



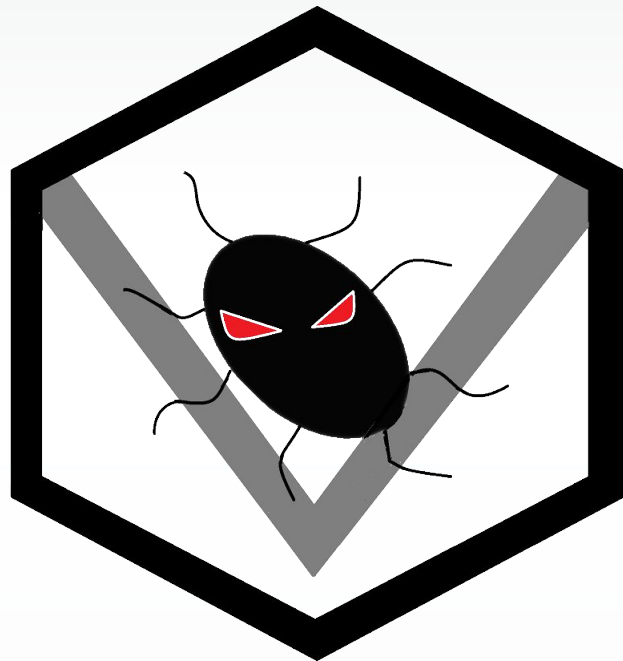
# PIMS2.0

## Collaborator Data Entry Point

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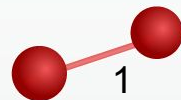
Sponsor - TGen North

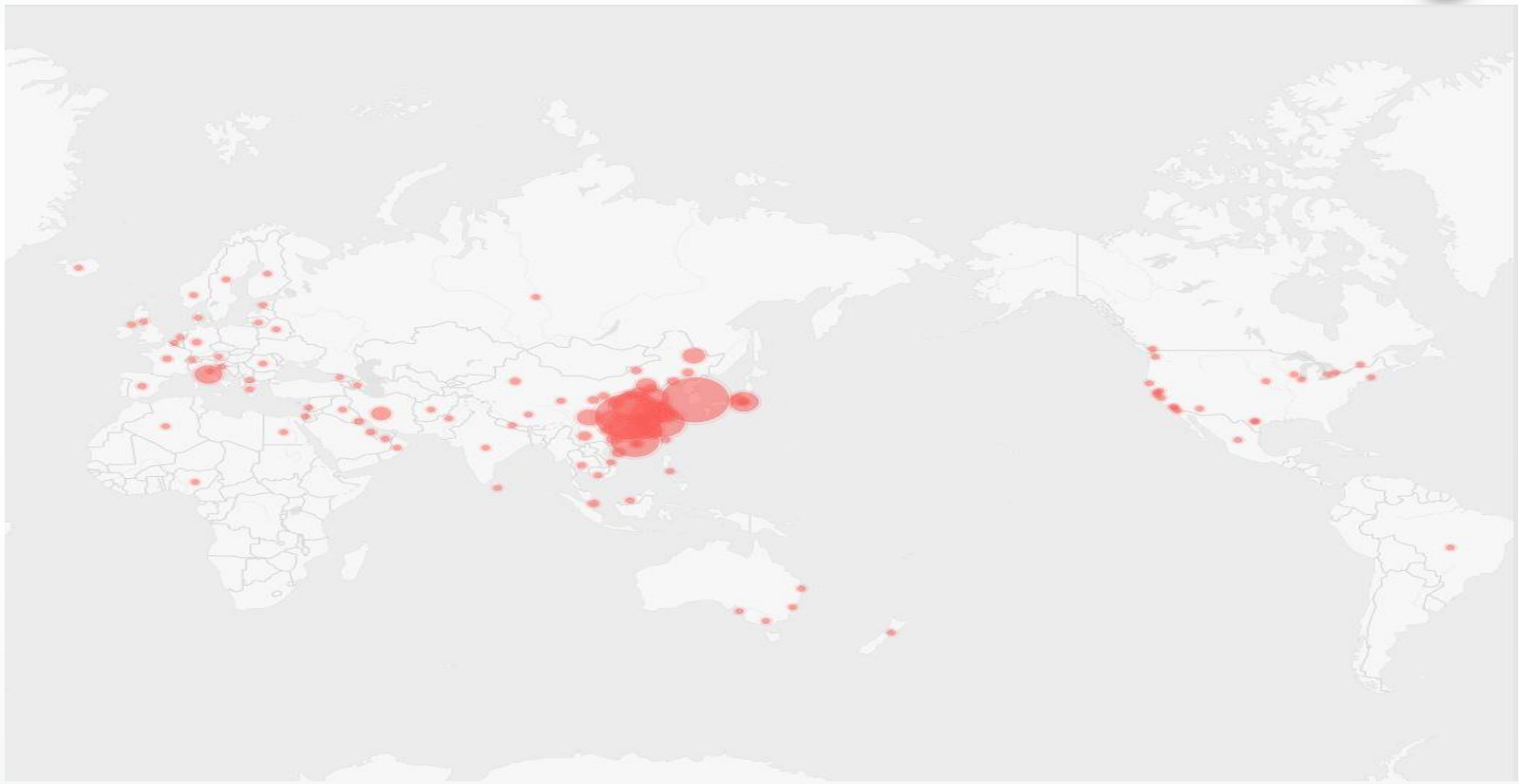
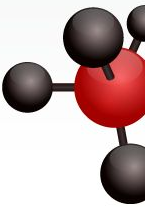
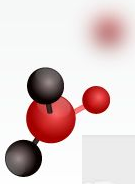
Capstone Mentor - Scooter Nowak

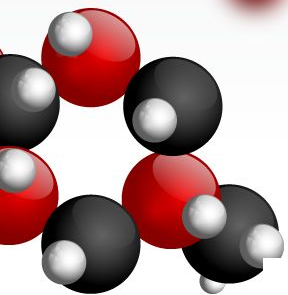


# VIRALTECH

Jialei Chen, Carl Porter, Colton Spector, Weiheng Su





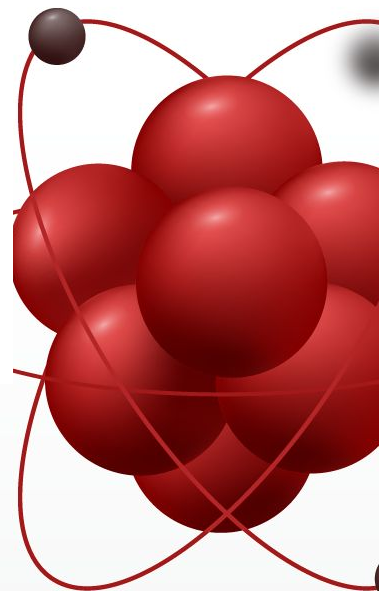


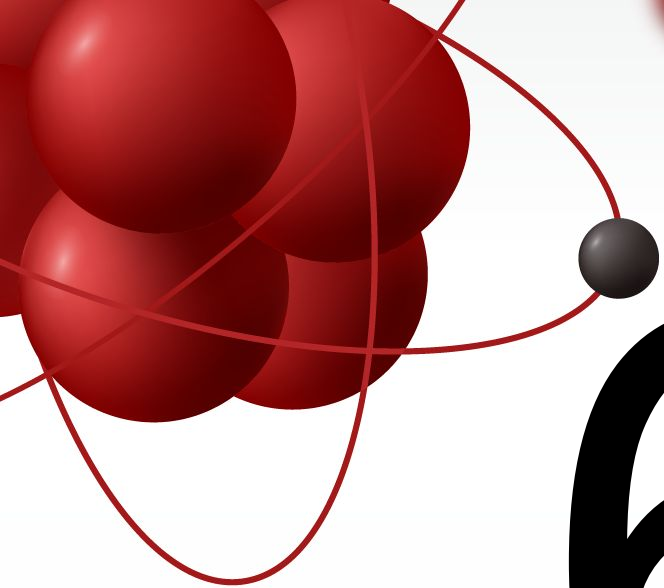
Confirmed cases

**83,867**

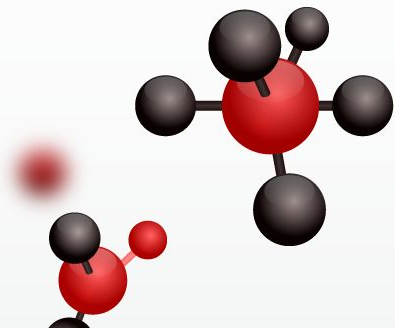
Confirmed deaths

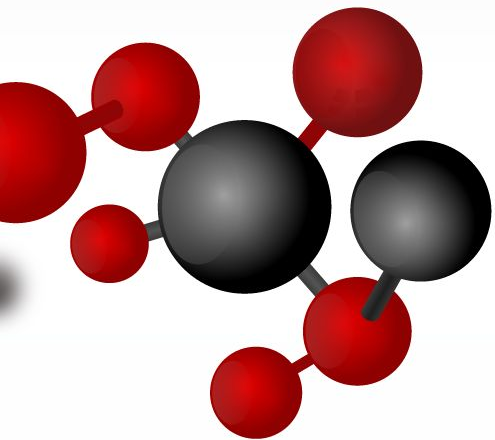
**2,867**



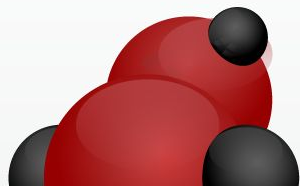


62

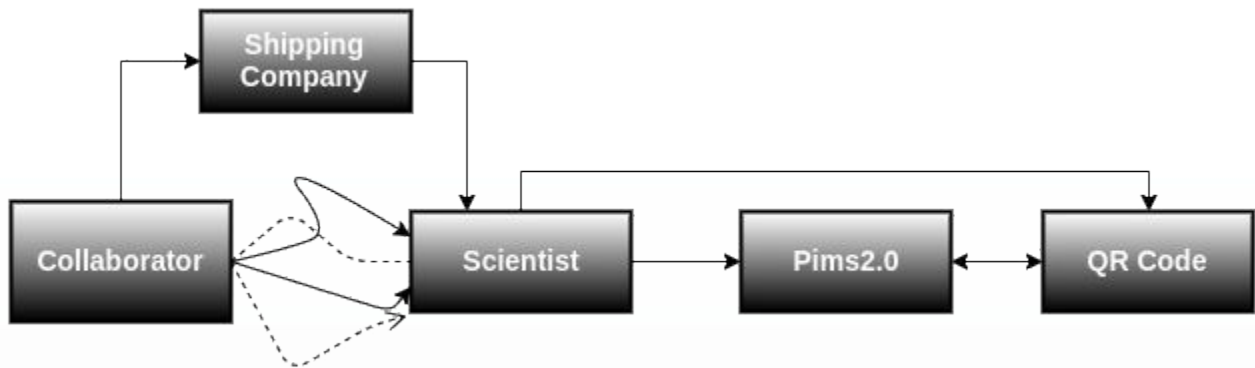




**Jonathon Todd**  
Associate Bioinformatician




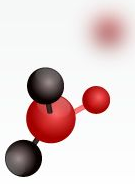
# TGEN North Current Workflow



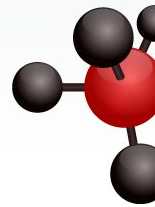


# Project Problem Statement

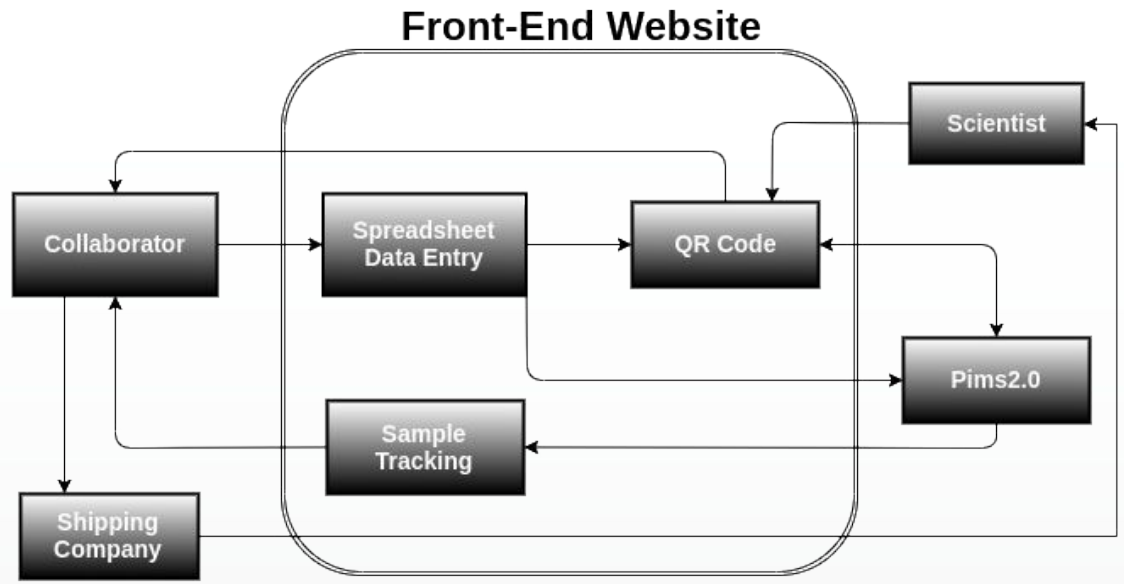
- Manual data entry done by scientists
  - Non-standardized data collection
  - Collaborators are unable to track the progress of their samples once they've sent them to TGEN
- 



# Solution Overview



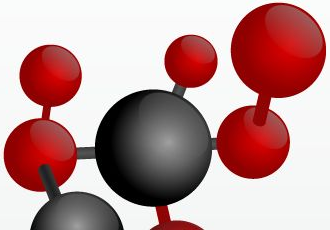
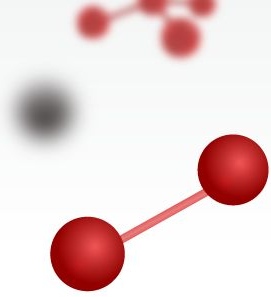
⚙️ Outline

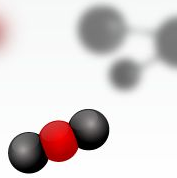




# Key Features of the Solution

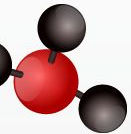
- Scientists do not manually input data
- Standardized data collection
- Collaborators are able to track the progress of their samples





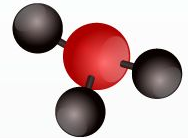
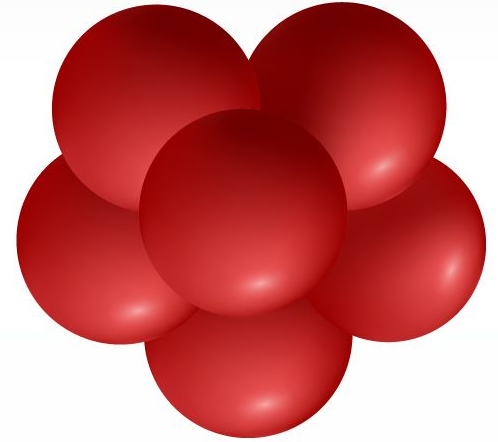
# Key Requirements Overview

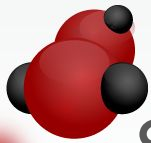
- Collaborator can enter data in a spreadsheet format
- Collaborator can track the progress of their packages
- Collaborator can print QR codes for all of their samples



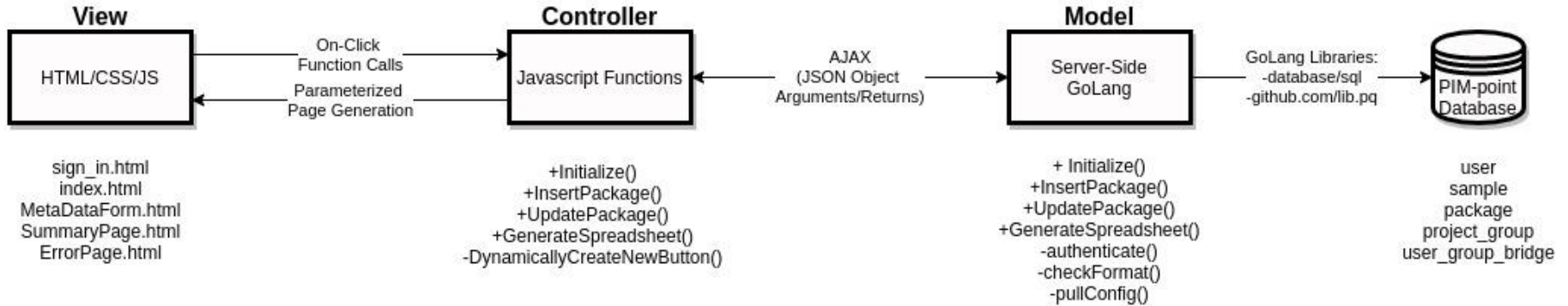
# System Components

- GoLang - Model
- HTML/CSS - View
- Javascript - Controller
- AJAX
- PostgreSQL
- JSON
- Google Authentication
- Handsontable - Google Spreadsheets Alternative





# System Architectural Overview



Create New Package

04-10-2020

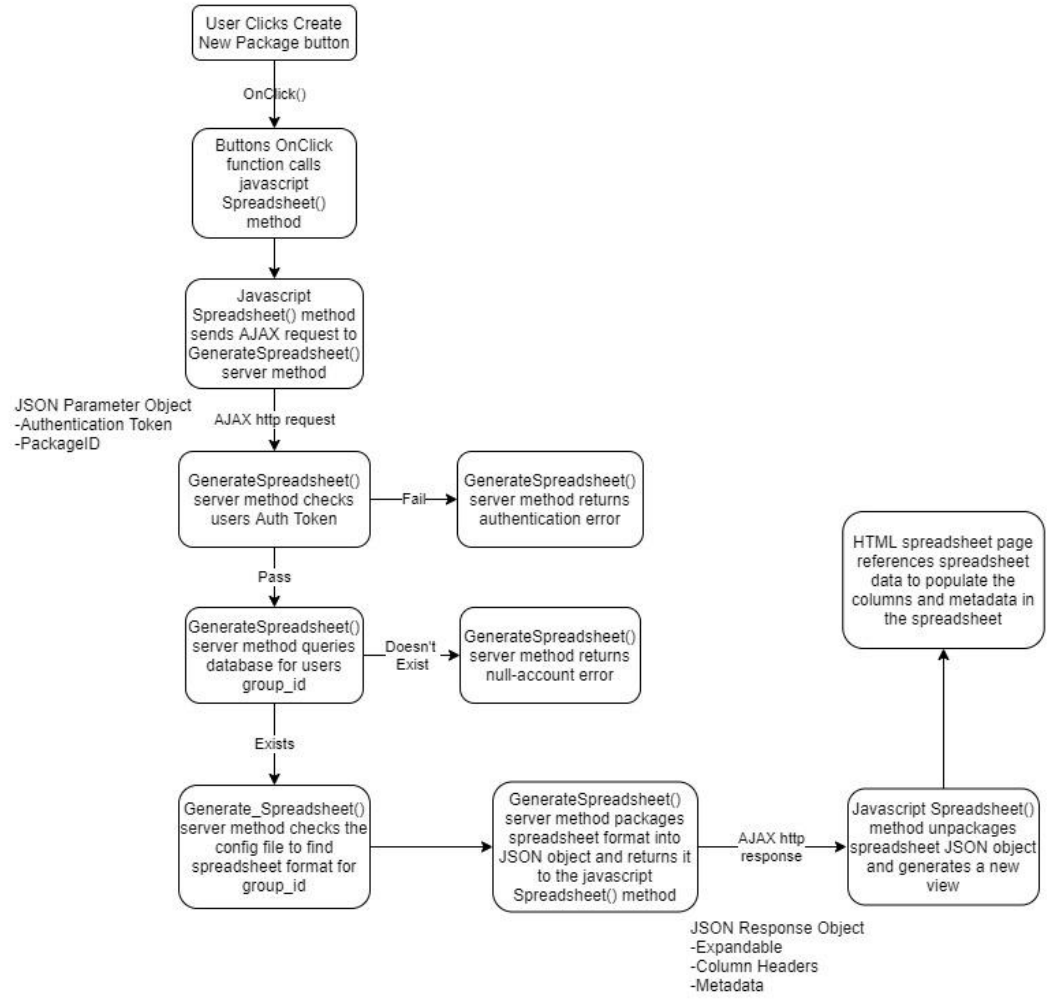
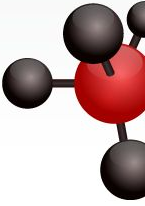


11-15-2019



08-28-2019





Create New Package

04-10-2020

04-10-2020

11-15-2019

08-28-2019

	ID on Submitted Tube	Project Name	Sample Name	Species Name	Sample Type	Country of Isolation	Year of Sample Collection	Template Input Type	Final DNA Input for WGS (ug)	DNA QC r
1	264775	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
2	264776	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
3	264777	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
4	264778	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
5	264779	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
6	264780	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
7	264781	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
8	264782	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
9	264783	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
10	264784	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
11	264785	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
12	264786	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
13	264787	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
14	264788	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red
15	264789	Capstone2020	Lagavulin 16	Swanson	Scotch	Scotland	2010	Tumbler	15	red

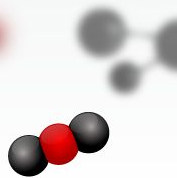


Add Sample

Add Column

Save

Submit



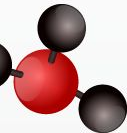
# Challenges & Resolutions

## Main obstacles

- Our project requires access to TGen North's database
  - **Solution:** TGen North provided us with a Docker container of the database
- Docker doesn't support Windows Home Edition
  - **Solution:** Implemented "Default\_Mode" for our server code

## Upcoming Challenges

- QR code requirements at TGen North have shifted
  - **Current Plan:** Incorporate empty QR code methods in the interim

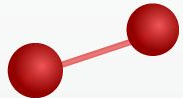




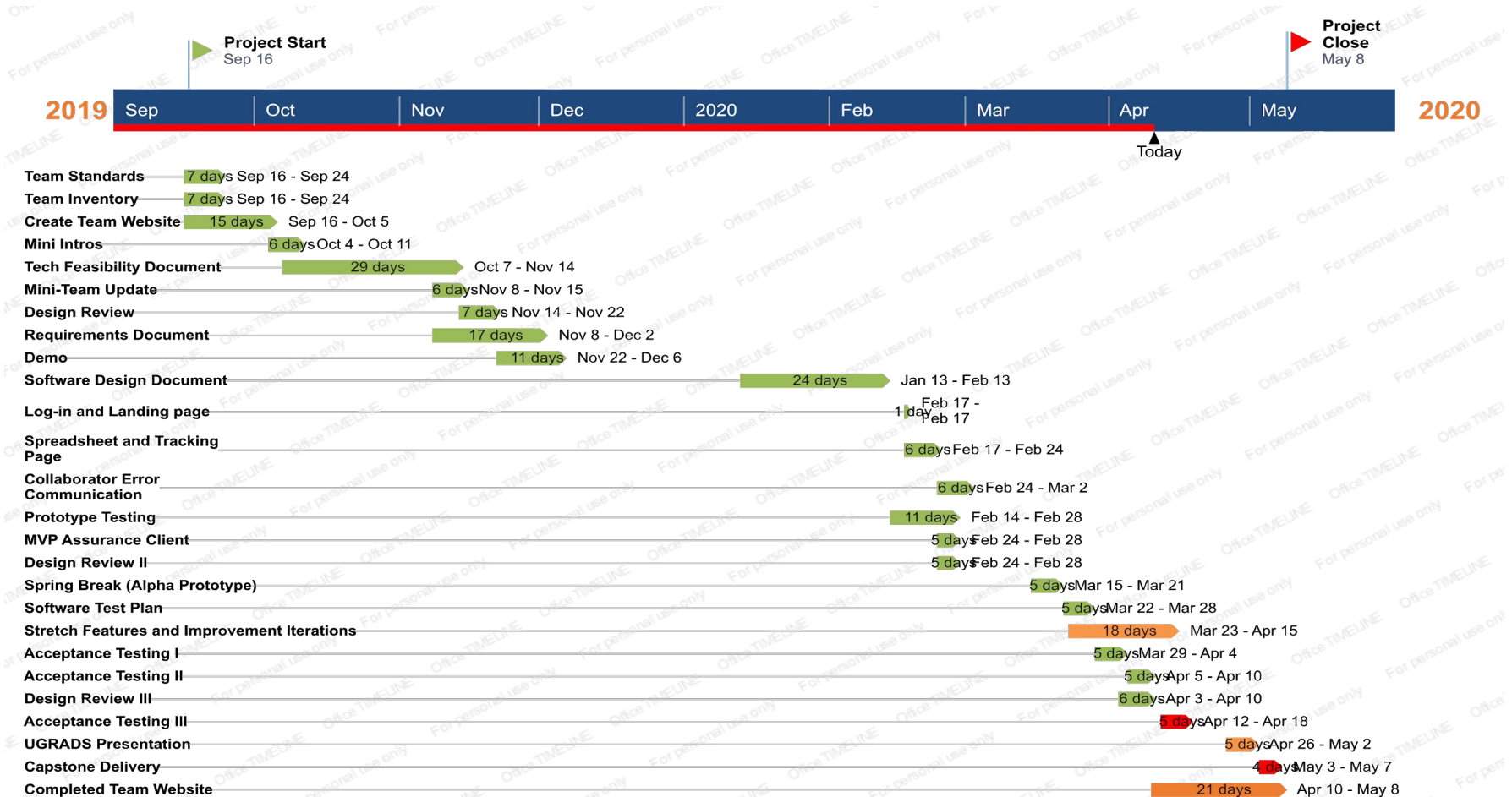


## Risks

Risk	Severity	Likelihood	Amelioration Plan
SQL Injection Attack	High	Low	database/sql formatted strings
Unauthorized Access	High	Low	Every public server method checks Auth Token before accessing database



# ViralTech Schedule





# Testing Plan

## Units Testing

- Signing In (Google Authentication)
- Creation of Samples and Submittal of Package
- Editing of Package Data
- Review of Package Data

## Integration Testing & Usability testing

- Signing In and Signing Out (Google Authentication)
- Creation of Samples and Submittal of Package
- Editing of Package Data



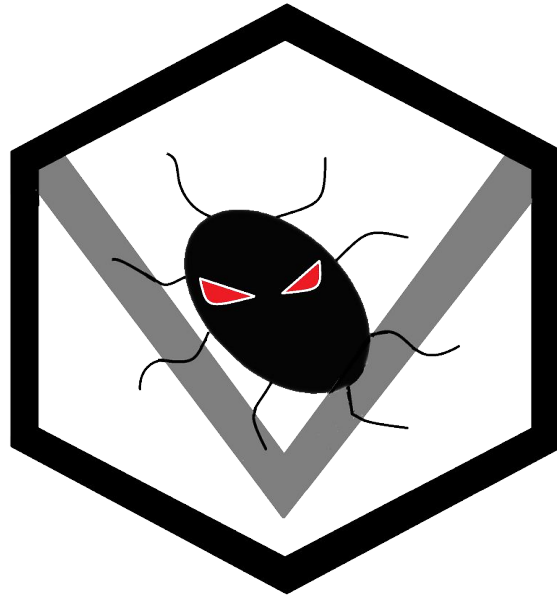
# Conclusion



- Our Sponsor is TGen North
- TGen's Problem
- Our Solution

Jialei Chen, Carl Porter, Colton Spector, Weiheng Su

GITHUB



WEBSITE



VIRALTECH