# Plan-it On the go spontaneous travelling

A project by ... William Granados, Jack Woodger, Anh Le, Lucy Tishkina, Daniel Zhao

## Product Introduction

## Travelling Apps and Technology









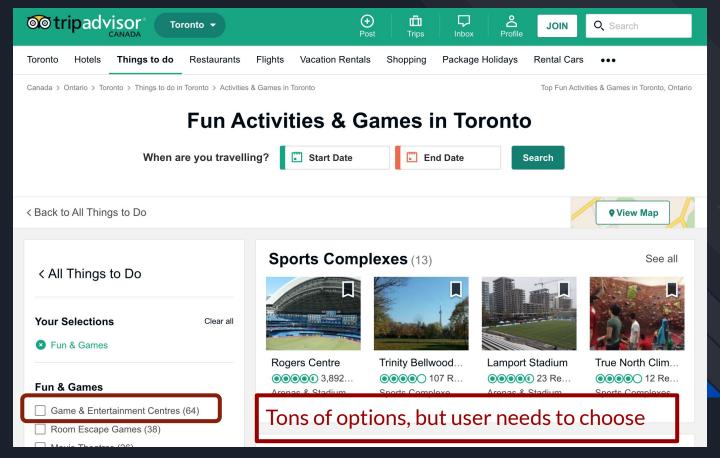
TripAdvisor

Expedia

Yelp

Google Maps

## TripAdvisor



## Google Maps



## Purpose of Plan-it Save the **planning**



## Purpose of Plan-it

The missing niche: plan-it for me

## Let's Plan-it!



## What Makes Plan-it Unique

1) Random Venue Generation

2) Trip History (Personalization System)

3) Filters(Travel Modes), with Google Maps Integration

## Process Phase II

The Team

### Distribution of work

Lucy – worked on map, and routing for destinations, api for venues

Daniel – search filters, CSS, display of search results through api

Jack – Itineraries & trip history

Anh – SQL database management

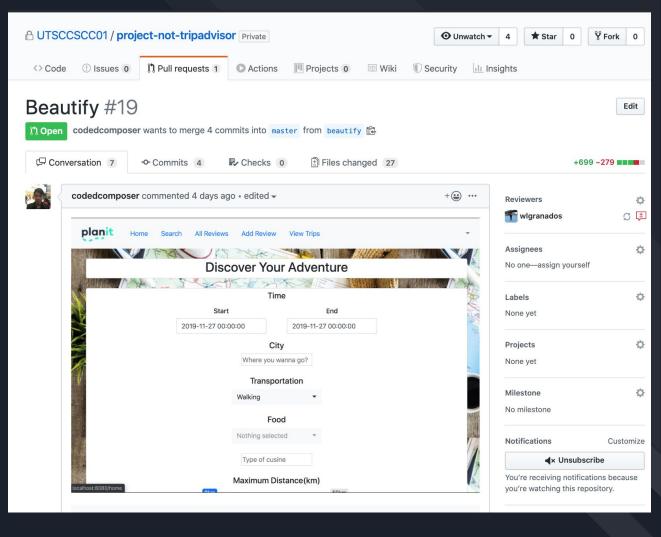
William – login & reviews, mongodb

## Challenges of Development Process

- front end java frameworks are challenging
  - JSP & thymeleaf very different, and incompatible, and several tutorials for both
  - addressed this through meetings and deciding best framework our needs
- Merging different features with dependencies
- Itinerary and Trips and Login were isolated for a large portion of the sprint, and when we needed to merge there were conflicts
  - addressed this through feature branches and GitFlow
- database management, integrations, and consistency
  - database consistency across our laptops
  - unfamiliarity with database technology (MYSQL, NOSQL) with MVC
  - works on my laptop but not yours!

# Highlights of development process

Pull requests Include: images, description, code reviews!



### Git workflow



No commiting to master! Only feature branches!

### Scrum Process

Product Backlog Sprint Backlog Daily Stand Up Planning Poker Sprint Reviews



## Tools & Technologies













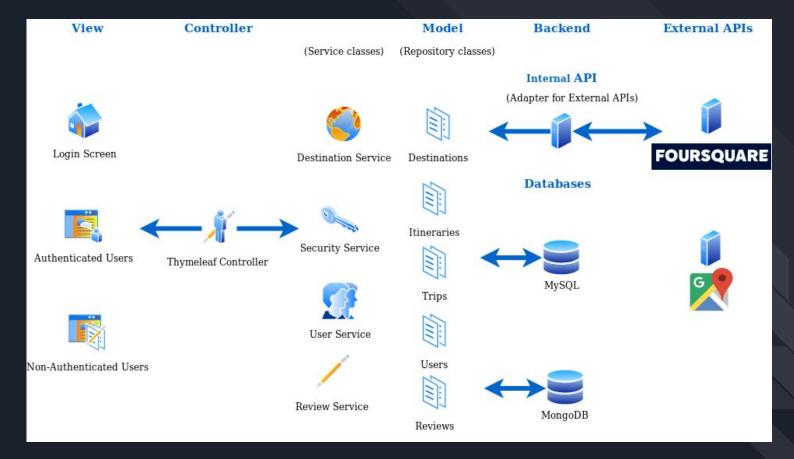






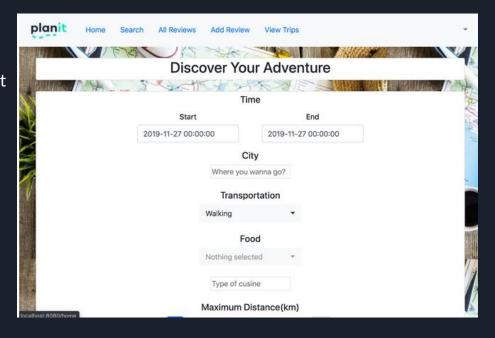
## Software Architecture

### Software Architecture

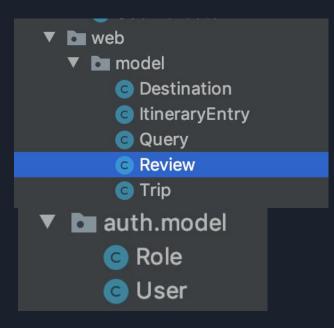


### View: Frontend

- Displays content to user based on user's role/status
- User experience/app flow different for users who are registered and logged allowing access to additional features
- Displays model data to user



### Model

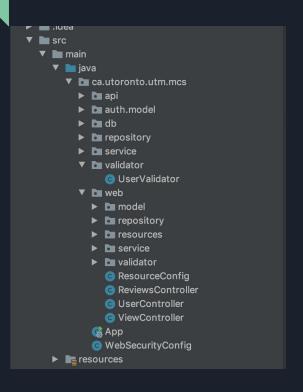


Exposes and stores the application data

Keeps track of applications state

Responds to queries and updates

### Controller



Routes the user through different views

Updates the model based on user input

Defines application behaviour based on user interaction

### Backend

#### External apis

- We used Foursquare, for destinations and itineraries, and points of interests

#### Mongodb

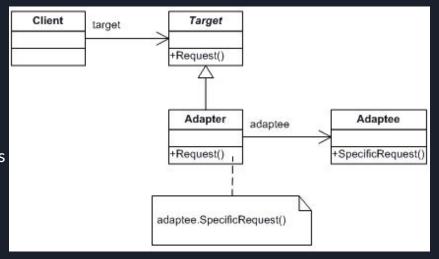
- We used for storing review information

#### Mysql

- We used for storing sensitive user information

### Design Patterns: Adapter

- Internal API acts as an adapter between the external API's
- The queries required for our application are converted by the backend API to queries to FOURSQUARE API to fetch the relevant content
- For example, the internal API aggregates results for points of interest indicated by the user and returns the resulting query by calling the external APIs



## Design Patterns: Singleton

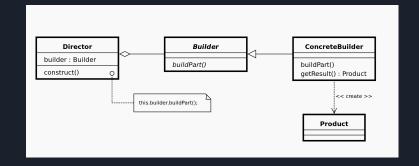
- Database connections use singleton

### Singleton

- singleton : Singleton
- Singleton()
- + getInstance(): Singleton

### Design Patterns: Builder

- Used for the construction of Destination objects
- Destinations can have a subset of fields instantiated at initialization, which would require many different constructors



#### **Access Control**

**Problem:** How do we restrict access to features for Users

**Solution:** Java spring security

- Requiring User Objects to be present when rendering certain views
- Integration with SQL to encrypt the passwords and check hashes for authentication
- Storing information about the user in the session as a user object

