BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-025

COMPANY PROFILE
DomoMi connects the feeling of home with software & hardware. Our software Homer is helping renters that cannot find and secure a rental home. We provide one universal rental application to respond faster and professionally to any landlord on Craigslist and soon across multiple listing websites. Learning from our users we also help city planners developers by tracking rental patterns to create sustainable cities.

PROJECT DESCRIPTION
- 2019 project guidelines:
- 1. Add functionality and improve UI/UX for our primary product, Homer, a machine-learning chatbot based on the feedback from our core product audiences (renters landlords city planners)
- 2. Implement a robust user profile system (web-based app) to provide our newest rental solution: Open-source rental applications.
CONTINUED PROJECT: Iterate Homer chatbot through rapid sprint cycles. The goal of the project is to improve Natural Language Processing (NLP) with a tested and self-improving chatbot training program to interpret and organize user personas, handle conversations with our growing user-base and make intelligent recommendations.
Myself along with two (2) software primary people at DomoMi will be available to work with the students for more than one (1) hour per week. Our preference would be to invite the team of students into our space at WeWork (333 Seymour St) as often as possible.

STUDENTS/TIME REQUIREMENTS no preference

HARDWARE/SOFTWARE REQUIREMENTS
Students are required to work using their own PC / laptop. No coding via iPads or smartphones ;)

PROGRAMMING LANGUAGE(S)
Angular Javascript JSON CSS Strapi backend

CURRENT WORK/ARRANGEMENT
Trello for sprint schedule outlines team communication via Slack Code repository on GitHub. 4/18 This would be a iterative project after the proven success of last term's ISSP project.

PREVIOUS PROJECT? Project began exploring two options to solve the problem of helping renters find apply and move into rental apartments. The students compared various chatbot frameworks databases and lead the weekly sprints to accomplish a minimum viable product (MVP) by the end of the term. The chatbot responds to a small corpus of defined user intents but needs to be tested with more natural user conversations.

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
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PROJECT# W19-058

COMPANY PROFILE

Trusting Pixels is company that authenticates content that is line with its retouching regulations. With the ever increasing use of retouching software and apps it has become more difficult to identify if and to what extent content has been retouched. With our service individuals and brands can have their content authenticated by us to prove their content is honest.

PROJECT DESCRIPTION

The project we are proposing is to develop software that compares hex information from two different photos. The software would hold a database of hex files from a variety of different photos (from different cameras). The software would use that database to compare against our clients images to identify key structural differences to help identify if the image we recieved is an original/non-edited image or not. For instance once we identify what the basic hex structure of a photo from an iphone 6 looks like the software will use that hex structure and compare it to our clients photo which also derives from an iphone 6. The software would compare both photos and identify any key structural differences in the hex structure to determine if the image has been edited/opened/manipulated. The scope of the project includes the following: Research 1.) Analysing hex structures from different cameras. This will give us an idea of what structural differences to look for when comparing hex files from two different photos. Developing software 2.) Create a database of hex files from different cameras. For this project alone we are looking to create a database that holds hex files for all iphones nikon sony and canon dslr cameras. Because we receive content from many different types of cameras its important for us to have a database that allows us to compare hex structures from many different cameras. 3.) Create a GUI that allows images to be viewed simultaneously while showing hex information side by side. 4.) Alerts that automatically detects differences in hex structure from two different images. 5.) Layer two images on top of each other (much like what photoshop does). Though there are more forensic tools that would like to implicate in this software we feel that achieving this will be sufficient enough. Please keep in mind that this is something we will build off of and further develop. Perhaps if the spring term is up for the challenge we could consider exploring further developing the software then. However just the main functionality of comparing hex structures is great place to start for our purposes. I'd also like to share that we have recently been published in a news article in The Georgia Straight. You can find the article at: https://www.straight.com/life/1170301/vancouver-company-trusting-pixels-identifies-whether-images-have-been-retouched

STUDENTS/TIME REQUIREMENTS Fall 2018/13 weeks/4-5 Students

HARDWARE/SOFTWARE REQUIREMENTS

At the moment we are only running on Windows OS so we require that you work in Windows.

PROGRAMMING LANGUAGE(S)

We are open to several different programming languages. We are lenient towards c++ but not considering that as the only possibility.

CURRENT WORK/ARRANGEMENT

We are currently doing a lot of manual labor to analyze the photos we receive. We run all our photos through the exif tool to check metadata and hex information. We also open photos in photoshop to do visual forensic checks. This project is to help us min

PREVIOUS PROJECT? no. This is described in the "Current Arrangement" section. We have not developed any software yet.

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PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-023

COMPANY PROFILE
Located in Yaletown Vancouver Cypress Hills Partners (â€œCHPâ€•) is a boutique alternative merchant banking firm specializing in the origination of private equity specialty private debt and other uniquely structured lending products. CHP has built one of Canada's leading performing alternative funding platforms generating very attractive returns using enhanced data analytic tools. The firm is currently dedicated to the fast-growing global specialty lending and origination marketplace. One of the countryâ€™s largest providers of subprime/nearprime loans CHPâ€™s goal is to help qualified individuals and businesses reach their goals with investment instruments including consumer loans small and medium sized enterprise (SME) loans credit facilities equity and/or other instruments. Founded in 2015 by Dean Linden and Kelly Klatik CHP provides employees with a healthy office culture that encourages collaboration creativity and a team-work environment while at the same time supporting individuality.

PROJECT DESCRIPTION
Project: Develop an Investor Portal for CHPâ€™s website where investor statements can be accessed securely. The project participant will: â€¢ work closely with our lead financial analyst to understand our business and investor statement requirements (as well as any related regulatory privacy and disclosure requirements) â€¢ use that knowledge to help automate the generation of the regular (monthly quarterly and/or annual) investor statements for access on the Investor Portal â€¢ extend informational website to include an Investor Portal web application where investors can log on to see statements in table format or can download PDF equivalents of the reports â€¢ modify the existing website to include a section dedicated to providing secure investor login onto the Investor Portal. (Web application must be able to support account management by investors and CHP administrators.) â€¢ build an administrative portal for CHP administrators where they can add data to the system manage user accounts and perform various administrative tasks â€¢ Investor Portal must be a secure website that serves all traffic and request of TLS secure connections and must follow security best practices.

STUDENTS/TIME REQUIREMENTS Program: Degree â€“ Fall Term: Sept (4 months) 1 Full-time student

HARDWARE/SOFTWARE REQUIREMENTS
Will be provided by CHP.

PROGRAMMING LANGUAGE(S)
The student would have the option of choosing between any of the following modern web development frameworks and languages to build the web application.: â€¢ The frontend may be written in React or Angular. â€¢ The backend may be written using NodeJS (Javascript) RubyOnRails (Ruby) Spring (Java) or Django/Flask (Python). â€¢ The database will be Postgres. â€¢ Cloud provider will be Amazon Web Services. â€¢ Static image storage will be S3.

CURRENT WORK/ARRANGEMENT

Investor statements are currently being generated manually by our financial analyst via Excel. This is proving to be inefficient and a time/labour drain as the companyâ€™s business and investor base continues to grow. Work has not begun on the Investor Po

PREVIOUS PROJECT? no

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PROJECT# W19-036

COMPANY PROFILE
mimik (www.mimik.com) has developed a decentralized edge cloud software platform to extend central cloud to all computing devices. mimik provides a downloadable SDK that turns any computing device into a cloud server. The SDK is available for many operating systems. Devices with mimik SDK form clusters and can communicate directly within and across the clusters regardless of OS or network. mimik provides a light container that allows development of JavaScript based microservices based on a server-less architecture. Devices with the SDK can remotely load install start and stop microservices. In effect all computing devices (mobile phones PCS routers game consoles gateways IoT devices etc.) can be used to host microservices and build any application. With mimik edgeSDK a decentralized edge cloud platform can be created that is orders of magnitude larger than central cloud platforms such as AWS.

PROJECT DESCRIPTION
Decentralized Impromptu hyper local networking application: We would like the team to use mimik edgeSDK to develop a mobile application that connects people within a physical vicinity to each other based on their interests and skillset. We live in a highly dynamic and fast pace world. Weâ€™re constantly on our mobile device searching for restaurants shops events skilled workers job opportunities rides dates etc. We want to utilize the mimik decentralized edge cloud platform and edgeSDK to develop this decentralized application. This application will have a series of features similar to LinkedIn Yelp Facebook and Uber. The app allows users to connect and meet real-time enabling people to meet up directly in any place exchanging and trading expertise knowledge interest information and goods without using any middlemen.

STUDENTS/TIME REQUIREMENTS 13 weeks

HARDWARE/SOFTWARE REQUIREMENTS
software

PROGRAMMING LANGUAGE(S)
MongoDB NodeJS Javascript React serverless microservice development RESTful API

CURRENT WORK/ARRANGEMENT
This is a new project that we want the developer to use our platform to develop. All tasks are being managed using confluence bitbucket and jira. We use slack for all communications and we use github for the developers. I suggest the students to check o

PREVIOUS PROJECT? no

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PROJECT# W19-001

COMPANY PROFILE
Young at Heart We're a 30-year-old company that moves like a startup. It's the best of both worlds. We have huge customers (90% of the Fortune 500) impressive revenues and are not worrying about our next funding round. Fascinating Problems to Solve We design build and extend the systems that power the organization and the technology and techniques we use are leading edge best-practice-driven and interesting! The Team ACLers work together towards a common goal. You will work in a small agile team and have a big & impactful reach. Weâ€™re all striving to make the best products deliver the most valuable solutions and push each other to become the best we can be. ACL works with some of the best systems lean processes and most importantly people in our industry Learn more: https://www.acl.com/about-us/

PROJECT DESCRIPTION
After transferring 95% of its on-premise systems to the cloud ACL is starting the second phase of its digital transformation: enabling cloud-to-cloud (C2C) integrations. ACL already has developed in-house C2C integrations but these proved long to implement and burdensome to maintain. We have acquired a new Out-Of-the-Box solution called Workato (cloud-based Enterprise-grade integration platform). The project team will be responsible to identify and build Proofs of Concept by using this platforms, for instance to build an Automated Data Pipeline or a smart bot under one or several of the following requirements: - Scalable: trigger events across systems to automate a business process - Smart: distribute data from master system to avoid duplication of entry - Available: offer latest up-to-date data to whoever needs it whenever they need it - Complete: build a reliable data warehouse with snapshots over time The purpose of the ISSP Project is to accelerate the time to value for ACL leveraging Workato and to expose this new technology to as many scenarios as possible to learn its strengths and limitations.

STUDENTS/TIME REQUIREMENTS Preference 1: Sept Degree term Preference 2: Sept Diploma term

HARDWARE/SOFTWARE REQUIREMENTS
Students are expected to provide their own workstation unless they are full time at ACL in which case a laptop will be provided. All required licenses and software environments will be provided by ACL. Students will be required to sign-off on confidentia

PROGRAMMING LANGUAGE(S)

CURRENT WORK/ARRANGEMENT

PREVIOUS PROJECT? no

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PROJECT# W19-003

COMPANY PROFILE
airG is a pioneer in the mobile software industry having released its first mobile application in 2000. Since then the company's products and services have been used by over 100 million consumers globally generating more than $1 billion in revenues. Though we have grown to be a multi-national corporation with a strong balance sheet, we remain true to our formative entrepreneurial roots. Our commercial success comes through financing our teams to take big risks, and challenging them to work in small autonomous groups to solve complex problems. Each product team is supported by seasoned sales creative legal and business development teams maximizing the probability of commercial success. At airG we are not afraid of building products that may fail, we're more afraid of missing opportunities by not trying.

PROJECT DESCRIPTION
We are looking to create a Service that can manage our static content. It should be easy for users of the Service to view and apply content to their Campaigns. Our static content includes: Images Banners Css Javascript etc. which we use for Campaign Promotions Mobile and Web. Requirements: - The Service will have a Front End Web interface that is user-friendly and intuitive for the users. Will need to hook up to our servers where the content will be stored. - Files will be organized and grouped based on a directory structure. The Service will have the ability to filter and search for content. - The Service should allow for the ability to upload content view existing content and select available content for use with our Campaigns. - The ability to upload same content with different md5's - The ability to build domain specific url's - It would connect to caching service so ability to purge old cache - A Preview Page will allow the user to see how the content will be displayed. This includes the ability to alter the size of the Preview Page to reflect anything from a Web Browser to different size phones - The architecture of the Service should be created in a way that allows us to treat this as a separate Service (at first) with the longer-term intention of integrating it within our POG Service. - The Service will require a permissions layer to control who has User vs. Administrator access.

STUDENTS/TIME REQUIREMENTS Winter Diploma

HARDWARE/SOFTWARE REQUIREMENTS
WIndows or macOS system

PROGRAMMING LANGUAGE(S)

CURRENT WORK/ARRANGEMENT

PREVIOUS PROJECT? no

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PROJECT# W19-004

COMPANY PROFILE
Amiran Services Ltd (Amiran•) is a nationally and internationally known and recognized team of associate consultants with expertise founded on more than a century of experience focusing on the development of analytics and decision support tools for sustainable operations & management of infrastructure assets.

PROJECT DESCRIPTION
We would like to offer the financial service of Buying/Selling Currencies (e.g. CAD USD etc) Online similar to the following websites: https://buy.interchangefinancial.com/ and https://www.knightsbridgefx.com/how-it-works/ using various tools and payment options. We need a secure user-friendly multi-platform website aesthetically designed and laid out. Our system will be different as follows: Users will post the currency they wish to sell online to be purchased by others. Details including the use-cases will be provided to the students at our initial meeting.

STUDENTS/TIME REQUIREMENTS No Preference

HARDWARE/SOFTWARE REQUIREMENTS
Cloud-based but secure (Amazon?)

PROGRAMMING LANGUAGE(S)
flexible but secure

CURRENT WORK/ARRANGEMENT
The project is at the planning stage. We are willing to work with scope and to divide the project into smaller parts as appropriate once students begin. The students are assured that one or more people with technological and domain knowledge will support

PREVIOUS PROJECT? no

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PROJECT# W19-005

COMPANY PROFILE
The BCCS is mandated to investigate all unexpected and sudden deaths in the province of British Columbia. Part of the the Special Investigations Units responsibility is to investigating historic deaths and unidentified remains in order to determine an identity.

PROJECT DESCRIPTION
The BC Coroners Service Special Investigations Unit (SIU) handles a number of complex types of death investigations. Within the Unit is the Identification Section which aims to identify unidentified human remains. The team employs a number of methods to support positive identification including DNA testing dental examination isotopic testing confirmation of surgical implants tattoos/scars fingerprints facial reconstruction and circumstantial analysis. We currently have a database that consists of three different entities: Missing Persons (MP) Unidentified Human Remains (UHR) and Incomplete Partial Remains (IPR). Each of these contain relevant information that enable us to make associations between them to aid in identification of UHRs. This database currently sits on Excel and Access and we are looking for a solution to centralise our data on to one easy to use database management system. Scope â€¢ Construct a desktop application that accesses our database. â€¢ Within the application there should be 1. An entry form for data input (e.g. Case number Name Location Sex Clothing etc) which will populate the database. 2. A query tool to search for specific data entries 3. A reconciliation/match tool. This would essentially be a tool that allows the user to compare Missing Persons To UHRs. For example Missing Persons that are the same age height sex as a specific UHR. 4. A reconciliation/match record database. We currently also have a database that records our open and excluded associations (Missing Persons vs UHRS). This would also need to be incorporated within the database combined with the reconciliation/match tool if possible. Technologies and Software â€¢ Back End: Microsoft SQL 2016 â€¢ Front End: Microsoft Visual Studio 2013 However this is not set and we are very much open to suggestions for different technologies.

STUDENTS/TIME REQUIREMENTS No Preference

HARDWARE/SOFTWARE REQUIREMENTS
SQL server 2016. Visual studio 2013. Open to possible other options.

PROGRAMMING LANGUAGE(S)
Dependent on software used. Options to be discussed with Ian

CURRENT WORK/ARRANGEMENT
Currently the database is in excel and access. We had it in a separate database system which has recently been discontinued. We are looking for a new solution.

PREVIOUS PROJECT? no

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PROJECT# W19-011

COMPANY PROFILE
The quality of concrete blocks that are used in developed economies is maintained through rigorous quality assurance programs. These programs which rely on measuring the compressive strength of blocks via destructive testing of masonry samples are expensive to implement and to maintain. This can place them out of reach for resource-poor economies leading to inadequate or non-existent quality assurance testing of concrete blocks. The direct consequences are catastrophic and preventable loss of life and of infrastructure in these regions during medium to large sized earthquakes. To address this need researchers at BCIT have demonstrated a low-cost reliable alternative testing method: Striking a concrete block with a small ball-bearing causes it to vibrate. The airborne sound generated is recorded on a cell phone and the signal analyzed revealing a direct measurement of the block's compressive strength. Since this simple test can be implemented on a cell phone it provides an immediate quality assessment of the block without destroying it. The cell phone App is being developed to communicate with a cloud based server which can store the testing data and results providing the basis of an easy-to-use and easy-to-implement quality assurance program that is within reach of developing economies.

PROJECT DESCRIPTION
The next steps in the program development include refactoring the previous backend into an Express server with extended functionality along with adding secure communication between the cell phone App or personal computer and the cloud server. The students will be asked to implement changes to the cloud server and the database only. No cell phone App development is required. Tasks may include:
1. Expanding the database to accommodate new functionality developed in cooperation with the App developer (Spencer Cox). a) Allow multiple acoustic testing files associated with a single test block. b) Allowing images arbitrary file types/sizes metadata etc. to be saved as part of a â€œtestâ€• instance. c) Implementing "Admin"• and "Basic User"• 2. Create an Express server to interface between the web/mobile apps and the database including: a) Generally schemas will be written with CRUD functionality (Create Read Update Delete) b) Implement sign in/out and user creating/deletion functionality. c) The server and database must be able to read (securely) the predefined payload format and sort it into the database. d) The data flow should include uploading data from the phones its retrieval from the cloud to the local cell phone or personal computer.
3. Code and procedure documentation

STUDENTS/TIME REQUIREMENTS Preferred: 4 months (Winter/Degree) Could also be: 13 weeks (Winter/Diploma) with reduced goals

HARDWARE/SOFTWARE REQUIREMENTS
Hardware: Personal computer Software: Javascript + IDE

PROGRAMMING LANGUAGE(S)
Javascript preferred.

CURRENT WORK/ARRANGEMENT

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Currently there is a working website with secure login to get access to the existing database and its functionality. This is hosted on AWS and believe that the approach will be to update/redesign the existing software.We expect to have weekly meetings wi

PREVIOUS PROJECT? yes, A previous BCIT CST group built a website with a basic server and a database on AWS (under the direction of Bill Klug). This basic database had different tiers of users stored the acoustic strength evaluation outcome (block strength) GPS location

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PROJECT# W19-015

COMPANY PROFILE
BeaverTail is a user submitted news website that aggregates all submitted news on to an easily viewed world map. From there anyone logged into the site will be able to add their own details either verifying or refuting the submission.

PROJECT DESCRIPTION
This is a continuation of a previous BCIT program. The student group was super keen and what I had put in here wasn't enough for them so during the project I added more items for them. So now I have put together quite a laundry list here of things I'd love to get done. Would Really Like: - create secure log in (HTTPS) (with user agreement) - fix log in error "jwt expired" (shows signed in but need to login again "stay logged in" feature) - show replies on posts (default on contest/refute) - put on client server - create an admin account: {admin} can create accounts (username + password OR create code to give to person that is required at log in) accounts can only be created by admin {admin} can delete & edit posts (possible list of all posts with ability to select and delete) {admin} can mute accounts (account unable to post) in 24 hour increments {admin} to log in sends login link to email on file (super duper secure) - logged in user can edit account information (bio email (never public) update password social media) - create news form's 'date from' to default to current date - remove create news 'date to' - install/link message board forum (https://www.phpbb.com or similar) - admin panel on every account that shows all posts with ability to delete posts Would Also Likes: - log IP address browser and OS on account creation (super duper secret mod stuff) - tags searchable (click on a tag to bring to world map of all other submissions with same tag) - set dates of visible news on world map (can show one day or multiple days) - have news update each day (new pins stay up 24 hours after posted then will only show up if you go back a day) - ability for logged in users to edit their own post

STUDENTS/TIME REQUIREMENTS I'm really flexible with this. Sooner the better but I know Rome wasn't built in a day.

HARDWARE/SOFTWARE REQUIREMENTS
N/A

PROGRAMMING LANGUAGE(S)
Written in MEAN.

CURRENT WORK/ARRANGEMENT
N/A

PREVIOUS PROJECT? yes, Albertans West (May 2018) did the first phase in MEAN. I have the code on GitHub.

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PROJECT# W19-016

COMPANY PROFILE
Blueprint Reality is the creator of MixCast the world's most powerful solution for the broadcast and presentation of mixed reality. MixCast seamlessly blends realities together for instant sharing of virtual experiences.

PROJECT DESCRIPTION
We are deploying a cloud solution for the collection organization sale and fulfillment of mixed-reality content created by players in VR Arcades and location-based VR experiences using MixCast. MixCast creates the composite mixed-reality videos and screenshots and passes them up to our Cloud solution. Our current cloud solution is not very scalable is very CPU-heavy and is split into two stacks one for the in-arcade kiosk software and one for user management and fulfillment. We'd like to unify these two stacks improve performance make deploying instances for new arcades much simpler and manage performance/telemetry. Knowledge of Docker Kubernetes and Linux in general are a big plus! A diagram showing our current setup and stacks is here: https://drop.skyraker.ca/iks8iwbi.png

STUDENTS/TIME REQUIREMENTS January 2019 period.

HARDWARE/SOFTWARE REQUIREMENTS
Linux command-line No hardware needed

PROGRAMMING LANGUAGE(S)
Node.js C# bash mongo postgres

CURRENT WORK/ARRANGEMENT
Currently we're doing our best to learn these technologies as we go! We've made minor improvements to our ability to deploy cloud instances for new arcades but it's still a slow error-prone process.

PREVIOUS PROJECT? no

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PROJECT# W19-017

COMPANY PROFILE
Founded in 2016 by Tarrnie Williams and Ben Sheftel Blueprint Reality is a virtual reality company situated in the heart of Vancouver's tech scene. We capitalize on the rapidly expanding marketplace of virtual reality (VR) and augmented reality (AR). Our mission at Blueprint Reality is to connect people across the boundaries of different realities with experiences that are impactful shared and utterly unique.

PROJECT DESCRIPTION
Referred by Michal Aibin Discussed project with Trevor Lord Create Unity-based (C#) VR presentation tool (MixCast Presenter) by jumping off from our existing application with key technologies in place. Object re-position/removal adding multiple file-types support (PowerPoint/Movie Player/360 Video Player) and UX design/implementation are key functions here. Secondary tasks can encompass scene lighting design/implementation camera scripting design/implementation VFX design/implementation and other areas of production value. Stretch goals (term over term) center around networked multi-user matchmaking and interactivity (exploring roles of presenter viewer arbitrator etc).

STUDENTS/TIME REQUIREMENTS Diploma - Winter

HARDWARE/SOFTWARE REQUIREMENTS
Unity 2018 access to PC with high-performing graphics card (may be provided by Blueprint Reality - TBD) VR head-mounted-display (may be provided by Blueprint Reality - TBD) internet access.

PROGRAMMING LANGUAGE(S)
Unity - C#

CURRENT WORK/ARRANGEMENT
Our studio uses JIRA task management but we can use Trello or other tasking/status reporting environment. A custom externally-accessible code repository would be set up at the start of the project/term.

PREVIOUS PROJECT? no

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PROJECT# W19-020

COMPANY PROFILE
Buddi is developing several technology solutions for the emerging cannabis industry. Most notable of those technologies are our Retail Platform which allows cannabis retail customers to self-serve receive automated product recommendations via algorithm and machine learning as well as a customer education module. We're also building an integrated mobile and web app to allow customers to use this platform out-of-store. Our other platform is a Digital Content Management platform for licensed cannabis producers. Due to strict marketing regulations cannabis producers require technology solutions to connect better with their customers and gain business/customer insights.

PROJECT DESCRIPTION
In priority order our highest would be the various integrations with POS systems e-commerce platforms and web applications - such as Shopify POS/E-comm and WeedMaps. Second would be our mobile and web applications which will allow customers to shop from outside of physical stores. Last would be a machine-learning algorithm which takes into consideration a customers purchase history and preferences to make optimized recommendations and up-sell. At minimum we expect to have at least 3 full integrations completed with 3rd party systems. For students looking to challenge themselves further we're hoping to build our ML algorithm and mobile/web applications.

STUDENTS/TIME REQUIREMENTS ASAP

HARDWARE/SOFTWARE REQUIREMENTS
PHP Laravel AWS

PROGRAMMING LANGUAGE(S)
PHP

CURRENT WORK/ARRANGEMENT
All current development is done in-house. The demands for new functionality from our customers exceeds our internal capacity at the moment. We're receiving inbound requests from major industry players to help them build software solutions to help them gro

PREVIOUS PROJECT? no

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PROJECT# W19-021

COMPANY PROFILE
A new culture of body positivity and inclusive sizing is slowly emerging to fill the demand gaps left by the dominantly straight-sized fashion industry. Catalyst Style Collective web umbrella is being designed to connect consumers with; retailers bespoke sewists tailors designers and the like to provide the best fitting solutions available and to create a framework of fit understanding to expand the availability of quality apparel to additional sizing markets. Catalyst Style Collective establishes inclusivity to fitting to the international garment industry through an application development entitled ColorSizeMe. ColorSizeMe gathers measurement data from across all body shapes/types to provide the consumer with a valuable resource to assist in purchasing the best garment according to their measurements. It will also provide designers and garment manufacturers updated statistics to produce apparel most likely to be purchased by the end consumer with the most desirable fit.

PROJECT DESCRIPTION
Catalyst Style Collective's ColorSizeMe is an application which connects consumers who have specific sizing or fitting requirements to the most-suited sewists designers retailers and websites that carry their most accurate size. ColorSizeMe is designed to provide fitting solutions by integrating ANY BODY's measurements with any garment or size-related accessory universally on the web. ColorSizeMe records an individual's most accurate measurements (user-input with visual input); the app then provides a data-based visual analysis of the measurements in a live 3D-Globe infographic-type interface that applies a specific color to their measurements. These measurements also visualize inclusiveness within the global site connecting groups with similar measurements to each other and to supplementary sites for apparel creation and purchasing. ColorSizeMe directs the consumer to size-specific sites according to their preferred parameters (ie. eco fair-practice bespoke). The app may also data-mine apparel sites to assist the consumer on correct sizing choices*. International sizing variations will be automatically converted to sizing most relatable to the consumer (ie. US to GBR). ColorSizeMe collects measurement data to provide the apparel industry with up-to-date guides for future manufacturing thus providing their customer base with better fitting products and decreasing the rate of returns while increasing sales by possible inclusion of additional sizes according to demand. The project most likely should be split into two parts preferably simultaneously. Part A: would be a continuation of BCIT's 2018 Spring project beginning the user interface for measurement input - to include website/retailer database input to create the best apparel matches for the users. and Part B: to create the integrated 3D visual measurement "body" that will translate into a specific color (using a hue/saturation/light color code calculation algorithm) which is then added to a d3-type globe-shaped graph(ie. codeflower) I will be available at any time to be contacted and to collaborate with the team(s) designated to this project.

STUDENTS/TIME REQUIREMENTS It would be advantageous to have ColorSizeMe app prototyped and pitch-ready by the end of the fall term. I am committed to working with BCIT to create a working application.

HARDWARE/SOFTWARE REQUIREMENTS
As required. Firebase*

PROGRAMMING LANGUAGE(S)

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HTML CSS JavaScript jQuery Bootstrap Firebase

CURRENT WORK/ARRANGEMENT
BCIT's Spring 2018 Term project got a start on the project. The database is located on Google's Firebase and I have the initial application code provided by the group of students.

PREVIOUS PROJECT? yes, Spring 2018 student project began the development of the real-time database in Firebase as well as a measurement input as far as the user. Created responsive UX including user; registration login/logout authentication profile visibility; began size development feature.

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-022

COMPANY PROFILE
Chi's Creations Jewelry are designed and produced by artist Chi Cheng Lee a 1985 graduate from Parsons School of Design in New York City who later worked internationally for luxury jeweler Harry Winston for over 15 years. Making jewelry for over 35 years Ms. Lee's jewelry has been retailed since 2004 through various Arts and Crafts shows such as the Circle Craft Christmas Market and distributed on a wholesale basis to over a dozen jewelry stores and art galleries in the Lower Mainland.

PROJECT DESCRIPTION
Chiscreations.com - E-Commerce Upgrade Outline 1. Scope of Work Amend and improve upon the existing chiscreations.com website to enable online shopping and fulfillment for both Canadian and international customers. 2. Product Line The website aims to present an electronic visual showcase and enable online purchase of approx. 400 SKUs of hand-crafted jewelry items. 3. Inventory Control Create a back-end inventory control system (with images) to enable simple updates of SKUs available for sale. Classification system to enable product barcode generation. 4. User Registration / Sign-On A simple and secure user registration and sign-on. Retained user data should facilitate both form of payment and shipping addresse(s). 5. Shopping Cart / Payment In addition to a â€œsession-retainedâ€• shopping cart online payment systems need to be integrated with Paypal Shopify and/or Square payment platforms. 6. Shipping Shipping options to be integrated for Canada Post UPS and FedEx for estimation of shipping charges delivery options and final shipment tracking.

STUDENTS/TIME REQUIREMENTS To be completed by Mar 31st 2019

HARDWARE/SOFTWARE REQUIREMENTS
Unsure

PROGRAMMING LANGUAGE(S)
Unsure

CURRENT WORK/ARRANGEMENT
The current chiscreations.com website is not e-commerce enabled.

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-024

COMPANY PROFILE
Supply consultative advice to Emergency Operations Centres on effective and efficient disaster animal response practices. Consult with government officials for legislative change which will increase preparedness and improve relief efforts for animals in disasters. Provide emergency evacuation services for animals during disaster events.

PROJECT DESCRIPTION
This project will vastly improve the response capabilities of rescuing animals during disasters. This app will provide a platform for clear and organized communications between pet owners animal rescue volunteers and government officials by placing all rescue requests and updates in a centralized database (ex. 911 or even pizza delivery apps). This platform must be accessible and function on all operating systems (Android iOS Windows) and therefore would be best suited for a web app design. Following extensive years-long research and stakeholder consultation clear goals and examples are available. All web pages and functions have been clearly mapped. As an introduction however the system will include: - Web page to request a pet rescue. - All rescue requests will auto-designate a system number to that request auto-upload a pin drop onto a map and all rescue requests will be added to a single response database. (similar to Crowd Source Rescue). Authorized organizations will be able to update the status of these requests. - Web page for list (including up-loaded photos) of lost pets - Web page for a list (including up-loaded photos) of found pets - Web page for community-based Q&A (ex. Stack Overflow) Scope will be discussed with students to ensure that they are comfortable with the system requirements and capable of completing the desired goals. If required working with and supporting more than one student team on this same proposed project or scoping my project into multiple phases to work with students over multiple terms may be considered.

STUDENTS/TIME REQUIREMENTS Jan (Diploma- Winter) 400 hrs / 13 weeks January would be very much preferred as this would allow time for system familiarization and field testing prior to the spring flood and summer wildfire season.

HARDWARE/SOFTWARE REQUIREMENTS
The system must be compatible with Android iOS and Windows. The program must be accessible via the internet regardless of their operating system.

PROGRAMMING LANGUAGE(S)
Html

CURRENT WORK/ARRANGEMENT
Currently volunteer groups are creating many different Facebook pages to communicate with pet owners which becomes very confusing to those in requiring assistance or others who are hoping to find their pet. Communications with officials are completed via

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-027

COMPANY PROFILE
As a Managed Services Provider we're all about making things easier for our clients. Whether it's about improving communications reducing costs or eliminating worries weâ€™ve got a product service or custom solution that we can implement to help our client's business run more smoothly. Get everything youâ€™d expect from an IT department without the IT department. Like a good team member weâ€™re here to support our clients and focus on all their IT needs â€“ so they and their team can focus on taking care of their business.

PROJECT DESCRIPTION
Replace current manual pricing updates from spreadsheet to our ERP using an automated process via the systems' REST APIs and Microsoft Azure Logic App. Logic App uses XML and/or JSON and enables transformations of data. Proposed steps: 1) Integrate our ERP's Product Catalog via the existing REST API into Azure Logic App. Our ERP is ConnectWise Manage. 2) Integrate Microsoft's Partner Center SDK (REST API) into Azure Logic App (as far as needed to retrieve pricing). 3) Using Logic App map Partner Center cost & price to ERP cost & price fields and update nightly from Partner Center to ERP: a) update changed pricing; b) deactivate removed items; c) insert new items.

STUDENTS/TIME REQUIREMENTS Steps 1) and 2) should be doable in a 4 month timeframe and step 3 also. This is a unique opportunity to learn about Microsoft's Azure ecosystem.

HARDWARE/SOFTWARE REQUIREMENTS
The environment is provided via the web no specific development hardware or software is required.

PROGRAMMING LANGUAGE(S)
Microsoft Azure App Logic would be the integration environment. This would require knowledge of REST APIs json xml and transformations. More information provided here: https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-overview

CURRENT WORK/ARRANGEMENT
Currently our ERP's and online web store's pricing is manually maintained using spreadsheets. We need to be able to automate this through information provided by our vendors and distributors in REST API format. The project description is for phase 1 and

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-028

COMPANY PROFILE
EcoBase Solutions is a BC-based clean-tech company focused on developing software to help businesses organizations and individuals to calculate their carbon footprint and other environmental impacts. Our web-based carbon accounting application EcoBase Carbon Software enables organizations and businesses to measure manage and ultimately reduce their carbon footprint. Large businesses have enterprise level software to help guide them but there are very few options for small and mid-sized businesses which make up 98% of all businesses in North America. With the impending carbon pricing legislation in several Canadian provinces and US states as well as internationally businesses need a simple affordable tool to help measure and manage and reduce the costs risks and impacts of their carbon footprint.

PROJECT DESCRIPTION
The next phase of development for EcoBase Carbon Software includes two key milestones. If this project is selected our team will review these with the student team to refine the requirements and customize a project schedule based on the time available. Admin Panel Development: Currently the service allows for one company to have multiple business units. Our target client base requires a higher-level administrator account that can manage multiple companies with multiple business units. Feedback from our user base indicates that the ability to produce and extract from the database a custom query of individual business units would be very attractive. In relation to this administrator level account a log of user entries is required to trace inputs and alterations in the database at the business unit level for quality assurance purposes. API Development: The service is reliant on manual data entry as open text or CSV upload from the client. Integration of data from other sources through the development of an API or data retrieval service will provide a significant incentive to potential clients. The first API we would like to develop will be a connection with the US EPA's Energy Star Portfolio Manager. The students will be well-supported by our expert project leads Andrew Wiebe and Angela Nagy. Andrew will configure the environment and infrastructure required for he and the student teams to execute code. Andrew is an atmospheric scientist with extensive experience with emission estimations and inventories as well as a software architect with expertise in the design and deployment of software stacks. Angela is a greenhouse gas accountant and sustainability expert and will work with Andrew and the student team to determine the requirements and review progress.

STUDENTS/TIME REQUIREMENTS We would like to phase the project in over a series of key milestones. At minimum the project duration will align with a 13 week term but as we have additional features we would like to add we could easily extend the project to include a 20-week term.

HARDWARE/SOFTWARE REQUIREMENTS
Amazon Web Services Google Cloud Platform Docker Wordpress Infusionsoft

PROGRAMMING LANGUAGE(S)
PHP SQL JS HTML5

CURRENT WORK/ARRANGEMENT

The EcoBase application is written in Angular.js with a MySQL backend. The application is embedded in a Wordpress site connected to an infusionsoft CRM. The team is currently transitioning the code base to AWS and are implementing a CI/CD pipeline. Our v

PREVIOUS PROJECT? no, GreenStep has worked with previous student teams on other aspects of this software application but this is a new project to build out entirely new features.

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-030

COMPANY PROFILE
Founded in 1982 The Greater Vancouver International Film Festival Society is a not-for-profit cultural organization that operates the internationally acclaimed Vancouver International Film Festival (VIFF) and the Vancity Theatre located in the Vancouver International Film Centre. We produce screenings talks and events as a catalyst for a diverse community to discover discuss and share the creativity and craft of storytelling on screen.

PROJECT DESCRIPTION
Last year a group from BCIT started work on a Java application that translates film-schedule data into a time table PDF. This PDF document gets printed in our annual VIFF programme guide and is an essential document for making our festival schedule accessible and easy to understand. We would like to see the work on this project continue. As an example of the final product please see: https://issuu.com/viffest/docs/viff2018_festivalguide_issuu The primary goal of this project is to create a working app that can be used by festival staff members to generate the desired file. Currently the app is a work in progress and will only function in debug mode. There is also some additional desired functionality: 1. The ability to use typefaces of our choosing. 2. Control over size/leading/tracking of text. 3. CMYK and HEX colour options. 4. The ability to output various formats (PDF EPS jpg â€“ with bleeds). 5. A quick preview function â€“ basically it would be nice to see a WSIWYG kind of feature so we can see changes etc. on the fly. The data that we would like to see processed through the app includes but is not limited to: 1. Title 2. Venue 3. Run time 4. Show time 5. Stream 6. Page Number We will show the current version of the application and how it works in-person to provide a clearer understanding of the process. Since this is a continuation of a project the required language has already been established and it is Java. This project will most-likely span multiple terms so well documented clean and modular code that follows best-practices is essential for this project to continue moving forward. The first iteration was to create a working data parser that can take our input values and output the data to a PDF via an appropriate GUI. This iteration is not yet complete as the app is not yet exportable to JAR. The second iteration will focus primarily on building a user-friendly GUI and successfully export to JAR as well as creating a way that can allow (within reason) modifications to the PDF via a GUI. Examples being: - Change the number of days per page (2up 4up 6up etc). - Change the number of venues - Change the beginning and end time of each day - Colour output options via hex and cmyk - Change the size/spacing/tracking/font of text The exact scope for this term will be negotiated during our first meeting.

STUDENTS/TIME REQUIREMENTS No Preference. Diploma - Spring However there's no hard deadline to completion and we can re-apply if needed.

HARDWARE/SOFTWARE REQUIREMENTS
None

PROGRAMMING LANGUAGE(S)
Java preferred. Cross-platform solution preferred.

CURRENT WORK/ARRANGEMENT

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PROJECTS AVAILABLE FOR CST STUDENTS
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Data for film schedule resides in a File Maker database. Data is exported from the File Maker database in form of TAB files. Data is parsed by a Java application with a simple GUI. Data is arranged on to a hard-coded PDF template. PDF is printed for fest

PREVIOUS PROJECT? yes, A Java application has been created but it does not have all the required functionality and currently can only be used in debug mode--VIFF staff are not able to use it on their own. A goal for this term should be to get the Java app to a stage where non-IT VIFF staff can use it.

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-033

COMPANY PROFILE
Keboola is a data integration platform-as-a-service that solves the real issues with connecting apps to apps business to business data to data and process to process. Enabling people to collaborate and share results of their work with others and reuse those efficiently without redoing the process. We help customers to offload some of the work to Keboola and thus save time and money. The platform consist of: -built-in components for ETL tasks (extractors transformations writers and data science apps) - standard ways to create new components -storage as data warehouse -user management -data logging and audit system -safe sandbox environment to test and work on data -fully backed by the API functionality

PROJECT DESCRIPTION
Project #1 - Terraform provider support for Keboola platform Terraform is a infrastructure-as-a-code framework similar to CloudFormation on AWS but more universal and open-sourced. We have had more requests from Keboola user community to support it and we would like to move forward with the initial open sourced work from PayByPhone Inc. team. The end result should be a full implementation of Terraform and a public Terraform provider should be offered to the community. Student will be provided all necessary study materials and access to required courses. Specific technical requirements: - Introduction of DevOps concepts ideally terraform/AWS CloudFormation - Go programming language - Basic concepts of code repository (github bitbucket) Student will be required to complete: - Keboola tutorial - Terraform tutorial More information: https://www.terraform.io/ https://github.com/plmwong/terraform-provider-keboola https://github.com/linuxacademy/content-terraform Expected outcome: - Full integration of Keboola provider for Terraform - Delivery of the project based on its scope - Final internal presentation out the work outcomes - Final evaluation and assessment from a team leader (project owner) - Feedback from Keboola Platform product owner - Your feedback on the experience and lessons learnt (Your assessment of how the internship/co-op could be improved for others.)

STUDENTS/TIME REQUIREMENTS Degree - Fall Sept 4 months 1 Full-time 405 hours Aug 15

HARDWARE/SOFTWARE REQUIREMENTS
Introduction of DevOps concepts ideally terraform/AWS CloudFormation Go programming language Basic concepts of code repository (github bitbucket) Student will be required to complete Keboola tutorial Terraform tutorial

PROGRAMMING LANGUAGE(S)
Introduction of DevOps concepts ideally terraform/AWS CloudFormation Go programming language Basic concepts of code repository (github bitbucket) Student will be required to complete Keboola tutorial Terraform tutorial

CURRENT WORK/ARRANGEMENT

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-034

COMPANY PROFILE
Keboola is a data integration platform-as-a-service that solves the real issues with connecting apps to apps business to business data to data and process to process. Enabling people to collaborate and share results of their work with others and reuse those efficiently without redoing the process. We help customers to offload some of the work to Keboola and thus save time and money. The platform consist of: - built-in components for ETL tasks (extractors transformations writers and data science apps) - standard ways to create new components - storage as data warehouse - user management - data logging and audit system - safe sandbox environment to test and work on data - fully backed by the API functionality

PROJECT DESCRIPTION
Project #2 - Automatic project documentation of Keboola Data Integrations Fill the gap of missing automatic project documentation based on project components its configurations and component configuration inter-dependency in the production. The task will leverage two facts: - Keboola platform is fully manageable via programmatic access (API) - All platform components do support markdown-style user description. Benefits: - Decrease time needed for a new person to understand project setup and existing data pipelines - Offer a systematic way to produce a full project documentation including project setup analysis (unused tables transformation options for project optimization) Background: - Preliminary scoping work done but we would require student to offer his/her view on this - Project storage API already offers partial display of data pipeline though without an ability to export it analyze and it is missing the whole component markdown description. Expected outcome: - Full integration of Keboola provider for Terraform Work duties: - Participate and contribute in project management - Most of the day-to-day responsibilities and activities with be work on coding project management - Help the team in small tasks related to the project/keboola platform - Activities in coordination with project teams or co-workers. Tools provided: - Test Keboola platform instance (online tool) - Initial training and materials provided by Keboola - Code of conduct - Employee manual - Keboola training set (Keboola Guide Mode) - Keboola onboarding session - Ongoing support to the student

STUDENTS/TIME REQUIREMENTS Degree - Fall Sept 4 months 1 Full-time 405 hours Aug 15

HARDWARE/SOFTWARE REQUIREMENTS
Specific technical requirements: Concepts of ETL and data manipulation SQL intermediate level Basic knowledge of Markdown language Basic concepts of code repository (github bitbucket) Student will be required to complete Keboola tutorial Student will be

PROGRAMMING LANGUAGE(S)

CURRENT WORK/ARRANGEMENT

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-035

COMPANY PROFILE
Lumerical develops photonic simulation software - tools which enable engineers and physicists to understand light and predict how it interacts within complex structures circuits and systems. Our customers include fortune 500 technology companies innovative start-ups and university research groups in fields including photonic integrated circuits data communication information storage sensing and consumer electronics.

PROJECT DESCRIPTION
Access to accurate complete and timely data is critical for any business. Lumerical is extending and modernizing its existing data warehouse. The goal of this project is to develop the ETL (Extract-Transform-Load) process for connecting the tools we use (CRM Google analytics private SQL databases Constant Contact Discourse forum etc.) to our existing data warehouse. The ETL layer should be build using modern tools such as AWS services (Redshift S3 Athena Glue). Maintenance effort failure reporting and ease of adding more data sources are additional important considerations. Lumerical will provide three project sponsors: A senior manager that understands the business requirements two software developer of which one will be the primary contact person and a DevOps engineer that will advise on product system requirements. The primary objective is to have the BCIT students participate in developing systems using modern cloud-based technologies that will be incorporated into Lumericalâ€™s production systems.

STUDENTS/TIME REQUIREMENTS The ISSP term option would be for the Fall semester starting in September

HARDWARE/SOFTWARE REQUIREMENTS
1. MySQL possibly but not limited to MySQL 2. AWS (RedShift S3 Athena Glue) 3. SugarCRM and Google Analytics 4. REST-based APIs

PROGRAMMING LANGUAGE(S)

CURRENT WORK/ARRANGEMENT

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-038

COMPANY PROFILE
Moeda is a car purchasing platform that allows users to take the worry out of buying cars. 6 months ago we were able to acquire seed capital to continue the building of our platform and are looking to release our project in summer of 2019. We have just completed the beta version of our platform (mobile and web) and are now working with a marketing firm to get user feedback.

PROJECT DESCRIPTION
Moeda is currently in its beta testing phase with the platform (both in mobile and web). The project assignment would be geared towards building a more intuitive chatbot with the use of Google's Dialogflow. As of right now the bot has basic conversational abilities but needs to be expanded to address the various ways a user would interact with it. The following goals are expected: 1. Develop a dialog pattern that accounts for various custom choices a user may want when buying a vehicle 2. Train the bot to understand various sentence structures and determine what parts of information are necessary to narrow down search parameters 3. Create unit test logging for future debugging 4. Improve backend features with the communication workflow relationship between the user and the bot to ensure all the necessary information is there

STUDENTS/TIME REQUIREMENTS No Preference

HARDWARE/SOFTWARE REQUIREMENTS
https://console.dialogflow.com

PROGRAMMING LANGUAGE(S)
Typescript

CURRENT WORK/ARRANGEMENT

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-045

COMPANY PROFILE
A photo-based social app that takes the guesswork out of your personal and professional relationships. It allows you to specify your intentions (anonymously or otherwise) for other users using 6 comments as follows: Let's Be Friends (Friend Zone) -Hang Out (Friend Zone) -Go on a Date (Love Zone) -Get serious (Love Zone) -Connect (Work Zone) -Collaborate (Work Zone) When two users rank each other with the same comment category they are notified and can start chatting in the app.

PROJECT DESCRIPTION
PLEASE NOTE: Rendezwoo Technologies Inc. will retain perpetual ownership of all Intellectual Property rights for designs wireframes source codes program codes object codes and/or any other materials created during this project. Students may showcase the app in their portfolio for academic and/or job-seeking purposes but will be required to sign away the IP to Rendezwoo Technologies Inc. This project involves: 1) Creating a backend using Amazon AWS cloud server or a comparable cloud server 2) Server side applications in PHP/MySQL/Javascript NodeJS RESTful API 3) Integrating it with the front-end iOS app (currently under development) High-level App features are as follows: 1) Log in and Account creation with Facebook 2) Accessing user location 3) Sending notifications 4) Account creation by accessing user data from Facebook including name gender age relationship status current occupation and workplace school/college/university info profile photo friend list. 5) Storing user preferences based on location of other users and interest shown in their profile by other users 6) Allowing user to upload photos or import photos from Facebook and Instagram. Storing photos uploaded by users. 7) Allowing users to tag other users (already connected with them on Facebook) in photos. Storing user tags. 8) Allowing users to see photos of their friends friend of friends and all other strangers on the app interface. 9) Allowing users to like share comment on photos. 10) Allowing users to send notes (the 6 notes mentioned above) to others users anonymously or otherwise. 11) Showing photos of other users based on user preferences. 12) Allowing user to search for other users using their name. 13) Reporting or blocking users photos comments. 14) Private chat functionality

STUDENTS/TIME REQUIREMENTS No Preference

HARDWARE/SOFTWARE REQUIREMENTS
Server side applications in PHP/MySQL/Javascript Node JS RESTful API AWS Cloud server

PROGRAMMING LANGUAGE(S)
Server side applications in PHP/MySQL/Javascript Node JS RESTful API AWS Cloud server

CURRENT WORK/ARRANGEMENT

PREVIOUS PROJECT? no

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PROJECT# W19-046

COMPANY PROFILE
The Royal Columbian Hospital (RCH) is the oldest hospital in BC established in 1862. It is one of the busiest in the Fraser Health Authority seeing 60 000+ patients and 100's of thousands of visitors every year. RCH is the main trauma centre for the lower mainland and is the only hospital in the province with cardiac trauma neurosciences high-risk maternity and neonatal intensive care all on one site. We attend to the needs of some of the most seriously ill injured and trauma patients in the province and is ranked as one of the top hospitals in Canada. As it is a large hospital it is difficult to navigate; therefore a Wayfinding App would be extremely helpful for our patients and visitors.

PROJECT DESCRIPTION
Phase 1. Develop Web based Public User Interface based on existing Proof of Concept UI Design - For the Public User interface web portal the next team must use React and React-Digraph in order to properly access and display the back-end data. - Create a basic user guide - Full Public User Interface testing - Many of the development and implementation details for this phase will be included in project hand-off documentation to be provided by the outgoing development group. This report will also include a technical update on the current state of the project. Phase 2. - Research Internal Wi-Fi positioning system. See: https://en.wikipedia.org/wiki/Wi-Fi_positioning_system https://en.wikipedia.org/wiki/WPS https://en.wikipedia.org/wiki/Hybrid_positioning_system - Identify an optimal method for the Wayfinding Application â€¢ Internal publicly accessible Wi-Fi system should be completed and available March 31st 2019. These Wi-Fi hot spots are conveniently located thru-out the facility and can be the anchor nodes for the routing maps

STUDENTS/TIME REQUIREMENTS January to August 2019 We would like to complete this project as soon as possible.

HARDWARE/SOFTWARE REQUIREMENTS
The tech stack used for the current database back-end and web admin portal is as follows: â€¢ OpenSource technologies â€¢ Firebase Firestore for the database â€¢ Firebase Cloud Functions for the back-end service â€¢ Firebase Cloud Storage for image stora

PROGRAMMING LANGUAGE(S)
All team members need to have experience with one or more of the following technologies or similar â€¢ Basic Graphics Development and Modification of PNG based images â€¢ User Interface development based on an existing wireframe and Redux (JS Library) to reduce complexity â€¢ User Interface Testing â€¢ Technical Writing and User Documentation production â€¢ Creation of dynamic extensible routing maps using nodes and edges â€¢ React â€¢ React-Digraph

CURRENT WORK/ARRANGEMENT
Weekly meetings

PREVIOUS PROJECT? yes, Current State of Project â€¢ Proof of concept platform has been used to re-architect wayfinding application to make it o Extensible o Cross Platform compatible with any HTML5 based browser on any client or mobile device â€¢ Database has been architected and developed

and is currently being populated with some PNG based maps and routing data â€¢ Administrative Web Portal â€“ has been designed and developed and is live

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-047

COMPANY PROFILE
The Salvation Army Addictions and Rehabilitation Centre (ARC) is a social service provider serving some of the most vulnerable people in Victoria. Our heart is to provide the highest level of assistance dignity and compassion to those we serve. Our services include providing 56 emergency shelter dorm beds and 46 transitional housing individual rooms for men in need. The residents have access to three meals per day spiritual care on-site counselling and caseworkers to provide support and referrals. During their stay staff work to empower residents to continue on a path of healing as many of our guests are working to overcome addiction mental health issues past trauma and chronic homelessness.

PROJECT DESCRIPTION
We are requesting help completing and refining an application that tracks residents who have stayed / are staying at the ARC. ARCWay (the application) was designed and developed by BCIT students over a few project terms and we love it! Unfortunately we have found some glitches that hinder ARCWayâ€™s productivity and cause problems for our team communication. Many of these issues are small details such as reorganizing the registry of clients so the bed numbers are numerically ordered properly and fixing the lunch registration list so that it is usable. Another example is that the program allows the user to book the same client into two beds which causes obvious confusion. The accumulated list of fixes should be enough to keep a team of students busy for the term. Although they are small issues they significantly hinder the usefulness of the program.

STUDENTS/TIME REQUIREMENTS no preference

HARDWARE/SOFTWARE REQUIREMENTS
This is a Windows desktop application in which most of its functionality is dependent on a SQL database. ARCWay was created using Qt so any new team will need to install Qt Creator or Qt Visual Studio Tools to continue work on the project. Although Qt al

PROGRAMMING LANGUAGE(S)
C++ (Qt cross-platform SDK); SQL

CURRENT WORK/ARRANGEMENT
We currently use ARCWay and use Microsoft Excel to supplement the areas where the program is glitching.

PREVIOUS PROJECT? yes, to date four teams have worked on this project.

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-048

COMPANY PROFILE
We are a startup company who is creating social network for entrepreneurs skilled collaborators and Investors. We provide them with the tools to meet and collaborate on startup projects. We break down geographical cultural and class barrier and democratise the startup space.

PROJECT DESCRIPTION
The team will be working to create tools to: - Harvest Linkedin contacts (with permission of the user) - Harvest gmail emails (from messages and from contacts) with the permission of the user - Harvest yahoo emails (from messages and from contacts) with the permission of the user - Harvest hotmail emails (from messages and from contacts) with the permission of the user - Develop the add-on module to the social networking platform Because of time limitation we may have to drop one or more of the above integrations.

STUDENTS/TIME REQUIREMENTS

HARDWARE/SOFTWARE REQUIREMENTS
We will provide Digital Ocean VPS

PROGRAMMING LANGUAGE(S)
PhP MySQL

CURRENT WORK/ARRANGEMENT
Set-up of infrastructure (Information are available) - Set-up of the base social media platform (Information is available) - Customization of the platform (Information is available) - Development of the above described module (You will be working with a p

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-049

COMPANY PROFILE

At Sports Technology Group (STG) we help federations leagues and teams streamline their athlete administration processes to eliminate redundant back-office workflows and enable them to explore new business opportunities. Utilizing blockchain technology STG is building a Smart Athlete Manager (SAM) platform that is simple and secure designed specifically to solve the challenges associated with the administration of athletes. STG plans to roll out the SAM solution to sports leagues and federations globally. STG's mission is to future-proof the sports industry with innovative technology starting with blockchain. STG is providing a way to connect data that is currently siloed into one blockchain platform allowing the data to speak to each other. The first module in the SAM platform that is currently being developed is the contract management module. The SAM contract module puts athlete contracts on a digital interface and allows for real-time digital signing and contract editing. It provides visibility to all parties involved and can automatically sync with the rules and regulations of the league and lead to automated payouts. The contract management module is simply one of the many modules planned for our Smart Athlete Manager platform. Future modules include an athlete marketplace module salary cap module sponsorship module athlete transfer module financial module and tax module. This platform aims to be the underlying athlete administration infrastructure for all sport and esport codes around the world.

PROJECT DESCRIPTION

STG is looking for a student to help with the development of our Smart Athlete Manager's next module - the athlete marketplace module. The goal of this module is to create a database for all athletes worldwide separated by sport code. STG is looking for a BCIT student to come on as a team member for our "Athlete Marketplace Project". We are looking for a student to help us with a scope and proof-of concept for our an athlete marketplace module focused on Canadian Soccer that would fit into our blockchain-enabled Smart Athlete Manager platform. This student's responsibilities would include: Work with the STG team to determine needs and requirement of building this database Determine flow of information through database Perform research into any existing databases for Canadian soccer players and if so determine API requirements Create strategic plan for how this database would be populated (eg. athlete-driven team-driven league-driven etc.) Develop technical infrastructure for Canadian soccer athlete marketplace database Work with the STG Dev Team to determine existing dev structure of our Smart Athlete Manager platform and corresponding dev needs of our athlete marketplace module Map out how this athlete marketplace would fit into our existing Smart Athlete Manager platform Perform a proof-of-concept for STG's Athlete Marketplace Module This is a new project for STG so we are more than open to narrowing down the scope of work once a BCIT student begins to work with us. We are a very small team therefore we are a very tight knit and collaborative team. We hope that the BCIT student brought onto this project enjoys working in a fun open fast-paced and team-oriented atmosphere. STG commits to providing with the BCIT student with the resources knowledge and assistance needed to perform all project tasks. Our local team in Vancouver and dev team in South Africa are both here to help support teach and learn from him or her.

STUDENTS/TIME REQUIREMENTS Degree - Winter 1 Student from January - April Or Diploma - Winter 1 Student from January - April

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
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HARDWARE/SOFTWARE REQUIREMENTS
No hardware or software provided students must bring their own equipment with hardware and software installed ie. all hardware and software to code on Java CSS and HTML. Our team works primarily on Google Drive for internal communications and documents

PROGRAMMING LANGUAGE(S)
Java CSS HTML

CURRENT WORK/ARRANGEMENT
Sports Technology Group is headquartered in Vancouver BC at Launch Academy in the heart of Gastown. Our small (but mighty!) team is comprised of our CEO Gary Boddington Marketing & Research Coordinator Dannie Boyd Project Manager Mark Pearson and Re

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-051

COMPANY PROFILE
Super Points is an interactive platform that brings incentives directly to people for doing what they already do. We are building a marketing platform that allows businesses to reward their best customers inform them of deals when they enter the vicinity and collect points for shopping in related zones.

PROJECT DESCRIPTION
1. A mobile App for Users This app along with location services or Bluetooth beacon technology will reward shoppers for visiting their regular shopping locations. Every time someone spends 5 minutes in a participating store they will acquire points for supporting local businesses. This cumulative point system will provide benefits for them to redeem as they wish. The App will also allow customers to give feedback on their shopping experience if they wish allowing the business owner to collect direct feedback on their stores' performance in customer service. 2. A Database with dashboard access: This tool will be used for participating businesses to Update any incentives they wish to push out as well as reference their best customers for any given time period. This reference will allow them to reward their best customers directly. It will also allow them to see trends in regular customer activity regarding their store so they can see if they have gained or lost traffic over a period of time. 3. The Framework This system will be organized on a zone-basis. Each zone (New Westminster Burnaby etc) will be location-based with focus on incentivizing people to shop in their local area. Not only does this reduce vehicle use but a more active lifestyle by motivating people to shop in their local area. The framework will draw data from the database and push it to the users' mobile devices. Currently we are building a prototype and establishing the requirements for this system to be built. We are using New Westminster as a test location to prove the business model before launching this. We are looking for a motivated group to help us build this platform and test it. As fellow students though in a different program our goal is to establish a strong presence in our industry and prove our skills in future ventures.

STUDENTS/TIME REQUIREMENTS No Preference

HARDWARE/SOFTWARE REQUIREMENTS
Desktop Computers Mobile devices with location information sending/receiving

PROGRAMMING LANGUAGE(S)
Open to suggestions

CURRENT WORK/ARRANGEMENT
Currently we are ground floor on this project. We have begun layout of the features and structuring the initial build. We have registered the business name and are in the process of submitting a patent.

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-052

COMPANY PROFILE
We are a small company of four people based in Vancouver. We make speech therapy apps to help adults and older children learn how to communicate again after they have had a stroke or a brain injury. Our customers are both Speech-Language Pathologists (SLPs) and their clients. Our apps automate a lot of the therapy techniques that an SLP would normally have to manually setup themselves as well as collecting data and providing reports. Once the speech therapy session is over the apps can then be used independently at home by the client to get more practice as studies show more practice can lead to better results. We have many different apps that target different rehabilitation exercises and techniques. The apps are currently available on Apple and Android devices.

PROJECT DESCRIPTION
Our apps are currently only available on Apple and Android devices. We are exploring what it would take to make them available on the Web which means this project would be suitable for an individual or group that is interested in full stack frontend and/or backend web development. The project can be broken down as follows: 1) Gain an understanding of one of our simpler apps. We will introduce and explain the app to you. At all times you will also have access to the app designer the app coder design documentation and testing plans as needed. 2) Based on your understanding of the app create a technical document detailing the implementation of the app on the web. This would include explaining what components or services (tech stack) will be needed to successfully implement the app on the web how the components would interact which parts of the current app would be implement in which part of the tech stack etc. We will iterate on this to make sure we all understand what is involved. 3) Start implementing the app on the web based on the technical document you created. We have no expectations that part 3) will be completed by the end of the project but we would love to see how far we can get so we can start to answer some of the questions and problems that will arise during implementation. We would like to keep this project confidential and potentially use the IP generated during the project so we would ask you to sign the standard BCIT Student Practicum Confidentiality Intellectual Property Agreement.

STUDENTS/TIME REQUIREMENTS Degree Winter Also perhaps Diploma Winter if a group thinks they can cover the full stack aspect of the development together.

HARDWARE/SOFTWARE REQUIREMENTS
Based on the technical documentation we create in part 2) we can work together to provide whatever cloud software hardware needed to enable work to begin on part 3). (AWS Google Cloud etc)

PROGRAMMING LANGUAGE(S)
We are open to using whatever languages the applicant is familiar with or whatever web tech stack we all agree on would be best. Things like LAMP MEAN React and others can all be part of the conversation.

CURRENT WORK/ARRANGEMENT

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
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AS OF JAN 8, 2019

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-053

COMPANY PROFILE
Tempify is an on-demand Dental Temping platform and employment agency. We specialize in connecting Dental Offices with Dental Professionals through our online platform.

PROJECT DESCRIPTION
The primary goal of this project is to recreate the existing platform and back end to ensure fluidity between the platform and connected servers. This is a double ended marketplace connecting 2 parties for work purposes. This project will include the following goals and deliverable; 1) Analyze and interpret existing code. 2) recreate entire platform using current industry standards. Closely following CASL guidelines and all other Canadian regulations. 3) Administrative page will need to be created in order for our administrators to follow each transaction. 4) platform must also be integrated with a payment gateway. (currently using Braintree and PayPal) 5) Add new features to existing platform. (if time permits) These features will include a rating system for offices and professionals and a rewards system for professionals. User experience and design is also very important for this project.

STUDENTS/TIME REQUIREMENTS Diploma Winter - Jan 2019 (13 weeks)

HARDWARE/SOFTWARE REQUIREMENTS
No hardware requirements

PROGRAMMING LANGUAGE(S)
Current language being used is PHP with MySQL as the database. Students are welcome to use any language they are comfortable with as long as the end results are the satisfactory.

CURRENT WORK/ARRANGEMENT
The current platform is fully functional. Website maintenance has been outsource to a team of developers overseas.

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-054

COMPANY PROFILE
TerraTap Technologies Inc. is a Canadian technology company owned and operated in New Westminster BC since 2009. TerraTap develops software solutions that utilize location based proximity technology the Internet of Things (IoT) and Open Data. TerraTap has won numerous entrepreneurial awards for their products including 2nd place for the SFU Venture Connection Coast Capital Savings Venture Prize competition Top 25 in the BCIC New Ventures competition and the Gerri Sinclair Award for Innovation in Digital Media from the Centre for Digital Media.

PROJECT DESCRIPTION
ODEN (Open Data Developer Network) is a novel system for helping developers easily find and consume Open Data in their mobile apps or websites. Open Data is data that can be freely used re-used and redistributed by anyoneâ€• . For providers of Open Data they are not aware of how their data is being used and who is using it. Also when they look to expand their datasets they do not know which ones to provide that will be of most benefit to the developer community. This project is to explore and create a dashboard for providers in ODEN so that they can learn and grow with knowledge.

STUDENTS/TIME REQUIREMENTS January

HARDWARE/SOFTWARE REQUIREMENTS
Firebase functions and Firebase Firestore.

PROGRAMMING LANGUAGE(S)
JavaScript HTML5 CSS3

CURRENT WORK/ARRANGEMENT
This is a new project. The goal is to fit into the existing ODEN ecosystem.

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-055

COMPANY PROFILE
TerraTap Technologies Inc. is a Canadian technology company owned and operated in New Westminster BC since 2009. TerraTap develops software solutions that utilize location based proximity technology the Internet of Things (IoT) and Open Data. TerraTap has won numerous entrepreneurial awards for their products including 2nd place for the SFU Venture Connection Coast Capital Savings Venture Prize competition Top 25 in the BCIC New Ventures competition and the Gerri Sinclair Award for Innovation in Digital Media from the Centre for Digital Media.

PROJECT DESCRIPTION
ODEN (Open Data Developer Network) is a novel system for helping developers easily find and consume Open Data in their mobile apps or websites. Open Data is â€œdata that can be freely used re-used and redistributed by anyoneâ€□. ODENâ€™s developer community needs a wealth of Open Data to exist from a variety of sources for the apps they develop. The issue we have is that not all of those who want to supply Open Data understand the format Open Data requires. The goal of this project is to create an Open Data Editor to make this process easier. ODEN makes use of schemas (http://json-schema.org/) to describe what Open Data looks like. The Open Data Editor will allow those with limited technical knowledge to easily create/edit Open Data without needing to understand these underlying schemas. The Open Data Editor will be a dynamic web form that is built from the selected schema and needs to show an HTML representation of the data in an easy to understand visual as it is being put in.

STUDENTS/TIME REQUIREMENTS Diploma - Fall

HARDWARE/SOFTWARE REQUIREMENTS
The project will run on Google Cloud Hosting and likely make use of Google Cloud Storage it will need to work on all supported versions of desktop browsers (Edge IE FireFox Chrome Safari) for Windows./Mac/Linux. This project will integrate with GitH

PROGRAMMING LANGUAGE(S)
JavaScript HTML5 CSS3

CURRENT WORK/ARRANGEMENT
This is a new project. The goal is to fit into the existing ODEN ecosystem.

PREVIOUS PROJECT? yes, The initial version of ODEN was a 3900 student project however this project is not a direct continuation.

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-056

COMPANY PROFILE
ThinkCX is a 5-person technology startup based in Langley BC focused on developing big data solutions for mobile carriers and smartphone manufacturers. We use ad tech data providers to build up a set of user attributes and a ML model to identify when a user upgrades their smartphone. We have identified the carrier device make device model and location of over 200 million devices in Canada and the US and detect over 1 million device upgrades a month. We use this anonymous data to provide industry trend analytics custom audiences for ad targeting and omni-channel conversion measurement. Our vision is to advance personalized advertising in the mobile telecom space and build an unparalleled predictive analytics solution to detect when consumers are about to upgrade their phones or switch carriers well before they actually do.

PROJECT DESCRIPTION
We want to allow our clients and non-technical staff to segment and download an audience (list of users) for the purposes of targeted advertising for mobile carriers' digital ad campaigns. Clients and staff could log in to the web property and preview the audience sizes of segments such as how many iPhone X users or how many Fido subscribers with a device older than 12 months are in our database. The goal would be to develop a web app and User Interface to query a table of over 200 million rows from our SQL database. This would contain at least 8 different variables used to filter the data and the UI would provide counts of the chosen variables and show basic visualizations of the data's attributes. This interface should also allow users to easily download the data with the selected attributes in a CSV file. As an additional feature users would be able to upload a CSV list of records with a primary key (user IDs) and the application would match the IDs to records in the database and export specific fields from those records for the user to download. The web app could be hosted on a WordPress site (our current website) via plugins or hosted on a subdomain. WordPress may be recommended to take advantage of its existing user management security and administrative tools as well as to simplify web hosting. We have multiple full-stack developers and a Wordpress developer. No intellectual property restrictions.

STUDENTS/TIME REQUIREMENTS Degree - Fall or Diploma - Fall

HARDWARE/SOFTWARE REQUIREMENTS
Computer with internet access

PROGRAMMING LANGUAGE(S)
SQL PHP JavaScript HTML CSS

CURRENT WORK/ARRANGEMENT

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-057

COMPANY PROFILE
We are innovative software vendors catering to Real Estate Industry. We have SaaS products that we sell across Canada. We are continually improving our products with latest cutting edge technology.

PROJECT DESCRIPTION
- Overview: parse real estate listings data into new db and display data on map, working example will be provided for students to clone
- Database is in XML format; working model using partial data set is used for current product
- Real estate search includes a form similar to Realtor.ca and a map search feature
- Secondary text/photo search form; uses responsive template
- May use JSON, XML, PHP, Linux
- All resources necessary will be provided
- Project supervisors are very experienced with the tasks to be completed

STUDENTS/TIME REQUIREMENTS Sept - for 4 months. Preferably 1 degree program student.

HARDWARE/SOFTWARE REQUIREMENTS
Student needs PC or MAC to work. Any text editor and a FTP should work. Tests will be done on all browsers.

PROGRAMMING LANGUAGE(S)
PHP MYSQL JQUERY/AJAX & JSONP

CURRENT WORK/ARRANGEMENT
It is an agile development environment - we analyze requirements - start preliminary design and get affirmation on the design (make sure we are not off the target). Final approval leads to development. The development is normally phased out.

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-059

COMPANY PROFILE
UME Academy Inc. is an education company that provides game-based design thinking courses and programs for children between 6 and 14 years of age. UME Academy's formation was inspired by a need to address the lack of foundational problem solving skills found in today's workforce. UME Academy has been successful in teaching over 5 000 students in the Lower Mainland of British Columbia since 2015.

PROJECT DESCRIPTION
At UME our instructors travel around the city with a kit of 15 laptops and work with up to 200 students each week. Each student works on their own game design and is assigned a USB key to store their projects during the session. At the end of the session the projects are built and published to our arcade website. Your job will be to make this process easier faster and friendlier. We have a collection of tools for provisioning USB keys building games imaging laptops launching applications. This suite of tools make it quick and easy for instructors to manage their students. We would like to see this suite of tools converge into an awesome tech platform. Some of the features you would be implementing: 1. Cloud building of games - currently games are built on a single machine and takes 5-10 mins/game. That process can be moved to the cloud so that hundreds of games can be build at once on a daily basis and students can showcase their work each class. 2. Unify Provisioning and Building System - design a multi-threaded environment to process dozens of USB keys students games courses from one slick interface. This tool would be used by teachers to manage their classes. 3. Design and implement a Database that captures all of the important information about students games classes builds etc. that becomes the hub for all UME technologies. You won't be working on your own Jean and Daniel UME's founders will be there to help with any technical questions or design decisions. Both have extensive experience developing technology for games film and apps.

STUDENTS/TIME REQUIREMENTS This project can be approached as an intensive winter project for 1 dynamic full-time engineer or shared across a team of part-time engineers.

HARDWARE/SOFTWARE REQUIREMENTS
Linux Windows.

PROGRAMMING LANGUAGE(S)
Python is our primary language for development. Javascript and NodeJS may also be used.

CURRENT WORK/ARRANGEMENT
Currently the tools are individually managed and developed by Daniel and Jean.

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-062

COMPANY PROFILE

Solo female travel is on the rise with 58% of solo travelers today being women over the age of 35. These women are confident independent and love the freedom and flexibility of solo travel but also crave connection and want to feel safe. Theyâ€™re also an overlooked market. Theyâ€™re often not staying in hostels anymore which makes it harder to meet travel companions and current available platforms for solo travelers to meet mostly target the stereotypical â€œyoung backpackerâ€• which alienates mature women and thereâ€™s also no real emphasis on safety which is the number one concern for women traveling alone. We are developing a community platform to help solo female travelers over 30 find and connect with each other during and before their journey via geo-location and shared interests so they can explore together share recommendations and get support when they need it most. Our mission is to make travel safer for women while empowering them to explore the world.

PROJECT DESCRIPTION

"Fernanda, the Primary Founder and CEO of Wanderher, was part of the Founder Institute program (a startup accelerator) from Oct 2017 to Jan 2018. Out of 17 companies only 8 made it through to the end of the program and our company came up at the top of the class deemed the most promising by many of the mentors and advisors. Throughout the program, Fernanda worked on idea development, customer validation, branding and design, revenue models, project spec and roadmap. Upon completion of the program, Fernanda joined forces with Katerina Hanson, a Software Engineer based in San Francisco. Shortly after, Eugenie Stevens joined as a Social Media Coordinator and the initial Wanderher team was formed.

Our platform is based on a foundation of 3 core pillars: connections, safety and recommendations. For the MVP/ soft launch we are focusing on:

- User Registration
- Ability to block/report users
- General Settings/ Notifications
- Ability to add a trip an upcoming trip and match with other users who'll be there around the same time (being able to specify age language and interests in their discovery settings to find users that fall within those categories)
- Ability to browse users nearby (while on a trip),follow and private message them
- Ability to request a helping hand from the community when running into a minor emergency
- Ability to reach the local authorities (ie. 911) with one click when running into a more serious situation
- Ability to add photos to their profile
- Ability to pull in attractions from Trip Advisor and give users the ability to leave their own recommendations and reviews - although there is a chance that this may be left for a later version, depending on timing and other factors.

We currently have a framework in place; frontend and backend API with postgres database. The system has login and signup basic features, such as messaging and forms, profile builder, image uploading. Katerina, our CTO, specializes on backend development and would love some help to get some additional features built and some of our current ones optimized before we launch.

Going forward, some of the features we'd like to implement are: permissioning, notifications, Google Places API and a few others, as well as fine tuning and optimizing the look of existing features. We

have an up-to-date project spec and roadmap spreadsheet as well as product mockups which we are happy to share and meet in person to discuss. The project spec and roadmap include the MVP functions (outlining what's already been built) as well as the long-term vision for the platform, and we can share all the work that has already been done.
Our goal is to do a soft launch by Spring/ early Summer of 2019. We'd love to work with a student who has skills in front end, design and user experience (CSS, UX/UI Design). We'd love to mentor you on Javascript and React/Redux if those are skills you'd like to build upon! We also have an interest in doing a React Native version of the platform for mobile, so this could also become part of the project if you have an interest in learning it.
We are happy to work within a flexible timeline and meet/ Skype whenever needed. Fernanda (the CEO) is based in Vancouver and Katerina (the CTO) is based in San Francisco. We have a Slack Channel and also Skype/ Google Hangouts regularly.
Our social media platforms are growing and we already have 1,500 followers on Instagram - and we haven't even launched yet! Come help us build a product that's going to inspire world travel and empower women everywhere
Fernanda & Katerina - www.wanderher.com

STUDENTS/TIME REQUIREMENTS We'd like to apply for the term beginning in September for 13 weeks as it would be a great help to get our platform ready for an end of year launch! We are happy to work within a flexible timeline provide guidance and meet the students either in person

HARDWARE/SOFTWARE REQUIREMENTS
Weâ€™re starting with a website/web app - and may look at building a native iOS or Android app in the future once we have gained a community. Ideally the student(s) would have access to a Linux or Mac or a Windows machine with Docker installed.

PROGRAMMING LANGUAGE(S)
Javascript (ECMA6) CSS HTML.

CURRENT WORK/ARRANGEMENT
We have a development and production site changes are pushed as pull requests to GitHub where they are reviewed and auto-deployed on merge. We track tasks on Trello and have minimal monitoring. Katerina (our CTO) will be working directly with the studen

PREVIOUS PROJECT? yes, Stood up client-side frontend and backend API with postgres database. System has login signup basic features such as messaging and forms profile builder image uploading.

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PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-063

COMPANY PROFILE
WCI provides expert advice in meteorology and climatology from risk assessments to forensic meteorology to operational forecasts. We deliver online and mobile solutions that present the wealth of weather climate and business insights in an accessible and scalable decision support system. From lightning detection and severe weather early warning systems to seasonal climate outlooks and integrated business intelligence solutions our tools can help your organisation mitigate and plan for any weather/climate-related impact.

PROJECT DESCRIPTION
Integrated Real-time Insights (IRIs) brings data streams real-time analytics alerts and business intelligence all into one location accessible from anywhere. Environmental monitoring is a balance of scale how accurate can you get while covering the largest possible area? The IRIs system is a unique combination of data sources and the analytics to make sense of the flood of available data. We start with a reference station then layer a network of interconnected sensors around the reference station. This network can consist of: Mobile Micro Pulse Lidar (Mini MPL) giving the user a scan of the entire atmosphere up to 15km across a predefined defined horizontal swath; Mirco-sensors cost-effective Interconnected Li-Ion battery-powered sensors capable of measuring multiple pollutants simultaneously including; PM2.5 PM10 SO2 H2S CO CO2 NO NOx O3; Real-time Lightning tracking; Satellite and Radar imagery. IRIs is built on the TICK stack consisting of telegraph influxdb chronograph and kapacitor. The stack allows for IoT devices to securely deliver data streams in real-time with built-in analytics machine-learning alerts and dashboards. We currently have a beta version running as an in-house demonstration. The project is to push the local demo to AWS continue to build the feature sets of IRIs such as adding a live stream of global lightning detection data Canadian radar data and numerical weather model data. We hope to extend this into a machine-learning algorithm that will be able to detect track and alert end users of weather-related hazards prior to the impact is realised. The students will be expected to learn how to install and maintain the TICK stack in a cloud-based environment retrieve format and inject new data streams provide basic analytics of the data streams configure alerts based on multiple factors and flags within different data streams and create visualisations of the data within the TICK stack.

STUDENTS/TIME REQUIREMENTS No Preference, We would like to start the project in January 2019.

HARDWARE/SOFTWARE REQUIREMENTS
Students are required to provide their own laptops. All software is opensource any applications requiring a license will be provided by WCI

PROGRAMMING LANGUAGE(S)
Programming is generally carried out in Python PHP and SQL

CURRENT WORK/ARRANGEMENT

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Tasks are currently run through Asana with a code repository in Bitbucket. The CEO is also the technical lead on the project and is available throughout the day to assist the students throughout the project.

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-064

COMPANY PROFILE
Our mission and vision are to advance the art of business management and leadership through an e-learning platform providing instruction communications strategy and leadership. We will do so by providing high-quality e-classroom programs and instruction for owners executives managers and employees with a focus on filling critical job-related skill gaps. Our company has over 200 courses already developed and ready to be deployed on an LMS (Learning Management System) which includes hours and technical training together with certification and supplemental manuals and web-based classroom teaching and training.

PROJECT DESCRIPTION
Thought Models Training Solutions has a mission and vision to advance management and leadership through the newly emerging E-Education/E-Learning protocol. The company will begin with a Canadian based LMS hosting company. Over time we will implement as many of our programs in segments which are timed and organized to build the E-Classroom. In this project we will be creating a new LMS e-Learning web page that will handle all our electronic training programs and E-Learning Classrooms. Our company is â€œContent Richâ€• in these programs and training packages and we can now deliver them to the global marketplace through an LMS provider. We will require a Non Disclosure agreement with the students /development team

STUDENTS/TIME REQUIREMENTS A Learning Management System (LMS) is a software application for the administration documentation tracking reporting and delivery of educational courses or training programs.1 They help the instructor deliver material to the students administer tests

HARDWARE/SOFTWARE REQUIREMENTS
Utilization of the latest technology would best serve this project - we have done some research and can review /submit as requested This remains the recommendation of the development team together with a review of the system preferances currently in the

PROGRAMMING LANGUAGE(S)
This would be based on recommendations of the team

CURRENT WORK/ARRANGEMENT
Kathy Welter has successfully developed and implemented an E-Commerce site for a privately held company in the financial sector taking the company from 4mm$ in revenues to 80mm$ in revenues in just under four years. In addition she developed an E-Learni

PREVIOUS PROJECT? no

BCIT COMPUTING ISSP PROGRAM – JANUARY 2019
PROJECTS AVAILABLE FOR CST STUDENTS
AS OF JAN 8, 2019

PROJECT# W19-065

COMPANY PROFILE
Headquartered in Vancouver British Columbia White Spot is a B.C. legend. Founded in 1928 when Nat Bailey launched Canada's first drive-in restaurant at Granville and 67th the chain now sees more than 17 million guests annually at 125 White Spot and Triple O's locations throughout B.C. Alberta and Asia and employs 3 500 people. White Spot strives to find ways to use the latest proven technology to become more profitable or gain a competitive edge while being first mindful of the risks to our business by changes to technology in our external environment.

PROJECT DESCRIPTION
This project will focus on developing a website that will allow guests to look up and customize menu items according to known allergens. Functionality to include but not be limited to: - Ability to filter menu items by known allergens - Ability identify ingredients within menu items that have known allergens White Spot Limited has a current information management system (theHUB) that will need to integrate with this new system.

STUDENTS/TIME REQUIREMENTS No Preference

HARDWARE/SOFTWARE REQUIREMENTS
Application will run on Windows Server 2008 R2 IIS 7.5 SQL Server 2014 Recommended Tools SSMS 2014+ Visual Studio 2017 GitHub Repository

PROGRAMMING LANGUAGE(S)
C# (ASP.Net Web Application â€“ MVC 5 & Web API) T-SQL (SQL Server 2014) JavaScript (Vue.js or any modern JS framework if comfortable)

CURRENT WORK/ARRANGEMENT
Current information is a PDF document.

PREVIOUS PROJECT? no