as DNS, DHCP, SFTP. All servers and workstations will be created within an ESXi hyper-visor and are expected to communicate properly. Design Principles: Servers and services must be able to communicate properly 2 workstations and several servers

3. **RDE Systems**
   Medication Assistance Online Application
   Jesse Thomas (Vice President)
   Creative brainstorming, designing and implementing a user-friendly, secure and functional web application with the following capabilities. Allow users to file in an online application for Medication Assistance. Administrators should able to log in to their Admin Portal and review all applications submitted by various users. The application should have a 2-way messaging system that will allow users and administrators to communicate directly.

4. **NJIT**
   Revolutionizing Learning at NJIT – Participatory Learning Project & Web System
   Michael Bieber (Professor)
   In our Participatory Learning (PL) system, we're revolutionizing education by mixing the roles and responsibilities of students and instructors in class assignments. Student tasks can include creating, solving and grading problems, and disputing grades (see figures below). We are designing and developing a new flexible, extensible prototype in JavaScript, SQL and related tools, based on prior Capstone team development.

5. **NJIT**
   Revolutionizing Learning at NJIT –Participatory Learning: Back-End Functionality
   Michael Bieber (Professor)
   In our Participatory Learning (PL) system, we're revolutionizing education by mixing the roles and responsibilities of students and instructors in class assignments. Student tasks can include creating, solving and grading problems, and disputing grades (see figures below). We are designing and developing a new flexible, extensible prototype in JavaScript, SQL and related tools, based on prior Capstone team development.

6. **NJ Courts**
   Criminal systems Intelligent Automation (CIA)
   Cara Giovinazzo (Administrative Specialist, EEO/AA)
   Create a mobile application to automate the identification of all complaints generated by the law enforcement for a particular arrest episode of the defendant. This will help to replace the

existing manual process followed by pre-trial staff as part of the Criminal Justice Reform, to review the list of complaints on a screen and manually selecting the related ones.

7. **NJ Courts**
   PAPERLESS PARKING ENFORCEMENT SYSTEM
   Cara Giovinazzo (Administrative Specialist, EEO/AA)
   Design, build, test, and deploy a paperless parking enforcement system prototype consisting of a simple ticketing app, a server-side web app to persist and share data, a ticket lookup kiosk app, and a public mobile app.

8. **Barat Foundation Creation Nation**
   Animodule Smart Phone App
   Chandri Barat (Executive Director)
   Continue progress made last semester on our Animodule Smart Phone App.

9. **NJIT**
   Digital Humanities Database Project
   Carol Johnson (Associate Professor)
   Create an online database for historic Indian court records. Page images will be displayed next to text transcription. The transcription may be an editable Wiki so that users can make corrections and add references. There are 72 notebooks, each with approximately 1000 pages, so uploading and managing the data is an important part of the project. This is a multi-semester project.

10. **BEACHBOXNOW.COM**
    BEACHBOX APP AND SITE BUILDOUT
    Strobel Wayne (Owner)
    Problem: Currently unhappy using 3rd party app BEACHBOX by fitmetrix in the app store and google play. This is a program that shows heart rates on screen during workout. Create a new platform that mirrors what fitmetrix does for health clubs: This includes: On Screen Heart Rate Monitoring using ANT+HR Monitors. Incorporating the following APIs: CLUB READY - Backend club management system API. IMPACT WRAP - Punch Counter API. PERKVILLE - Loyalty API. SHAPE SCALE - 3d imaging.

11. **STOP AND STAIR**
    Create Ecomm platform for designing own staircase
    Strobel Wayne (Owner)
    Complete project that started two semesters ago for a full ecom site where user can design own staircase and we print and ship in house.

12. **ISC2 NJ**
    CyberSecurity - Open source vulnerability scanning and test environment:
    Cindy Cullen (President)
    Goal of project is to develop low cost security vulnerability scanning environment. The students will learn how to setup compute environments in the cloud, install open source software. They will learn about various cloud providers and what free services are available, architect server solution and setup servers in cloud, install software and run tests, and run the tools installed against the test environment, determine false positives and develop reports.

13. **NJIT**
    NJIT Presenter
    Michael Smullen (Director)
    A PowerPoint replacement featuring: 1.Stock background videos instead of static pictures. 2. Standard NJIT typefaces. 3.Limited to 10 slides 4.Automatic posting of slides to a preselected

social media account. 5.Instant feedback area from Tweets or Facebook postings with a given hashtag. 6.Responsive design visible on phones, laptops, monitors. 7. WiFi accessible

14. **D3 Unified Communications LLC**
Database Query for Management Reports
Imran Dalvi (Chief Financial Officer)
The primary objective is to create ad-hoc and pre-defined management reports. This will be accomplished through a well-structured database for retrieving information from the D3UC platform through user defined queries and the design of a back-end and modules for the retrieval of data to create management reports. The user interface will allow reports to be generated based on the primary data elements (column name). Client software interacts with the database to process the query and generates the requested report.

15. **UPS**
Computing Facility Mobile Survey
Brian Bollard (Infrastructure Architect)
Create an application using mobile technologies and concepts such as image recognition and dimensional estimation that creates a 'survey' of the IT Computer Room including room size, location of equipment racks and the type of equipment located within each rack.

16. **WeFi Technologies LLC**
WeFi: Share Wi-Fi - Get Money
Jonathan Wiggins (Founder and CEO)
Software Solution: We need the NJIT Team to brainstorm software-only solutions that will allow people to securely share their connections. Hardware Solution: We need the NJIT Team to build a dongle that can connect to any internet connected router (via LAN port or WiFi) and that will broadcast a common SSID that our users can connect to and access the internet from.

17. **BCT Partners**
Equitable Social Impact Modeling Workflow
Lawrence Hibbert (President)
Develop an analytics workflow in an open source analytics platform, Knime, that will serve as a repeatable, adaptable Equitable Social Impact Modeling engine to be cost-effectively applied to government and nonprofit program administration data sets. In addition to removing selection biases associated with using non-experimental data, we have developed an add-on modeling procedure that can assess and evaluate if services, interventions, decisions have been provided/made equitably when it comes to race, ethnicity, gender and/or any other factor that shouldn't alter if and how someone within a social service system gets treated.

18. **YAI**
Person-Centered technology Audit
Cindy Briney (Director of Technology Applications)
In order to assess our capacity to develop person-centered technologies fro each individual we support, we need to assess and document the technical infrastructure in each of our facilities then perform a gap analysis and determine a strategy for moving forward.

19. **YAI**
YAI Apps: A Day in the Life
Cindy Briney (Director of Technology Applications)
Organically all across YAI programs people we support are using applications on tablets and phones for everything from basic communications and language acquisition, managing their daily schedules, navigating the community to meal preparation. We want to document this activity and compare to external use of applications and determine best practices for use

within YAI. Research and document cutting edge applications of virtual reality and augmented reality to assist in developing YAI's strategies in these areas.

20. **YAI**
IoT Platform Assessments
Cindy Briney (Director of Technology Applications)
Building off the successful NJIT Capstone Proof-of-concept project of 2017. Research, Assess and document IoT platforms and ecosystems to determine device-level data management solutions that will be viable within YAI's technical architecture.

21. **YAI**
Smart Home Technologies
Cindy Briney (Director of Technology Applications)
Multifaceted Assessment of Smart Home technologies in today's market and given YAI's support mode of person-centered planning to maximize independence and quality of life and YAI's IoT strategy recommend viable approaches to Smart Home technologies and infrastructure that support both YAI's philosophical approach and represent the technical solution. Build off the successful NJIT Capstone Proof-of-concept project of 2017 to create a working pilot.

22. **Net@Work**
Professional Services Application - implementation
Vera Margarita (Chief People Officer)
We are converting from our current time/attendance/project management system to a cloud based PSA that is part of MS O365. This conversion is very complex as it requires mapping of data and functionality, testing and training to the entire organization. This is a mission critical implementation as our licenses for our current application ends June 30 2018. All of our end users must be ready to work on the new system by July 1, 2018.

23. **BookSwap**
BookSwap
Christopher Domey (President)
This is a peer to peer "books-wapping" platform that allows students to locate used book on campus or within a geographical range. The platform will need an easily updatable database containing all current courses in member universities and all required textbooks for those courses (including title, ISBN, author, etc)

24. **Pullup Parking**
Pullup Parking For Android
Vinicius Frigatti (CEO)
Pullup is a mobile app in which users can buy and sell street parking spots in crowded cities like New York City. The app is currently only available on iOS and we would like to create an Android version of the app to reach the Android market.

25. **Broad USA Inc**
Website Optimization and Promotion (SEO)
Kevin Fu (Vice General Manager)
We plan on doing three projects. A database for Customer Segmentation, website optimization and equipment/model selection calculator.

Entrepreneurial Projects

1. **Intrinsic Cafe App**
   Connor Watson <cww5@njit.edu>
   Create an Android application for Intrinsic Cafe, then port it over to iPhone at some point in the future as well. This application will help to make it easier for customers to know ahead of arriving what to order and can see the nutrition facts of their order.

2. **Registration Helper**
   Michael Tsiang <mgt23@njit.edu>
   Instead of crowding into the counselors' office and waiting in hour-long lines to ask simple scheduling questions, students can skip the stress and use Registration Helper to get advice about what they should be taking in the upcoming semester.

3. **Luciferious Weave**
   Daniel DeMartino <dmd32@njit.edu>
   Develop an integrated Web Infrastructure to serve as the foundation for an integrated media class IP management system. The project will consist of building a low-level backbone architecture and frameworks for an integrated streaming, social media with micro-blogging capability, and e-commerce platform with tiered access via different paid subscription accounts.

4. **IT Helpdesk with Analytics**
   John Cummings <jic6@njit.edu>
   It will allow helpdesk workers easily input information that they collect from trouble phone calls, and allow them to assign technicians to the issue. It will automatically send follow-up emails to the assigned technicians who will have the choice of responding to the email, or logging into the system and updating the status, and resolution to issues.

5. **Gale's Tale**
   Babatunde Ojo <babatunde@rybastudios.com>
   Gale's Tale is a 2-D strategic/puzzle platformer that will test the players ability in resource management, decision making, and maneuverability.

6. **Containerized Web Application for Tutor Management for Educational Institutions**
   Michael Anderson <mga25@njit.edu>
   I am proposing to build a containerized, open-source application that would allow educational institutions to better manage their tutoring programs. The system would provide for the scheduling of appointments, communication between students and tutors, and collaborative discussion between students moderated by tutors and organized by topic.

7. **Experience NYC**
   Steven Dias <ssd42@njit.edu>
   The idea is to make a website that will serve as a platform for people to share trips and create estimates of how long and how much money it would cost to do so. This semester will focus on NYC as it is one of the most popular cities for "an adventure".

8. **No Pressure**
   Faizan Anwar Khan <fak5@njit.edu>
   This mobile application provides users with a fun and practical learning experience and helps them to the develop necessary conversational, social, and critical thinking skills. The technologies needed to make this project successful are Java, mobile application

development (Android), HTML, CSS, JavaScript, SQL and UI/UX.

9. **Highlander.io**
Francis Pastor <fcp3@njit.edu>
Highlander.io is a social media platform that aims to solve the issue of communication through educational social platforms such as Moodle. It is a solution that tries to simplify communication between peers of certain classes/class sections, making collaboration between classmates more approachable and streamlined.

10. **AppItUp**
Colin Pope <cp286@njit.edu>
AppItUp is a service which brings together visionaries who don't know how to make their idea a reality with developers and teams of developers who do. Applicants should have strong technical skills and above all an ability
to learn new technologies quickly, a sense of vision. Two positions of
paramount importance will be a designer and front end developer as
well as someone with a strong background in security.

11. **Etsal**
Alisina Saberi <as2487@njit.edu>
Etsal is a message board catered to the NJIT community. This app is a way for the students, faculty, and staff of NJIT to fully express their opinions about the school, organize events, and gain accurate insight of what the community really thinks, while being totally anonymous. Experience with web development desired. Android or IOS experience a plus.

12. **Magents**
Bob Provencher
Magents is a dungeon hack game with a difference. It's the ultimate God Game. Players imbue dungeon characters and monsters with abilities, senses, equipment, treasure and goals and watch them learn. Using the Unity Engine and the just announced Unity ML - Agents (Beta) we will develop a dungeon hack game and learn about and using the new ML engine from Unity. Machine Learning is already the next big thing. The technology behind Speech Recognition, Siri, Self-driving cars and numerous other applications is here, now. Experience or ability to work in C# desired. Unity experience not required, but can be helpful. We will learn the Unity Engine and ML together and have a great time while doing it, watching our creations learn!

13. **Panic Pinnacle**
Stephen Coluccio <smc53@njit.edu>
Panic Pinnacle is a frantic race to the top where only one is crowded the victor. Players will race to the top of a tower in quick rounds, and the player with the most points wins the match. This will be a 4 player local multiplayer game for the PC. Currently, this is planned to be a 2D game built in Unity. However, technical specifications will not be finalized until the team has met and discussed the project. Game programming.

14. **MealHunt**
Khadir Williams
MealHunt is an Android application that helps users find restaurants with friends. Users can create a group with friends and set a mile radius around a position. The app will show all of the restaurants within that radius and allow the users to individually choose restaurants that they would be willing to eat at. The restaurant with the most votes is the chosen place for that night out! Experience with Android and/or backend web development.

15. **ResPort**
    Chidanand Khode <crk23@njit.edu>
    ResPort will address the difficulty and inability of students finding research opportunities in NJIT. After extracting student opinions by circulating surveys, I created a website, named NJIT ResPort (Research Portal). However, the website is not mobile-friendly, and so for this capstone class, this project will focus on making ResPort mobile-friendly in three ways: making the actual website formatted to a mobile screen, developing an Android app for ResPort, and developing an iOS app for ResPort. Android development, HTML, JS, CSS, PHP, Swift and iOS development. Students should be dedicated and hard working, and while it is very possible that one may not possess all the skills, or not be adept at some of them, those that have the will and motivation to learn something new can also join the team upon consultation.

16. **Not Your Mother's Board**
    Angela Vitaletti <agv7@njit.edu>
    In "Not Your Mother's Board," employees, students, and hobbyists will all be able to learn the basics of how PCBs function by building them from the ground up. Choose from a preset of different devices like the ones mentioned above and get to work! Pick the components, solder them in place, then test your creation once it's complete. Experience with game programming or simulation programming a plus. VR possibilities will be explored.

17. **Blood Donor Finder**
    Muhammad Khalid <mbk9@njit.edu>
    Blood donation is a generic app based system which will facilitate blood donation societies, hospitals, institutes and individuals in case of need of blood. This is a complete volunteer work considering the situation nowadays where there are so many emergency situations and no proper system to fulfill the demand of blood. Skills/Interests Android Development Skills, Java, Firebase, Geolocation, Geofence.

Capstone Students

Undergraduate

Abanob Mikaeel
Abdelrhman Moustafa
Abderrahim
Mechtemel-Belkad
Adam Spryszynski
Addae Amofa-Boachie
Adnane Errachide
Afifa Kadam
Ahmed Mahmoud
Ahmed SanaUllah
Aidan McGourty
Ainsworth John-Mahon
Ajay Patel
Alan Romano
Alan Samson
Alan Yanza
Aleksandr Markenzon
Alex Osmanoff
Alexander Britch
Alfonso Austin-Rivera
Alisina Saberi
Amine El Marrachi
Aneesh Muthiyan
Angela Vitaletti
Anthony Morales
Anthony Whitley
Antonio Mistretta
Arvindh Krishnamurthy
Ashish Devanapalli
Atah Abdi
Ayrton Ventura
Babatunde Ojo
Bichoy Hanna
Bo Thompson
Bob Provencher
Brandon Go
Brandon Wilson
Brian Goodwin
Bridgen Parekh
Carlos Medina
Carlos Mondragon
Charles Luna
Chidanand Khode
Christian Paolella
Christian Rubio
Christopher Czarnecki
Christopher Lindgren

Coleman Degeorges
Colin Pope
Connor Watson
Daniel Barron
Daniel Demartino
Darren Gomez
Darshil Patel
David Guardia
Deepesh Lad
Dhruv Parekh
Dhruv Shah
Ebram Kerolos
Edgar Chicas
Emil Mora
Eric Koshykar
Erika Reyes
Faizan Khan
Francis Leonardo
Francis Walko
Francis Romeo Pastor
Gabriel Plewa
Gary Avendano
George Maghamez
George Su
Gustavo Buitrago
Harsh Patel
Heeral Patel
Henry Vanblake
Himavarsha Ravi
Hrishi Patel
Humza Mujib
Ilaxy Patel
Immanuel Monahan
Inderpal Singh
Ines Vujkovac
Jagger Ferreira
James Hallihan
Jason Odoom
Jason Rodd
Jean Gomez
Jeet Patel
Jeffrey Santos
Jeffrey Yoo
Jerrod Ransom
Jessy Nangini
Jeury Mejia
Jil Sheth

Jimmy Lu
Jimmy She
John Cummings
John Losito
John Saleb
Jonah Silencieux
Jonathan Aguilar
Jonathan Builes
Josh Williams
Joshua Olayinka
Joshua Owusu-Gyimah
Julian Centanni
Karim Dallas-Newell
Karina Palaric
Kathleen Nguyendon
Katy Nyby
Kautilya Chauhan
Kee Hyun Jung
Kenneth Eisenhardt
Keun Kong
Kevin Butryn
Kevin Le
Kevin Patel
Keya Shah
Khadir Williams
Khanh Dang
Khari Davis-Fletcher
Kimberly Lozarito
Krishna Khamar
Kruti Patel
Lambros Filippidis
Louis Eastman
Lucas Rigo
Luis Montenegro
Luke Seuffert
Mahmood Khan
Maitrey Patel
Manahil Riaz
Manish Singh
Maryam Elhadad
Mateusz Stolarz
Matt Curry
Matthew Dwyer
Matthew Muscarella
Maxim Tillmann
Mehdi Kettani
Mehtab Sidhu

Meilin Lu
Michael Anderson
Michael Tsiang
Miciah Mack
Mickey Somra
Mihad Chowdhury
Misil Pathak
Mohammed Zakaria
Muhammad Khalid
Myles Alcala
Nicolas Santiago
Norman Eidelman
Oliver Cimafranca
Palash Jain
Parsha Haq
Patric Fujikawa
Patrick Laka
Paul Clemente
Pritinder Singh
Rahul Halder
Rahul Syal
Ralph Legge
Rashmin Patel
Rempee Kalia

Richard Mendoza
Ritu Patel
Robert Calamari
Robert Slawinski
Rohanbhai Mavani
Saahil Govani
Sagar Patel
Sagarkumar Patel
Saichandan Atluri
Salonia Burt
Sameer Chakraborty
Samuel Girgis
Samuel Hands
Sanil Shah
Segun Akowonjo
Shabo Mulic
Shail Shah
Shamyra Rojas
Shannon Hargrave
Shreyas Ramanujam
Spruha Shah
Stephen Coluccio
Stephen Viola
Steve St. Edward

Steven Dias
Sumit Rawat
Tameem Haj-Ibrahim
Tanawat Huntakul
Tariq Khan
Taylor Tu
Theodore Hinanto
Theresa Wagner
Thomas Grzywacz
Thomas Harrigan
Varun Patel
Vencente Gilmore
Venkat Yellepeddi
Victor Cornejo
Vishaldeep Singh
William Yang
Yaghsha Shah
Yash Shah
Zakaria Ismaili
Zibin (Benny) Guan

Graduate

Aejaj Sande
Aravind Narayan
Arun Somasundaram
Deephak CSA
Himanshu Jajoo
Jaykumar Mistry
Kavita Sharma
Krishna Nelloore
Krishna Chelluboyina

Naman Sharma
Parikshit Madahar
Pooja Daas
Pratik Kharadi
Prerna Jha
Rahul Shetty
Ranjith Janardanan
Ratanamolsingh Khalsa
Rehab Taha

Sachin Guleria
Saily Sawant
Saurabh Pore
Shantanu Sharma
Siva Angajala
Vaishnavi Adapala
Wei Wang
Xiaoya He

STAGE

Registration