




# UNT College of **ENGINEERING**

Senior Design Day 2018



Department of  
**COMPUTER SCIENCE  
AND ENGINEERING**



# COMPUTER SCIENCE

# DROP TABLE Teams

## Team Members:

- Kamyak Addagatla
- Jay Bishop
- Tara Boyle
- Hansaj Patel

## External Sponsors/Mentors:

- Team members' mothers
- Tara's friend who is a mother

## Internal Sponsors/Mentors:

- Stephanie Ludi

## Abstract:

Track My Baby is intended to be a mobile application to allow new parents/caregivers to track milestones and everyday life occurrences involved in caring for babies. Life occurrences include events such as feedings, diaper changes, and sleeping. With this application, our goal in its implementation is to allow for potential users to be able to sync the milestones and data collected across multiple devices as well as be able to share needed data with a pediatrician (or the parents if being used by a caregiver). Track My Baby will be an essential tool that will aid parents in raising and caring for their babies.

This will help parents keep up with their babies needs. Help everyone using the app and the baby to remember there medication and allergies. The tracking done will help doctors diagnose illness with their baby easier and more accurate.

Our app stands out due to sharing baby track data with doctors and caregivers. Also stands out with illness tracking and friendly user access.



We'd like to acknowledge Android studio forms and Google firebase.

# Team Hydra

## Team Members:

- Nohemi Gonzalez
- Aaron Bucklin
- Jose Salazar
- Robert Torres
- Russel Price

## External Sponsors/Mentors:

## Internal Sponsors/Mentors:

- Stephanie Ludi

## Abstract:

With the integration of technology into every aspect of our society and with there being no industry in which computers have not take a central role, there is a push in education to teach younger generations about the fundamental concepts of programming and computer science. While there have been some curriculum shifts to include the subject in various schools and grades, the trend has been slow to spread. Outside of the classroom, searches for games and apps both online and in the phone market have shown that there is no medium that is targeting this age group in a relatable and engaging way.

The aim of this project is introduce to children between the ages of seven and eleven the basics of Boolean Algebra as well as fundamental coding concepts such as if-else statements, while loops, and for loops. Through an interactive and progressive learning style, it is our hope to ingrain these core concepts in an immersive and fun environment that will spark a lifelong interest in a diverse and rewarding field.



# Inventory Management System (IMS): EP.CF()

## Team Members:

- Ethan Pomish
- Cameron Fullerton

## External Sponsors/Mentors:

## Internal Sponsors/Mentors:

- Stephanie Ludi

## Abstract:

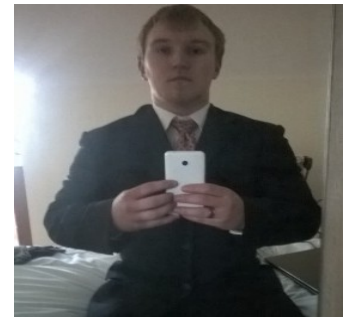
Mom and Pop shops are the backbone of America, though they frequently lack the resources to pay for complicated and expensive inventory management systems. Most of these systems are tailored to suit larger store fronts and are feature rich at the expense of simplicity and usability.

**Inventory Management System (IMS)** by EP.CF hopes to provide an easy to use and EXTREMELY inexpensive method of managing inventory for small businesses. Simple inventory management procedures with minimal keystrokes and click- counts allow these businesses to reduce training cost and manage their inventory on older machines with less available resources.

IMS allows multiple levels of users to access different levels of functionality depending on their role in the business. A standard user will only have the ability to check-in the weekly truck shipment, modify item descriptions, and ensure the accuracy of inventory during cycle counts. An elevated user will have the ability to add and remove user access, shrink inventory, and even delete an entire store's inventory.



Ethan Pomish



Cameron Fullerton

# 3 Factor-Authentication Project name: Halfway

## Team Members:

- Daniel Jimenez
- Gabrielle Cordray
- Brandi Werner

## External Sponsors/Mentors:

- Vicki White-Community and Family Relations Coordinator of Cottrell Halfway House Texas Juvenile Justice Department

## Internal Sponsors/Mentors:

## Abstract:

The Cottrell house is part of the State Juvenile Justice Department. Once county resources cannot support the youth with felonies in their system, the youth are transferred into the state system where they will be enrolled into a state school. Typically, the youth are transferred into a halfway house before they are released on parole. Halfway houses bring the youth from a closed facility to an open facility with integration programs. These homes serve the residents by aiding them to adjust to normal life. The hope is that the halfway home experience rehabilitates the youth and gives them foundations to become productive members of society. Unfortunately, once they leave the halfway home they may not stay on the right track.

We have proposed an idea to supplement the support given to the youth. We will be creating a web friendly and mobile friendly website to serve as a support system for the juvenile offenders to use during their time in the halfway home and after they leave the Cottrell house. The website will connect the youth to a mentor to ask questions, as well as peers to have discussions and seek support. The aim of our project is to have a positive social impact on juvenile offenders who are in, or have left halfway homes, to ensure they stay on a positive track, and are aware of resources they have for help.



# Baby Aid

## Team Members:

- Jaylan McLendon
- Nathan Cramer
- Naumaan Hassan
- Aaron Batch

## External Sponsors/Mentors:

## Internal Sponsors/Mentors:

- Dr. Stephanie Ludi

## Abstract:

Taking care of children is known to be a very tough job. In this task, a parent/caregiver must be able to take care of multiple things such as feeding sessions, napping sessions, medicine-giving sessions, and many other things for the child/children that they are taking care of. Many people do these activities without recording the important information that can be acquired from them, and when they do, they must use potentially annoying methods like pen and paper.

The purpose behind this application is to keep track of the many caretaking activities and the important information in those activities a child's caretaker finds themselves engaging in (feeding sessions, napping sessions, etc.). This app endeavors to ease that burden upon the caretaker by providing a means where they can log, view, and share important data regarding the child they are taking care of.

With this tool, a parent/caregiver can potentially bring some more organization into their parenting/caregiving lives while also allowing them to improve some of their many parenting/caregiving skills.





# CodeQuest: megabite

## Team Members:

- Hailey Burlison
- Kevin Hinson
- Malesa Williams
- Mohammed Abdali

## External Sponsors/Mentors:

## Internal Sponsors/Mentors:

- Stephanie Ludi

## Abstract:

We are making megabite in order to show preferred food restaurants along a route. You simply put in where your destination is and the type of food you're interested in, as well as restrictions like vegetarianism or Kosher friendly locations, and our app will query Google Maps (for routing), and Foursquare (for more information on found locations) in order to find locations that are along the route. In addition, menu and venue information will be shown for places selected.



# UNT Onboarding by Team Lenny

## Team Members:

- Edgar Sanchez
- Justin Penny
- Steven Wyman
- Tsung-Han Hsieh

## External Sponsors/Mentors:

- UNT Grad Students

## Internal Sponsors/Mentors:

- Stephanie Ludi

## Abstract:

Most UNT CSE grad students come from outside of the DFW area (or even the US). It would be great to have a web app that they could use as they plan to relocate here and once they arrive to help them settle into the area, UNT, and the department.

UNT Onboarding will provide a way for CSE grad students to have a central location to find invaluable information related to their new University and surroundings such as information regarding UNT, CSE grad student programs, Denton transportation, and city life.



# Bloom: Healthcare Made Easy

## Team Members:

- Michael Bido-Chavez
- Miguel Melendez
- Thomas Miller
- Victor Musasia
- Steven Harris

## External Sponsors/Mentors:

- Sylvia Musasia, RN

## Internal Sponsors/Mentors:

- Dr. Stephanie Ludi

## Abstract:

There are several problems with existing electronic medical record systems (EMRS). These problems include the dependence on legacy software, poor user interfaces, and the lack of information access and control for patients. Bloom solves this by providing a new environment for instant access to patient records for both medical staff and patients. Patients are able to share record access by adding practices, schedule appointments to meet with their doctors, and minimize the amount of paperwork involved with their healthcare.

As a web application built on ReactJS, Bloom provides users access from anywhere with an internet connection and a javascript enabled web browser. As users work with this system, their work is backed up by Google's Firebase, to ensure secure remote storage. Additionally, Bloom provides a modern platform that is independent of legacy systems unlike other EMRS.



# DigitalAdvisor

## Team Members:

- Benjamin Meaders
- Jacob Hanson
- Andrew Harres
- Anthony Hicks
- Brennan Schamberger

## External Sponsors/Mentors:

## Internal Sponsors/Mentors:

- Stephanie Ludi
- David Lowell

## Abstract:

Currently, the busiest students in our community are held at a great disadvantage as they often don't have the time to attend an advising appointment. They are left on their own to attempt to decipher their degree audit and course catalog, and could possibly run into the problem of taking courses that they don't have to, wasting time and money in the process. DigitalAdvisor solves this problem by recommending courses to students based on their current progress through their degree and lines up all of their semesters until they graduate.



# BabyLog

## Team Members:

- Pedro Miranda
- Erick Ortiz Barrera
- Arturo Rodriguez
- Danny Salas
- Aisha Shrestha

## External Sponsors/Mentors:

## Internal Sponsors/Mentors:

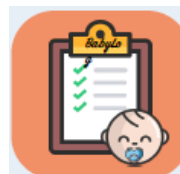
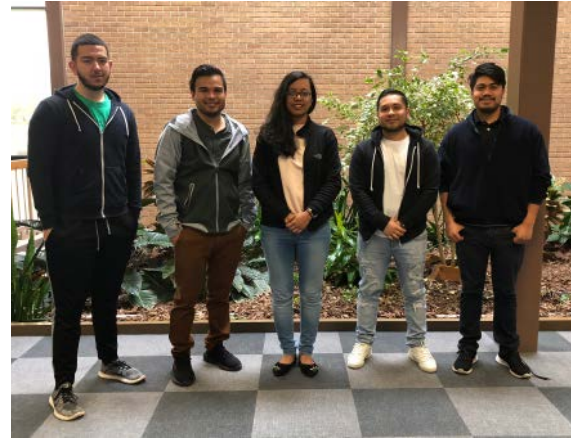
- Dr. Stephanie Ludi

## Abstract:

Our app helps the busy parent track their baby's activities. The first month of the baby development is an exhausting period for those parents that are adjusting keeping track of their newborn daily schedule. The BabyLog app will help parents reminding/tracking about feeding, sleeping time, vitamin supplement and diaper change time while visualizing the data via graphs.

Our goal is to provide an easy to understand user interface. Where the user is able to learn how to navigate the menus and screens fluidly. As a busy parent, we want the user to quickly record their baby's information. Then at the end of the day be able to see all the important details in the summary page and also view this information in graphs to better understand their baby's development.

We created a unique design using big fonts and buttons to help the busy parent navigate the system as easy as possible. One of our goals is to help the user be able to use our app in a one-handed motion and use shortcuts to quickly access the important features of the app. Keeping everything concise and easy to understand is what makes our app different from other apps in the market.



BabyLog

*Team  
Savage*

# Home Chores

## Team Members:

- Tai Nguyen
- Esteban Delasancha
- Cameron Cook
- Luis Chaparro
- Alish Shrestha

## External Sponsors/Mentors:

## Internal Sponsors/Mentors:

- Dr. Stephanie Ludi

## Abstract:

Social Function theory suggests that we all serve a purpose in society in order to keep harmony within the society, and this harmony is what our team intends on facilitating in the home setting. The Home Chores application serves to allow a household leader to organize and maintain order throughout the home through the scheduling of chores and utilization of reminders. With the home database at the push of a button, users can better organize their family's tasks, manage household upkeep, and increase overall productivity within the home.



# Fi Message

## Team Members:

- Aaron Hamilton
- Chase Parker
- David Walker
- Keith Santamaria
- Kristopher Duran

## External Sponsors/Mentors:

## Internal Sponsors/Mentors:

- Dr. Stephanie Ludi

## Abstract:

Looking at encrypted messaging applications we noticed a few things. Either you can only message users with the app, the messages get stored on a database, data is being sold to companies for advertisements, or the app is owned by Facebook. Our goal is to create the best and most secure messaging application on the market. Our team of developers is doing this by solving problems other messaging apps have by creating an all in one application that allows users to communicate with friends and family without the app, sending encrypted messages directly to other users, and not collecting users' meta data. Having one application is user oriented because it helps keep all their messages in one place. Having the messages being sent directly from peer to peer instead of being sent through a server and stored gives the users piece of mind that unauthorized parties will not be able to read their private conversations. Our app does not have data to sell to uses' because we cannot read their messages, so they do not have to worry about data mining.

FiMessage

DOS

# Infinity

## Team Members:

- Andrej Rosolak
- Ben Jimenez
- Saina Baidar
- Spencer Ronshagen

## External Sponsors/Mentors:

- Antonio Chamorro

## Internal Sponsors/Mentors:

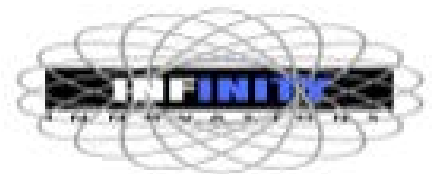
- Dr. Stephanie Ludi

## Abstract:

Life can be busy and full of responsibilities. Whether being a parent, college student, having a full-time job or any combination of these, it can be overwhelming. Owning a pet will only add to those responsibilities. Sometimes, owners forget to walk their pet or get food for their pet. Also, pet information such as medical records can be hard to keep track of. Creating an app to help keep up with pet duties will lighten the load of work needed to take care of pets. Pets will be in a happy state due to their needs being fulfilled. The app will be an innovative way to take care of your pet. Pet owners will be able to set reminders when to perform certain task. When taking them to the veterinarian, important information will be accessible quickly through the app. When having a friend pet sit, allergy information can be easily shared. Overall, the app will make it easier for pet owners since it reduces the stress of having to remember and keeps information organized.



## Pet Friend





# Ecommerce Solution For Nepal – TEAM VIPER

## Team Members:

- Anjan Shrestha
- Sandip Gurung
- Upawan Khadka
- Roshan Pandey

## External Sponsors/Mentors:

- Yuvraj Budhathoki ( IAM Access  
Adminsitrator Process Engineer, AIG –  
Houston, TX)

## Internal Sponsors/Mentors:

- Dr. Stephanie Ludi
- Amar Maharjhan

## Abstract:

Online shopping in Nepal is currently is still a new concept and limited to country's borders. People have no easy medium to shop online, and make purchase through websites, such as Amazon, E-Bay or any other online retail store. There are several obstacles which contribute to this factor. Firstly, debit cards and e-checks are not allowed for online shopping or any foreign transaction. Credit cards are the only way to purchase merchandise online, but credit cards are only issued to people with substantial wealth. Furthermore, big monetary transactions done online (usually more than \$1000) are blocked by the banks or credit unions that issue the credit cards under various government regulations. The goal of this project is to create an online shopping platform that will enable and make it easier for people in Nepal to make buy merchandise online. This website will attempt to provide a fast and restriction proof way for the people in Nepal to order item globally through websites, such as Amazon, E-bay or any other retail websites.



# Supplies for Teachers/ Green Team

## Team Members:

- Rawdhah, AlShaqaq
- Sundos, AlSubhi
- Syed, Asad
- Tevin, Mosley

## External Sponsors/Mentors:

- N/A

## Internal Sponsors/Mentors:

- Dr. Stephanie Ludi

## Abstract:

Free supplies for teachers is a website which allows donor to post supplies of different sorts that can be useful for school/teacher. K12 teachers will conveniently look for stuff that they want to use in the class from the website.

The goal is helping teachers by donating the supplies through the website.

The unique thing about our project is that we are trying to help schools and teachers to obtain what they need for classes, we are also helping parents to spend less money for their children while giving students the opportunity to have all the supplies they need and lastly giving people the opportunity to donate stuff.



# UNT Events Package

## Team Members:

- Charles Bido
- Zachary Eisenhauer
- Zachary Langley
- Axel Yates

## External Sponsors/Mentors:

## Internal Sponsors/Mentors:

- Classroom Support Services

## Abstract:

We are trying to solve the segregation of events on campus. We believe it is hard to advertise and find events at UNT due to the amount of sources and lack of unification.

Our solution is to build a REST API for events that can take in from multiple sources and send all the information needed to any application that wants to display the events. This is innovative because there isn't officially supported adapters for tools like Ad Astra, EMS, and University Tickets. In order to unify events at universities, the school would just have to try to pick a catch all system instead of being able to utilize different systems for different catches. Also, REST APIs are a newer concept, but easy to work with as a developer so events can be viewed in unique ways. For example, students can look at a map to see events around them and their schedule rather than a calendar. Students can also explore events by groups rather than time. We believe consolidating and giving access to information this way opens a lot of opportunity for UNT and other universities in the future.