

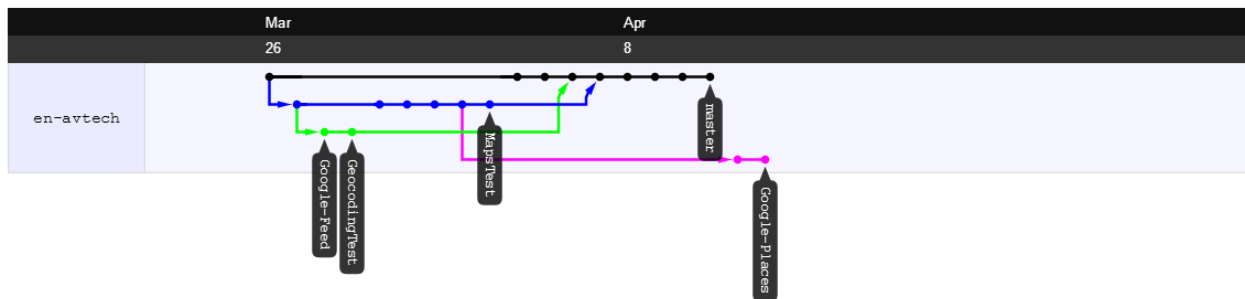
## Final Project Report

This is the project report for 911-Bot, the final project for COSC 310 by Ephraim Nowak. It is a continuation of the BatterBot project, with the addition of 5 Google APIs to enhance the capabilities and feature set of the existing project.

### GitHub Repository:

The link to the GitHub project for 911-Bot is located here: <https://github.com/en-avtech/911-Bot>

The graph below displays how different features were developed on separate branches and then merged into the master branch. Unfortunately my initially created GitHub repository became corrupted, so I had to migrate to the one linked above. The graph below is from taken from the initial repository, as it shows the most activity.



### Sample Output:

Connect to a server? (y/n):

n

<Dispatcher> Hello

Hi

<Dispatcher> Hi, this is Batman. Ask me about crime fighting...

But, I'm witnessing a hostage situation

<Dispatcher> Where are the hostages?

I don't know

<Dispatcher> Why are you bothering Batman with questions about that?

But this is an emergency

<Dispatcher> Do you need Fire, Ambulance, or Police?

I need the police

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<Dispatcher> OK. The police has been dispatched. What are your coordinates?

I'm not sure what my coordinates are.

<Dispatcher> At what address are you located?

3333 University Way, Kelowna

<Dispatcher> Your location in latitude/longitude coordinates is: 49.940033,-119.39273

thanks

<Dispatcher> You're welcome.

I need help finding a place near here

<Dispatcher> What place are you looking for?

RCMP near kelowna

<Dispatcher> The nearest place is: Royal Canadian Mounted Police at 350 Doyle Ave, Kelowna, BC, Canada

Can you give me directions to get there?

<Dispatcher> Where are you right now?

3333 University Way, Kelowna

<Dispatcher> And where would you like to go?

350 Doyle Ave, Kelowna

<Dispatcher> Head east on University Way. At the roundabout, take the 1st exit onto Hollywood Rd N. At the roundabout, take the 2nd exit onto the BC-97 S ramp. Merge onto BC-97 S. Continue onto Hwy 97 N. Continue onto Harvey Ave/BC-97 S. Turn right onto Water St. Turn right onto Doyle Ave. Destination will be on the left.

Is the police on the way?

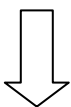
<Dispatcher> I'll be there as soon as I can!!

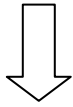
Can you show me where I am on a map?

<Dispatcher> Where are you right now?

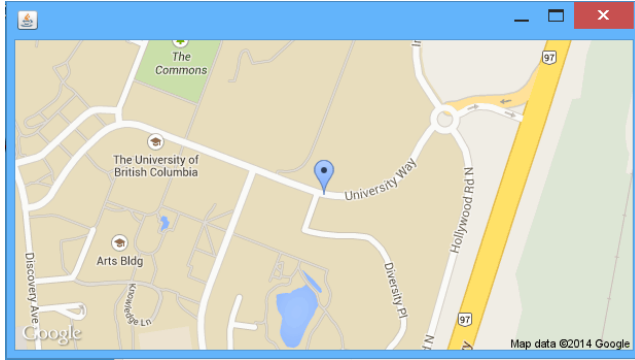
3333 University Way, Kelowna

<Dispatcher> Getting Map from  
<https://maps.googleapis.com/maps/api/staticmap?center=3333+University+Way%2C+Kelowna&size=600x300&markers=color:blue%7C3333+University+Way%2C+Kelowna&sens or=false&key=AIzaSyDJ8jbyWJzJQrrYGVN807xxnkfy7PlHEdk>





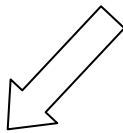
## Final Project Report



Can you send me a Google Street View image of my location, so I can make sure  
<Dispatcher> Where are you right now?

Old Vernon Road, Kelowna

<Dispatcher> Getting Image from  
<https://maps.googleapis.com/maps/api/streetview?size=600x300&location=Old+Vernon+Road%2C+Kelowna&sensor=false&key=AIzaSyDJ8jbyWJzJQrrYGVN807xxnkfy7PlHEdk>



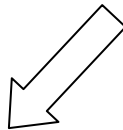
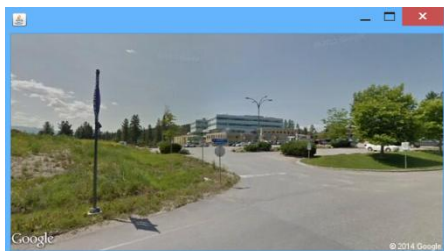
<Dispatcher> Does the image match the location where you are right now  
(yes/no)?

no

<Dispatcher> Where are you right now?

3333 University Way, Kelowna

<Dispatcher> Getting Image from  
<https://maps.googleapis.com/maps/api/streetview?size=600x300&location=3333+University+Way%2C+Kelowna&sensor=false&key=AIzaSyDJ8jbyWJzJQrrYGVN807xxnkfy7PlHEdk>



<Dispatcher> Does the image match the location where you are right now  
(yes/no)?

## **Final Project Report**

<Dispatcher> OK. Please stay on the line, and we'll have help there right away.

<Dispatcher> Why don't you ask me some questions about Batman while we wait?

Why are you a bat?

<Dispatcher> Bats are really scary!!! I fell down a well when I was a kid and cried the bats were so scary!

Who's in the Justice League?

<Dispatcher> The core members of the Justice League are Myself, Superman, Wonder Woman, Green Lantern, Flash, and the Martian. They are my only friends

Do you like Wonder Woman?

<Dispatcher> Yes...her and I have always had a 'thing'. We're both in the Justice League.

How did your parents die?

<Dispatcher> My parents died when I was little boy. I watched them be murdered...

Who killed them?

<Dispatcher> A bad guy! I don't want to talk about it!!! :'(

OK. Tell me about your enemies.

<Dispatcher> I have many enemies. The joker, Raz Al-gul, the Penguin, and Two-Face are the enemies I encounter the most

Thanks! The police is here!

<Dispatcher> You're welcome.

Bye

<Dispatcher> Goodbye, Gotham Citizen

This conversation was a sample of the conversation which demonstrated all of the new features implemented for the final submission. This includes the Google Places, Geocoding, Directions, Street View Image, and Static Map APIs.

**Feel free to try this out on your own computer. It's pretty cool!**

One of the only limitations remaining in the program is the lack of memory. This is actually not really a limitation, as the code already has this feature constructed. It is just a matter of incorporating it into the conversation. This was outside the scope of this submission, but could be included quite easily with the current version of 911-Bot.

## Final Project Report

### Features for API:

- The language processor has been made available as a feature. It extracts key words from input.
- The response builder, which assembles logical responses based on user input, has also been made available as a feature.
- In conjunction with the response builder, the response selector is used to determine which response to display, and more importantly when to display it. It includes features for tracking how often a response has been used, and when in a conversation to use the response to guide natural conversational flow.
- Response templates can also be made available as API's as they are used to create variable responses with substitutions available for words or phrases.
- Similarly, the scale rules used by the program can be made available as an API. They encapsulate the weighting of various keywords to ensure the most relevant response is selected.

### Final Project Updates

The README file has been updated to reflect changes implemented since Assignment 3.

New features implemented are:

- **Google Places API:** Allows the user to search for places (such as RCMP detachments) near them.

RCMP near kelowna

<Dispatcher> The nearest place is: Royal Canadian Mounted Police at 350 Doyle Ave, Kelowna, BC, Canada

- **Google Geocoding API:** Converts a street address to latitude and longitude coordinates, which is useful when dispatching air resources.

<Dispatcher> At what address are you located?

3333 University Way, Kelowna

<Dispatcher> Your location in latitude/longitude coordinates is:  
49.940033,-119.39273

- **Google Directions API:** Gives the caller directions from their current location to where they are trying to go.

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<Dispatcher> And where would you like to go?

350 Doyle Ave, Kelowna

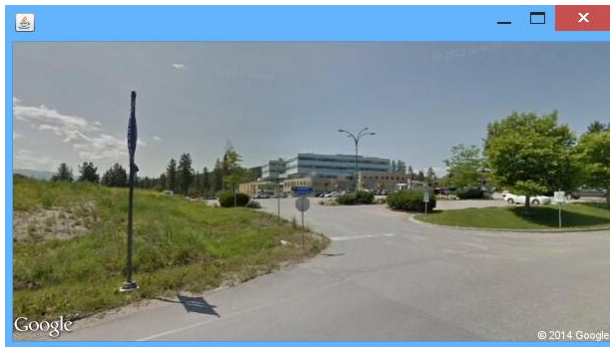
<Dispatcher> Head east on University Way. At the roundabout, take the 1st exit onto Hollywood Rd N. At the roundabout, take the 2nd exit onto the BC-97 S ramp. Merge onto BC-97 S. Continue onto Hwy 97 N. Continue onto Harvey Ave/BC-97 S. Turn right onto Water St. Turn right onto Doyle Ave. Destination will be on the left.

- **Google Street View Image API:** Displays a static Street View image of the caller's location in a JFrame, to allow the caller to verify if the dispatcher has the correct location.

<Dispatcher> Where are you right now?

3333 University Way, Kelowna

<Dispatcher> Getting Image from  
<https://maps.googleapis.com/maps/api/streetview?size=600x300&location=3333+University+Way%2C+Kelowna&sensor=false&key=AIzaSyDJ8jbyWJzJQrrYGVN807xxnkfy7PlHEdk>



- **Google Static Maps API:** Displays a static map of the caller's current location in a JFrame.

<Dispatcher> Where are you right now?

3333 University Way, Kelowna

<Dispatcher> Getting Map from  
<https://maps.googleapis.com/maps/api/staticmap?center=3333+University+Way%2C+Kelowna&size=600x300&markers=color:blue%7C3333+University+Way%2C+Kelowna&sensor=false&key=AIzaSyDJ8jbyWJzJQrrYGVN807xxnkfy7PlHEdk>

