PRINCIPLES OF SOFTWARE ENGINEERING

The primary objective of this course is to introduce the student to core concepts in software engineering in an effort to prepare the student for industrial scale software systems and the ability to work in software development teams.

DR. LOFTON BULLARD

is a native of Miami, Florida. He is currently a Senior Instructor and the Associate Director of the CAPTURE Program in the College of Engineering and Computer Science at Florida Atlantic University.

Each semester, his software engineering classes present their software projects at the end of the semester Software EXPO. He received his Ph.D. degree in Computer Science from Florida Atlantic University in Boca Raton, Florida. His research interests include data science, machine learning and cloud computing. Dr. Bullard has helped students achieve their academic and professional goals for more than 27 years through mentoring, advising, and teaching.
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Alzheimer’s disease (AD) is a debilitating disease that affects an estimated 4 million Americans. Although not directly the cause of death, complications from the disease leads to death. It is the fourth leading cause of death in the country for adults between ages 75 to 84. According to People’s Medical Society, AD “is a progressive, degenerative disease that attacks the brain and impairs memory, thinking and behavior” (Hay 1996). Because the disease progressively gets worse over time, early detection is crucial to preserve the patient’s quality of life and longevity.

According to the American Journal of Psychiatry, there are seven stages of deterioration in AD. It ranges from no symptoms all the way to motor rigidity. There are four main ways to diagnose AD: physical, neurological, laboratory, and neuropsychological exams. Physical exams are conducted to assess the patient’s risk factors for the disease. Neurological exams are performed to rule out other diseases. Laboratory exams typically involve blood tests and brain imaging scans. Finally, neuropsychological exams involve psychometric tests like the MMSE and clock drawing.

These are typically used both as early detection and follow up for the diagnosis of AD (Mulligan, Van der Linden, & Juillerat 2003).

Our team’s vision is to create an easy to use iPhone application, brainCog, to aid in the early detection of Alzheimer’s disease. The app is a series neuropsychological exams. It is based on Ohio State University’s SAGE (Self-Administered Gerocognitive Examination) and TYM (Test Your Memory). The app is available at the Apple AppStore. The user or loved one simply downloads the app, creates a user account and then takes the test. Upon completion, the test data is sent to our servers where the drawing portion of the test is graded by a qualified medical professional. That professional then looks at the software graded score, calculates the overall score, and makes a determination if more tests are needed. At that point, the user is notified through the app with the result.
TEAM MEMBER BIOGRAPHIES

ANDREW STALLONE - PROJECT MANAGER

A senior at FAU pursuing a degree in computer science. His main interest is programming for mobile applications. He is currently working at Apple, with hopes of advancing his career as a developer for Apple. Although free time is rare, Andrew puts his creative mind to work and creates mobile applications useful for his daily routines.

ANDRIY FEDORYCHEV - QUALITY ASSURANCE

I am Ukrainian American, I have moved to US in 2005 and became citizen in 2012, I have worked in IT for past 12 years with job ranging from System Admin to Support to Quality Control. I am currently undergrad trying to achieve BA in Computer Science, it is taking a bit longer for me due to 50+ work week and need to spend time with my wife.

BENJAMEN AGUSTIN - TECHNICAL WRITER

A junior in FAU majoring in Computer Engineering. He was first introduced to computer programming in high school when he joined the school's programming team in his junior year. He first learned Turbo Pascal in school. He then taught himself C/C++, HTML, CSS, and JavaScript on his spare time. He is currently working for AT&T, and he aspires to switch over to the IT side of the company upon graduation.

JING WEI LIN - TEST ENGINEER

An undergraduate student at FAU. He plans to graduate in fall of 2016 with bachelor of science in CS. In addition, he plans to start his graduate studies also in CS at Florida Atlantic University starting spring 2017. He loves new technology, latest gadgets and innovation. His favorite hobby is coding. He is proficient in C++ language. Moreover, he understands Python, JavaScript, PHP, and HTML5.

RESHMA THOMAS - FRONT END DEVELOPER

A junior in Florida Atlantic University (FAU) majoring in Computer Science. She was born in Kerala, India and came to Florida with a dream to achieve “The American Dream”. She intends to graduate FAU in the year 2017 and aspires to work in a company that is environmentally focused. She has worked with C++, HTML, CSS, and PHP. With her basic understanding of these languages she has built websites

WAYNE BERNARD - SCRUM MASTER

A Junior attending Florida Atlantic University (FAU) with a focus of Computer Science/Computer Engineering. From an early age he knew electronics was his specialty and began coding and building websites since 6th grade. Having already experienced the work force for a number of years he decided seeking a degree would further benefit his career. He expects to graduate 2017

MATTHEW GREY - FRONTEND DEVELOPER

Currently studying Computer Engineering at Florida Atlantic University. He is set to graduate by spring of 2017. He helped work on finding samples for which test to be implemented for this project. CDA 3201 has been his favorite class at FAU.
Our vision is simple, ease the lives of those affected by cancer. Unfortunately, cancer is becoming more prevalent in today’s society. The news of a loved one being diagnosed with cancer is a devastating emotional burden, and with the amount of cancers, hospitals and other information out there, research can be as difficult as it is tedious, especially for a caregiver. This is where the idea for Cancer Information Hub (CIH) came from, software that will reduce the stress on those searching for cancer related information. This software is a website that acts as a hub for all things cancer related, reducing the difficulty and stress that searching for information may cause.

The website acts as a hub, that displays information from our databases. The user shall have no problem traversing the site due to the simplicity in the design. The information will be displayed clearly and concisely in a manner that anyone can understand. The user shall also be able to search for the different treatment options for the cancer they are researching, and which cancer centers provide those treatments.

Our team of developers took a waterfall approach combined with agile principles.

Each step was planned meticulously and then followed through with its completion. First we planned the dynamics of the database, what fields we needed and what categories were needed. Next we did our research, finding out what cancer treatments are located next. And finally we started designing the website, taking concepts from popular Medical sites while maintaining simplicity to ensure the users ease. The principles from Agile development stem from the fact that we will be updating the appearance and functionality of the website as we begin to add in more information.

With frequent updates and scheduled password changes to login to our sites server, our security surpasses industry standards. Our passwords are randomly generated and never reused to add to our websites security. And since there is a social aspect, when signing in the user will have to enter a verifiable email address as well as confirming they are not a Bot. This will ensure our users are as safe as possible.
TEAM MEMBER BIOGRAPHIES

BRIAN FLYNN - PROJECT MANAGER, DATABASE ENGINEER

Born in Rockledge, Florida, he is currently a Senior at FAU and is employed at Robertson Anschutz & Schneid P.L. where he has worked for nearly 4 years. Brian started attending Florida Atlantic University in the summer of 2011 where he was initially majoring in CE. In 2015 he changed his major to CS after becoming infatuated with programming. His favorite programming languages are C#, Java and C++, he also has a shallow web development background.

RYAN KELLER - DIAGRAM SPECIALIST

Born in South Florida and is currently a Senior in the FAU Computer Science degree program. Computer Science is my 2nd bachelor's degree following a degree in Physical Science from Florida State University. He is a hard worker who is willing to do anything necessary to succeed. He has experience with working in web development and mobile application development. The programming languages he is most comfortable with working is C, C++, and Java languages.

CALEB LOPES - DOCUMENTATION SPECIALIST

Currently a senior at Florida Atlantic University. He plans on graduating in the summer of 2016 with a Bachelors in CS. A few of his interests within the realm of Computer Science include: encryption cyber security, software development, artificial intelligence, and video game development. Caleb has built a couple small applications for both iOS and android in the past as part pet projects and school assignments. He has experience in C, C++, C#, Swift, Assembly, and HTML.

PEDRO SANTIAGO - SOFTWARE ARCHITECT

Senior at FAU studying CS. He is a native of Fort Lauderdale Florida and will graduate in the summer of 2016. His major interests in computer science include web development and security. He has used his skills of software engineering methods to develop a web application to help those affected by cancer. He has experience with object oriented programming languages such as C++, Java and PHP and has also built several websites.
TEAM MEMBER BIOGRAPHIES CONTINUED

BRANDON IRVING - LEAD DEVELOPER

A Junior at FAU, majoring in computer science. He plans on pursuing a career in software development and improving his skills in computer programming. Brandon primary interests in computer science are embedded systems and IOT (internet of things). He is adept in several programming languages, namely C++, Java and Web development code. He has assisted in the creation of several websites and has made Mobile applications in both Java and C++.

JOSE Perea - REQUIREMENTS ENGINEER

Senior at FAU studying Computer Engineering and minoring in Geomatics Engineering. He will graduate December 2016 and take ownership of a private Geomatics firm in Miami. His major interests in Computer Engineering include robotics, embedded systems, mobile applications, and computer vision. Joey has applied the theory he has learned in electronics and computer systems to be the lead engineer for designing and implementing an autonomous wheelchair.

EDWIN LUGO - TECHNICAL WRITER

Senior at FAU studying Computer Science. Born in New Jersey. He will graduate in spring 2017 and continue his education in computer science. His major interests in computer science is to develop software that would better humanity in health, task and more. He has used his skills in software engineering methods to develop several software applications to ease the quality of life for those affected by cancer. He is an expert programming in C, C++ and Java, and has built several websites.

CRISTIAN HERMIDA - DOCUMENTATION SPECIALIST

A native from Boynton Beach Florida, he is currently a junior attending Florida Atlantic University. Working towards his bachelors in Computer Science, he is interested in learning Data Science. With the skills he has learned in Computer Science, he has Designed programs for the MSP 430 in assembly and in embedded C and Implement stacks, lists, queues, trees, and hash tables in C++.
BeHelpful is a website created by the community, for the community. Made to help people from all ages find a way to improve the world one neighborhood at a time; BeHelpful allows community leaders to search for registered users based on what their motivations and interests are.

The volunteer can create a free account where they fill out their resume, indicating what their interests, past experiences, and goals are. Based on the user’s interests and location BeHelpful pinpoints nearby community service activities in which the user might be interested in.

The BeHelpful’s advanced search system tracks what the user has previously shown interest on and will match them with activities nearby in which they might have experience on or events in which they would be interested in providing their help with. BeHelpful also includes a personalized calendar, which tracks all of your past and upcoming events that you have registered for in order to keep all the user activities organized.

BeHelpful also looks out for the community by making sure that the users meet specific qualifications in order to go on with the event. Ensuring the community’s safety from users with potential previous criminal records, or registered sex offenders.

Not only is BeHelpful’s website perfect for finding activities at home, but it also has a great user-friendly phone app available for both Android and iOS where you can access your profile just as if it were on the computer and sends you notifications to your phone of any upcoming events.

BeHelpful started as a small team of seven friends from South Florida that wanted to help the community but did not know where to start. Remembering how hard it was to find places to get volunteer hours during high school, they set their hearts to create a website that would help high school students and adults alike to find community activities looking for help.

Starting first as only a website, the BeHelpful staff slowly found ways to implement new features in order to mold it into what the group of friends envisioned it to be. Resulting in the prototype website that we have today. Still striving to add more features in the future, BeHelpful is a project in the making with a lot of potential to help the community.
TEAM MEMBER BIOGRAPHIES

JAN CARLO ALDANA - TEAM LEADER, BACK-END DEVELOPER

Born in Miami Florida, and raised in Hallandale Florida. He is a senior at FAU studying Computer Engineering, currently working on his bachelor’s degree. He plans to graduate from FAU in Spring 2017, and wishes to continue his education and plans on getting his Master’s degree in computer engineering. His major interest are in Artificial Intelligence and Nanowire sensor & devices. His programming skills include C, C++, C#, Assembly language, IJVM, PHP, MySQL, and a bit of Java.

MICHAEL MERANI - IOS APP DEVELOPER

Senior at FAU studying Computer Science. He was born and raised in the city of Weston, FL. He will graduate in the fall of 2016 and begin his career. Already having a degree in Criminology, Michael hopes to pair both his degrees (Criminology/Computer Science) and enter the field of cybersecurity. He has already used his programming and critical thinking skills to build an iOS app to help people find community service opportunities. With his knowledge in programming languages such as C++, Java and Swift 2, he is motivated and eager to begin his career at the professional level.

STANLEY CHOULOUTE - FRONT-END DEVELOPER

Born in Brooklyn, New York on August 8, 1991. He then moved to Ft. Lauderdale Florida where he currently lives. He developed a love for computers and decided to attend Florida Atlantic University and is majoring in computer science. He is currently a senior in the College of Engineering and Computer Science program at Florida Atlantic University. He has one more semester before he graduates in Fall 2016 with a Bachelor’s degree in Computer Science. He is a recipient of the Capture Scholarship which helped him pay for college. Throughout his years in college he has developed programming skills in C, C++, C# and has built several websites. He has used his skills in software engineering methods to develop several software applications to improve ways for people to easily volunteer for service hours to the organization of their choice.
TEAM MEMBER BIOGRAPHIES CONTINUED

ANTHONY REYES - BACKEND DEVELOPER, TECHNICAL WRITER

A senior at FAU studying Computer Engineering and will graduate. He was born in Hollywood Florida; he is seeking work in this field. His major interests included embedded systems and web development. Anthony has developed simple websites and a community service app. As a student in Computer Engineering Anthony understands C#, C++, HTML 5, and PHP. His personality is very outgoing and easy to get along with. He also like to complete his work as soon as he can so he has time to correct any errors. Anthony current occupation is maintenance at the Marriott Resort on Hollywood beach.

RICARDO ARTEAGA - TECHNICAL WRITER

A junior at Florida Atlantic University. Currently studying computer engineering, he is set to graduate fall 2017. Born in Caracas, Venezuela, he moved here when he was 11 years old. With an uncle with a major in computer engineering, and a grandfather with a PhD in Metallurgical engineering, Ricardo decided to keep engineering within his family. Ricardo is knowledgeable with electronic hardware, he has worked in an electronics repair shop for a year which has helped him polish his microsoldering skills. Although, focused more on the physical aspect of electronics, Ricardo is also proficient in C, and C++.

RICHARD KARL - ANDROID APP DEVELOPER

From Sebring, FL and he is currently a Senior working on a Bachelor’s Degree in Computer Engineering at Florida Atlantic University. He plans on graduating from FAU in Summer of 2017. His major interests are currently programming as well as embedded systems. He has skills in programming in C, C++, Assembly, and has worked with Java and XML a bit. He has some experience in app development for Android platforms which started by making a weight management app called ScaleFit with other colleagues for one of their classes at FAU.

JACOB GASKILL - BACK END DEVELOPER

A senior at Florida Atlantic University studying Computer Science. He will graduate in spring 2017. His skills lie mainly with C++ and C, though he has built many websites using HTML5, JavaScript, and CSS. He is interested in building software and aspires to work for NASA in the future.
**FAUBOT**

**REDDIT BOT**

**WHAT IS IT?**

FAUbot is a suite of automated services used to inform and connect with FAU students on reddit.com. More specifically, FAUbot is a Reddit “bot,” which is an automated program that logs into a Reddit account and does everything a normal user does, like submit posts and leave comments. FAUbot interacts with users on reddit.com/r/FAU—a sub-community (a.k.a. “subreddit”) dedicated solely to FAU-related content. The bot’s features include sharing the latest news articles published by the University Press, reminding students of important academic deadlines, helping students buy or sell graduation tickets, and providing an up-to-date list of FAU events happening on all campuses.

**NEWSBOT**

FAUbot as a whole is made of four individual bots running in parallel, and one feature is the NewsBot. When NewsBot begins work, it checks the last time it shared a news article. If enough time has passed, it fetches all the articles published on the current day on www.upressonline.com, randomly selects one, and submits it to Reddit. Users on /r/FAU can then read the articles and discuss them in the comment section.

**ACADEMICCALENDARBOT**

AcademicCalendarBot reminds students of impending deadlines on the FAU academic calendar. When it begins work, the bot creates reminders for upcoming events. If a deadline is approaching, the bot submits a new post to /r/FAU containing all the details of the upcoming deadline. Students can discover new deadlines by browsing the subreddit and discuss them in the comment section.

![Figure 1: A central dispatch launches parallel bots that interact with users on Reddit.](image)

**TICKETBOT**

TicketBot allows students to find buyers and sellers for graduation tickets. Users leave comments or send private messages to the bot with specifically-formatted commands, telling it how many tickets they are buying or selling. TicketBot then adds the user’s information to a database, searches the database for other users, and tries to match a buyer and seller together. If it finds a match, it sends a message to both users with each other’s information.

**EVENTCALENDARBOT**

EventCalendarBot provides a list of FAU events updated in real time. When the bot begins work, it checks if an existing event calendar has been posted to Reddit and creates one if needed. The calendar post is simply a text post formatted with markdown to create tables and other visual styles. Next, it scrapes data from the event calendar on upressonline.com/fauevents. Using this data, EventCalendarBot updates the
existing text post on Reddit with the latest events and removes past events. Users can then view a single Reddit post containing the latest events, click links to read more information about the events, and discuss the events in the comments section of the post.

**DISPATCH**

The Dispatch system launches all the feature bots that collectively make up FAUbot. When the program starts, Dispatch reads configuration files to determine which feature bots should be activated. After it launches the feature bots, Dispatch sleeps and waits for a signal to end. Before Dispatch terminates, it tells each feature bot to terminate itself. Once all the feature bots and Dispatch are all terminated, the program ends.

**TEAM MEMBER BIOGRAPHIES**

**JOSHUA PALMER - TEAM LEADER**

A senior at Florida Atlantic University. He was born in Memphis, Tennessee, but he has lived in Florida his entire life. He is majoring in Computer Science and will graduate in Summer 2016. Joshua is currently an intern at Citrix Systems, Inc., and after graduation he will continue working there as a Software Engineer. Joshua is an advanced Python programmer and web developer.

**RYAN WOO - TESTING LEAD**

A senior at FAU studying Computer Engineering. He is a native of Nashua, New Hampshire. He will graduate in Spring 2017. His interests in computer engineering include network security and task automation. He has used his skills in software engineering to help Harvard University IT to automate part of the process of creating VPN tunnels. He has created programs in C, C++, Java, Javascript, PHP, and Python.

**ALDRICK GARDINER - DESIGN LEAD**

A senior at Florida Atlantic University studying Computer Science. His major interest in Computer Science is System Design and Database Management. He was born in Miami, Florida but grew up in the Turks and Caicos Island until the age of 18 when he relocated for higher education. After he attended Broward College, he transferred to Florida Atlantic University to pursue his degree. His future goals are to pursue his master's degree while gaining experience in the field in Computer Science so he can ultimately return home to help advance his country technology field.

**FADI CHREIM - DOCUMENTATION LEAD**

A senior at FAU studying Computer Science. His major interest in CS is Data Mining and Cyber Space. He was born in Beirut, Lebanon and serves in the United States Air Force Reserve as a Staff Sergeant. SSgt Chreim is a member of the base honor guard and a graduate of the Community College of the Air Force. He is also a full-time contractor and Chief Dispatcher for Phoenix Management Inc. servicing over 47 military bases. His long term goal is to earn his masters in Computer Science and utilize his knowledge and experience within the federal system to better serve and protect this great nation.
Team PFM, left to right, David Ferreira, Robert Gerdung, Facundo Candido, Brian Torres, Dillon Furst and Brandon Jadotte.

**MOTIVATION**

If a person where to go around the FAU campus and question students many of them would say that finding a parking spot is the most frustrating and stressful part of going to class. Although there are parking lots all over the campus, it can incredibly difficult to find a parking spot that is close to the building where your class is held. This is especially true during the morning hours and early afternoon when most students are taking classes. Not only can it be frustrating, but the search for a parking spot can cause some students to arrive late to class. Some professors have strict attendance policies, including reducing the grades of students who are late. The purpose of Parking for the Masses (PFM) is to streamline the parking process to significantly reduce the time it takes a student to park their vehicle, which will result in a reduction of stress among students and less occurrences of late attendance.

**SPECIFICS**

PFM will only apply to students with blue parking decals as red and green decals already have relatively close parking spots available to them. To use our system, students would create an account. Whenever a student is near the campus and needs a parking spot, they will log into the system and request a parking spot. The student would provide the building that they which to park close to and the amount of time that they will need the parking spot for. The system will automatically assign the student with the closest available parking spot to the designated building and will reserve that spot for that student for the amount of time requested. In the event that they need the spot for a longer period of time than originally anticipated, students will also have the ability to extend the amount of time they have the spot rented for. Parking enforcers will also be able to use the system to enforce the rules and guidelines for using it. Using their own accounts, they can view information of which spots have been reserved and by whom and will also be able to submit a report whenever they find a violation.
TEAM MEMBER BIOGRAPHIES

DAVID FERREIRA - TEAM LEADER
A senior at FAU studying in Computer Science. He was born in Winchester, MA and moved to Florida when he was 16. He plans to work in either Artificial Intelligence or Web development upon his graduation in Fall of 2016. He has used his skills to lead a team of six to create an app in order to improve the parking situation at his university. His ultimate goal when he finishes all of his schooling is to move to the Pacific Northwest and make a living in his computer science skills. He is dedicated and motivated, and is willing to show that to anyone who hires him or mentors him, present and future.

BRIAN TORRES - DOCUMENTATION LEADER
A senior student at FAU studying Computer Science. He is expected to graduate in Spring 2017. He was born on April 10, 1990 in Puerto Rico, but has lived in Florida since the year 2000. He has an Associate in Science degree and has experience using C++, Javascript, php, css and using Windows Server 2008.

BRANDON JADOTTE - PRESENTER, DOCUMENTATION
A 22-year-old senior at FAU studying computer science. He was born on July 30th and is a native from Miami, FL, but has lived in Palm Beach County for the past 5 years due to school. He plans to graduate in May 2017 and strives to have at least one app out in the market by then. In high school, he won 1st place at the CECF State Leadership conference for information technology in 2010 and it was then he realized that he should major in engineering. His greatest achievement was buying an old sports car with no engine/interior and restoring it from the ground up. He is a very motivated person and has hopes to be an innovator one day like Steve Jobs and Mark Zuckerberg.

DILLON FURST - DEVELOPER, DOCUMENTATION
Dillon Furst is a senior at Florida Atlantic University and is enrolled in the computer science program. He will graduate next Fall and then look for a job that suits his tastes. He is a focused worker when he is assigned work to do in group assignments and doesn’t mind lending a hand if needed. He has experience working in C++, brackets, and Java.

FACUNDO CANDIDO - LEAD DEVELOPER, ASSISTANT TEAM LEADER
Born in Argentina. Having always being interested in design and engineering, Facundo started out his academic career in architecture, but soon transferred to the field of Computer Science. Currently, he is a senior student at Florida Atlantic University expecting to graduate with a Bachelor’s in Science in Computer Science in Fall 2016. His main focus has been software development in web applications using RESTful web services and Anguaries to develop a system that allows users to report public hazards to the authorities. Upon graduation, Facundo plans to keep furthering his education towards a Software Engineering career, expanding from the systems he has built for FAU under the tutelage of Dr. Lofton Bullard.

ROBERT GERDUNG - DEVELOPER
A senior at FAU studying Computer Science. He is a native of Boca Raton, Florida. He will graduate in spring 2017 and continue his education in computer science. His interests in the field of computer science include artificial intelligence and security. He is proficient in the programming languages C and C++.
EXERCISE NOW!

TEAM SDC

Groups will compete in seasons lasting only a few months. The winner will gain gift cards or discounts at the local gym to add to the incentives. The app has the potential to be sponsored by a local gym, bike shop, or exercise facility.

Exercise Now! uses GPS coordinates to perform geofencing. This determines if you are actually fulfilling your gym challenges. GPS will also be used to track jogged miles. It's nearly impossible to prevent cheating through programming, so there will also be a system to report abuse (such as driving a car instead of jogging).

The app will connect to a “Parse” database holding all user’s information. This will allow the phones to store information that can be used across different networks. All the standard features of modern social apps will be included. A messenger, achievements, and progress stats will be included. Google provides an easy to use API for their Maps service. This will allow the locations in the app to stay up to date, globally, without much need for the development team to intervene. The UI will be built using an MVC pattern to enable quick and easy updates. Rules and challenges can be changed behind the backend API in inheritable classes.

By meeting a challenge, you can score points and issue a counter challenge. If you fail to meet a challenge, you allow the original challenger to take control of some pre-recorded sound bites on your phone. Until the challenge is met, you pay in points. The idea is to incentivize staying active at the gym while allowing light harassment if you fail to show up with gym buddies.

Using super classes to specify the the interface functionality should allow the app’s implementation to be more flexible. As better ideas come about and users start to get bored of current conditions, the developers can quickly and easily keep the app fresh and up to date.

Team SDC, (left to right) Dmitriy Redkozubov, Keith Scheuerman, Daniel Pettus, Anthony Chin, Adam Lovett

The “Exercise Now!” exercise app is an Android app designed to help push people to work out harder and more often. The largest problem facing people when they start a gym routine is building the habit into their schedule. Studies have shown working out in groups is 80% more likely to result in continued exercise. The app uses challenges set by your gym group to motivate you to continue to work out. Challenges might include spending a certain amount of time at the gym or jogging a certain number of miles.
TEAM MEMBER BIOGRAPHIES

KEITH SCHEUERMAN - TEAM LEADER

A senior at Florida Atlantic University. He will be graduating in summer of 2016 with a B.S. in Computer Engineering. Keith is currently working with Linux embedded firmware used in surface analysis equipment. During his tenure at FAU he was a member of the Marine Robotics Club and worked on autonomous watercraft.

DMITRIY REDKOZUBOV

A senior at FAU studying Computer Science and plans to graduate in Fall of 2016. His major interests in Computer Science include embedded systems and programming languages. He is not new to the industry and has been working in it for the past 5 years for the Randstad Technologies. The company is focused on development of software for embedded critical safety systems. Currently working as a software team lead developer for multiple aircraft subsystems for PC-24 Pilatus twin-engine business jet. He is responsible, well organized, enjoys critical thinking and problem solving and a good team player as well as a husband and father of 2.

ADAM LOVETT

A senior at FAU, majoring in Computer Science. As a native Floridian, he has spent most of his academic career at Florida educational institutions. Prior to enrollment at FAU, he studied at the University of Southern California, Santa Fe College, where he earned an AA in Economics, and the University of South Florida, where he earned a BA in Economics. He will graduate from FAU with a BS in Computer Science in spring 2017, after which he plans to pursue a Master of Science in Computer Science with an emphasis in computational perception and robotics. He is proficient in C, C++, JavaScript, and PHP.

DANIEL PETTUS

A junior at FAU studying Computer Engineering and plans to graduate in Fall of 2017. His interests in Computer Science include the Internet of Things and software / hardware co-design, system on chip designs and microarchitectures.

ANTHONY CHIN

A senior at FAU studying Computer Science. He will be graduating in spring 2017. His interests in computer science include app design, database management, and computer operating systems. He is very interested in autonomous car design and hacking for the use of cyber security.
MyMus is an online web environment which allows users to keep up to date with their favorite artists including, upcoming events, new music releases and social feeds. It will allow them to see news articles on the artists they follow, view upcoming concerts in their area, find related artists that they might be interested in, and provide the artists discography to possibly find new music from artists they like.

Artists are stored in a separate database with their musicbrainz ID, used for quick queries of the Musicbrainz api. Artist information is linked to their unique Musicbrainz ID. SongKick, another API system, is used to provide local concert information for these artists. Our motivation behind building this website was to be able to seamlessly follow various musical artists across all of their social media platforms in one convenient location. It was also a chance for all of us to learn a technology that is being widely used in the industry. It exposes us to web development using technology that has not been taught at FAU, and helps us grow as software engineers.

On top of this, MyMus will also recommend new artists based upon your current tastes and will feature up and coming artists to help provide a wider reach for locals and unknowns. This site is built off of the Flask micro framework for python which is used for backend development. Artist information is gathered via API calls from musicbrainz which is used to dynamically populate the web page based on user search, and users favorites. Users are stored as object in our database, for which we are using SQLite, with their own unique ID, login and general information.
TEAM MEMBER BIOGRAPHIES

MATTHEW MALLIMO - TEAM LEADER

He was born and raised in South Florida. It is where he received his high-school education at Marjory Stoneman Douglas and his Bachelors in Computer Science at Florida Atlantic University. He is currently employed full-time as a software engineer at Trivantis Corporation, a company that develops eLearning software. Matthew Mallimo has an extraordinary ability to learn new technologies quickly and apply that knowledge to produce working prototypes. He is not one to give up on a problem easily, and will spend as much time as needed to gather the information he needs and provide a solution to it. He is always looking to improve his ability to develop software and always looks to the newest technologies when starting projects.

JACQUES MENASCHE

An IT professional apart of the Information Security department at Broward County Public Schools where I am the IDM Manager, Active Directory Specialist, and Office365 Tenant Administrator. He is a highly organized, results oriented IT professional with a solid reputation for creative, innovative corporate and personal growth.

ANDREW COOPER

Originally from the Treasure Coast, Andrew Cooper is a Senior studying Computer Science at Florida Atlantic University. Originally focusing on mathematics at Indian River State College, he found his passion when he was introduced to programming at FAU. Currently Andrew works at Trivantis Corporation as a software QA intern. At Trivantis he automates regression test cases using a framework he developed using Selenium 2.0. When he is not studying, training for cross country running, or at work, he spends his time as a full stack developer for various web apps. He has experience in a variety of programming languages including: C, C++, Java, PHP, javascript, Ruby, Python and SQL. Andrew plans on pursuing any opportunity that helps him grow as a computer scientist, especially if that opportunity is in the field of bioinformatics.

ROBERT WILSON

A junior at Florida Atlantic University majoring in Computer Science. Hailing from Georgia, he made his way to South Florida for a change of pace to focus fully on his studies. He will graduate Fall 2017. Primary interests in his field are database management and security. His skills in programming languages and software engineering have been used to provide QA services during an internship with an eLearning Software company as well as begin development on logistics software for a transport company.
TEAM MEMBER BIOGRAPHIES CONTINUED

RAJKARAN PHULL
A senior at FAU studying Computer Science. He is a native of Miami Florida. He will graduate in Fall 2016 and continue his education in computer science. He resides in Miami, FL. His major interests in computer science include web development and big data analytics. He has used his skills in software engineering methods to develop several software applications to improve the quality of life for senior citizens. He is an expert programming in C, C++, HTML, CSS, and has built several websites. His hobbies include playing basketball, playing video games, and listening to music.

ERWIN GARCES
A senior in computer Science. He was born on February 22, 1991 in Manhattan, New York and moved to Florida at the age of 10. He will graduate in Fall 2016 and continue his education in computer science. His major interests in computer science is Animation and C++. He has been working at Best Buy as a Geek squad agent to get hand-on knowledge on fixing computers. He is an expert programming in C++.

JONATHAN GOELZ
Jonathan Goelz is senior at FAU studying Computer Science. He was born 4/4/1990 and is a native of Phoenix Arizona. He will graduate in fall 2016 and continue his education in computer science. His major interests in computer science include front end web design. He completely funded his entire college experience without loans. He moved to Florida and has been an extremely hard worker to fund his life out here. He has been a bartender and a waiter for the last 8 years to pay his way through college. Ask any of his employers they will say he has never called out of work once. He has used his skills in software engineering methods to develop several software applications to improve the quality of life for airplane mechanics for a company called bnhart solutions. He is an programming in C, C++, PHP, Javascript, Jquery, HTML, CSS, and has built several websites.
ON TIME, ALL THE TIME

BY TEAM TIME MASTERS

This can be accessed with the mobile app also implemented for use of the system on a smartphone. If a student takes a picture of a slide in class, they can use their phone to upload that image to the file vault so that they can access that file from any device. A student can also take their notes on the go without having to take a bunch of binders with them by uploading their notes to the file vault from their computer and then access them anytime, anywhere. Our system also offers the ability to securely store all the passwords a student creates to access their favorite websites to make sure that a student’s workflow is never compromised by a forgotten password.

All of these features are implemented using various techniques. The websites are developed in a PHP, HTML5, and the JavaScript environment with MySQL used for the database. The system and its database is hosted from FAU’s LAMP server. The architecture of this project is built around the central calendar. The user will arrive at the main welcome screen where they can log in or sign up. The login information is securely stored using salting and hashing techniques in a MySQL database. Once this is complete the user arrives at their calendar homepage. On this homepage one can view and edit their calendar as well as access the vault. The events on the calendar are retrieved from the database and loaded to the calendar with AJAX. When storing a file, the file path is stored in the database and the file itself is then placed on server side storage. The mobile app also connects to the website and all other features. The diagram below shows this architecture:

Team Time Masters, left to right, Oscar Day, Richard Wiggins, Ahmed Awada, Kewal Patel and Aalap Pandya.

OnTimeStudent is a system that helps students manage their time. It is very easy for a student to get disorganized with everything that they have to keep track of. Students have to manage not only their class with homework/projects, but also manage other extracurricular activities, work, and personal life. For this project, all of the team members are current students so we know exactly how hectic life can be for a student. We are determined to create a simple solution for students’ to increase their productivity. The system provides a modifiable event calendar which allows students to keep track of assignments, classes, and other extracurricular activities. A file vault implemented also provides students with a place to hold and keep track of their assignments and even information such as passwords that need to be secured. Instead of worrying about forgetting or losing information, students can connect with OnTimeStudent.

The calendar has the ability to store events that are added by the student. These events can be anything an industrious student would need to remember, such as an upcoming exam or when their study group is meeting. The file vault allows students to upload files or pictures so that they can take them on the go.
We developed the project with Agile Development methods. All of the team members agreed that requirements and solutions should evolve through collaboration. We decided that we should assign weekly tasks and each member present their findings in weekly meetings. This ensures that progress is being made and things are moving along. As we’ve moved along with our project, new ideas have been brought up and changes have been made which were easily accommodated with incremental development without having to do an entire rework of the project. We also used the reuse model by finding frameworks that assisted the development of the project such as bootstrap templates for website development. This, along with the incremental model, allowed us to create a professionally built system under the required time constraints.

In conclusion, OnTimeStudent provides the ability to organize the busy life and schedule of students at home and on-the go. It is created by students for the students. Our system is a one stop shop for everything a student will need to have to stay organized and have academic success.

TEAM MEMBER BIOGRAPHIES

OSCAR DAY - TEAM LEADER

A student at Florida Atlantic University. He is from Broward, Florida and was born in '97. He is a pursuing a Masters in Computer Science and will graduate Fall 2017. His major interests include Web technologies, 3D-printing, and other related fields. Oscar also has work experience as an independent technology consultant for various small businesses as well as field experience with networking and web development. His software skills include C++, PHP, and JavaScript. He is also proficient with HTML, CSS, MySQL, and Bootstrap. For Summer 2016 he is the group leader in developing a time management system in which he will apply these skills to build OnTimeStudent with other team members.

AHMED AWADA - FULL STACK DEVELOPER

A senior at FAU studying Computer Science. He was born in Boynton Beach, Florida. He is getting ready to graduate at the end of this summer in August of 2016 with a Bachelor’s Degree. Ahmed’s major interests include web development, big data analytics, and embedded systems. He is currently interning as a software developer at LexisNexis. He is working on web applications that serve a team whose product is used worldwide to verify individual and business information. Last summer he also interned at LexisNexis as a QA intern. Ahmed looks to continue his education in Computer Science by working towards a Master’s degree. He hopes to work as a web developer and expand his knowledge in the field. His programming skills are well-versed in C, C++, PHP, JavaScript, and has built several websites utilizing HTML, CSS, and MySQL.
RICHARD WIGGINS - DATABASE SPECIALIST

A native of Boca Raton, FL and is currently a senior at Florida Atlantic University. He currently works as a Software Engineer for LexisNexis and plans to graduate from FAU with a bachelors in computer science in Spring 2017. Some of his major interests include data analytics, statistics, and data mining. Using his skills and interests, he currently develops software for LexisNexis to help solve problems related to healthcare.

AALAP PANDYA - DOCUMENTATION & COMPLIANCE

Born in Bangalore, India in 1995 and moved to the US when he was 5. He is currently working on his bachelor’s degree as a senior at Florida Atlantic University majoring in Computer Engineering. He will graduate in Fall of 2017. He chose computer engineering as his field of study because computing is an important part the world as the possibilities are endless to create and innovate new technologies. His major interests in computer engineering and computer science include android and web development as well as embedded systems and other related fields.

KEWAL PATEL - MOBILE DEVELOPER

A senior at FAU studying Computer Engineering. He was born and raised in India, He came to USA to attend college. He will graduate in fall 2016 with his Bachelors in Computer Engineering. After graduating he will continue his education by pursuing his Masters in Computer Engineering. He is an expert in C, C++, HTML, CSS, and JavaScript for android. He is interested in Web development and application development. He used his skills to make several applications for android device and some websites.
What is it?

In the era of over-information it is often difficult for fast-paced individuals to find time to educate themselves with what is happening in the political sphere. USElect will filter through all the extraneous information for you and show you only what you need to see to make an educated decision in the voting booth.

This is how it will work:

1. **Search by zip code.**
   a. See sample ballot corresponding to zip code entered.
      - Sample ballot will include all politicians running for office and profile pictures
         - Each politician will have a profile will all relevant information.
      - Sample ballot will also include amendments, or initiatives currently in progress.
         - An explanation of each amendment will also be included.

2. **Search by Politian name**
   a. You can view a candidate’s profile which can include:
      - Party affiliation
      - Age
      - Views
      - Incumbent or not
      - Political Experience
      - Political endorsement
      - Legislative endorsements
      - External links for additional resources

With the 2016 election nearing, the importance of knowing your candidates has never been higher. We need to put the power back into the hands of voters, literally, through smartphones and tablets, in order to raise political awareness amongst Millennials.
TEAM MEMBER BIOGRAPHIES

SPENCER FINCK - TEAM LEADER, BACKEND DEVELOPER

A native Floridian studying Computer Science at Florida Atlantic University. His hackathon group Rhox.Tv won third place in the IBM hosted event in spring of 2016. He was also granted a Summer Undergraduate Research Fellowship (SURF); this rapid-pace summer research will leave him with a published work in Vehicle to Vehicle communication. His skill set includes: Python, Assembly, C++, C#, Java, Linux, Photoshop, Autodesk 3D design, Lightwave, HTML UML, and Flash. His Plan for his first PhD is in computer science, focusing on dynamically evolving art on embedded displays.

SHREYA AGGARWAL - FRONT END DEVELOPER, DESIGNER

A senior at FAU majoring in Computer Science. She was born in India and immigrated to the US in 2000 until finally moving to south Florida in 2005. She will graduate in fall 2016 and continue her education in computer science to earn her master’s degree. Her major interests in computer science include scientific computing and web design. She has used her skills in software engineering methods to assist genetic counselors improve their workflow. She is knowledgeable in programming in C, C++, and HTML/CSS as well as SQL. Her passion for technology motivates her desire to learn constantly and quickly grasp concepts.

VICTOR ABADIA - DATA ANALYST, COMPUTER SYSTEMS ENGINEER

A senior at FAU studying Computer Science. He is from Coral Springs, Florida. He will graduate at the end of summer 2016. He is currently working as a Quality Assurance Specialist at Progeny Genetics, and plans to continue in his role there after finishing his degree. His largest interests in computer science include database management, web development, and C++. During his time at FAU, he has created several websites and obtained a full time job in the field where he gained familiarity with database design, agile programming methods, and quality assurance techniques.
MARK ESPINOSA - LEAD DEVELOPER AND USELECT FOUNDER
A young Entrepreneur taking Computer Science classes at FAU in order to tap into the tech industry. His goal is to obtain a better understanding of the digital world around him.

MING CHEN - IOS, FRONT END DEVELOPER
A senior student in FAU studying Computer Science. He is from China. He will graduate in Fall 2017. He is interested in developing IOS apps and Android apps. He is currently developing an iPhone application for president election this year. He is good at programming in C, C++, Java, Objective-C, Swift and has built a website for himself in FAU’s class. He is very interested with the VR and AR, and he is willing to continue his education at the fields.

DIANE CUEBAS - WEB DEVELOPER, DATA ANALYST, DESIGNER
Rut Diane Cuebas is a Computer Science major studying at FAU. She was born in Houston, Texas and at age three she relocated to South Florida where she has lived ever since. Her interest in computer science stems from a love of graphic design and video games. Once she graduates in 2017, she hopes to apply the knowledge she’s gained as a computer scientist to other fields such as animation. Throughout her life as a student at FAU she has been able to build websites, design databases, and create programs in languages like C and C++. Her aspiration in life is to combine artistry with technology to help better the world in a beautiful way.

While brainstorming ideas for our software engineering project, we eventually found ourselves talking about when we first began applying to colleges after high school and the first thing that came to our minds was the arduous and stressful application process. Applying, writing essays, waiting, all while staying on top of our classwork and SATs/ACTs, it was simply too much to handle. It was after this that we began to talk about how we had wished we had some type of tool to help us keep track of all our work to take some of that weight off our shoulders. Thus, the idea for our project was born. We would create a site to help high school juniors and seniors be able to do just that.

We at Crown Agility aim to be the “Helping Hand” for that next big step in a student’s life. Our software uses a secure-login system that gives access to many benefits free of charge. These benefits include providing schedules for their college applications, keeping track of deadlines, disclosing useful tips to manage their valuable time efficiently, easy meal recipes, budget planner.

In order to provide such services to our users, we relied on a few tools of the web development field including HTML/CSS, Bootstrap, Javascript and jQuery, PHP, and MySQL.

In order to make the development go a bit smoother, we relied on a PHP MVC framework called CakePHP to set up the skeleton of our site and to make interaction with the MySQL database a bit easier. We also used jQuery in our site, to make html element manipulation much easier.

Another key element to provide our users with the most reliable service is data storage. MySQL provides ultimate scalability and flexibility with various platforms being supported such as Linux, UNIX, and Windows. It is also what allows us to give our users high-speed transactional processing and allows us the ability to handle high traffic, which is important since we guarantee our end users around the clock uptime.

Our software is the ideal application for upcoming college applicants to not only find their school, but to survive the first year of the rest of their lives.
TEAM MEMBER BIOGRAPHIES

ESTEBAN GOMEZ - TEAM LEADER, FRONT-END DEVELOPER

A computer science Senior at FAU graduating Fall 2016, Esteban was born in Bogota, Colombia and moved to the United States in 2006. His interests include sports, primarily mountain-biking and soccer, front-end web-development and exploring current technologies to expand his knowledge. For Crown Agility’s project, he mainly focused in the creation and design of the user interface using AngularJS, along with sharing new ideas for the team’s application, keeping everyone up to date and on track on the team’s progress.

He was also responsible for putting together this magazine using adobe inDesign.

CHRISTOPHER TALAVERA - BACK-END DEVELOPER

A 22 year-old FAU senior studying for his BS in Computer Science. He will graduate in the Fall of 2016 and plans to take what he has learned and make a name for himself in the software industry. Christopher is a Peruvian-American native to South Florida. He has lived in Ft. Lauderdale and in Coral Springs, where he currently resides. He currently works as an Intern Software Developer at QQSolutions in Deerfield Beach. He is well-versed in C, C#, Java, JavaScript, and PHP. He has used his knowledge to, alongside his team, create a site that helps high school juniors and seniors ease into the transition from high school to college. In his spare time, Christopher enjoys practicing martial arts and scrounging around for computer parts he can use in his own personal PC builds.

MITCHELL ENFIELD - FRONT-END DEVELOPER

A Computer Science student at FAU who is expected to graduate in the fall of 2016. He is a native of Florida. His major interests in the computer science field include full stack .NET development. He is currently working as a Quality Assurance intern for the company Bidtellect whose specializes in native programming advertisements. He is well versed in C++, C#, C, HTML, PHP, Javascript, and other web development languages.
TEAM MEMBER BIOGRAPHIES CONTINUED

DENNIS COHEN - BACK-END DEVELOPER

A senior at Florida Atlantic University studying Computer Science. He was born in New York City, on March 14th. His biggest achievements have to be his outstanding soccer skills which has given him the opportunity to play with some of the best players around the world, as well as travel to some of the most beautiful countries. Not only is he an amazing soccer player, but his ability to use abstract thinking made him a great Computer Scientist as well. Dennis always enjoyed playing video games and decided to see what actually went into creating a game. Programming was then introduced to him, and an entire new world of opportunities opened up. After a few years of doing coding for fun, he decided to take things more serious and make a career out of it. He is now working for General Electric as a software engineer specialist where he plans to stay and expand his knowledge in the ever changing world of technology.

MAURICIO DA GRACA - FRONT-END DEVELOPER

A senior at Florida Atlantic University studying Computer Engineering. He was born in Venezuela, September 5th 1992, and came to the United States in 2011 for better opportunities. He will graduate in summer 2017 and continue his education getting certifications in programming languages. His interests are developing software and creating web pages. He has used his skills to develop a software to help seniors and juniors high school students to apply for College.

ANTHONY DARDANO - DOCUMENTATION SPECIALIST

A senior at Florida Atlantic University studying Computer Science. In addition, he is currently a student IT Coordinator for FAU’s College of Medicine. For an undergraduate, he has a respectfully impressive history of providing efficient solutions to further improve and promote the functions of the teams of his clients, such as; The Senada Adžem Team – Douglas Elliman [Donald Trump's own VP of Marketing], Boca Ra-ton Regional Hospital, and Safe-Media Corporation [a large Network Security firm originating in Boca]. He is a hardco-re computer enthusiast, enjoying pushing the limits out of all of his hardware he gets his hands on, loves to DJ in Miami as well, and was even Time Magazine's Per-son of the Year in 2006! He is expected to graduate in 2017.
“Education is not the learning of facts, but the training of the mind to think”

Albert Einstein