Introduction

In this homework, we will explore the Almond virtual assistant and you will have a chance to contribute new ideas and applications to extend Thingpedia.

You are encouraged to work in groups, but groups with more students are expected to do more work. Only one submission per group is required. Submissions are due April 11 electronically on the Thingpedia website at midnight. This homework is worth 5% of your grade.

Getting Started

First of all, you should familiarize yourself with Almond and Thingpedia, at https://almond.stanford.edu.

Preliminaries:

1. All members of the group: Register an account on Almond website https://almond.stanford.edu/user/register. Please use your SUNET ID as your username and use your Stanford email.

2. One member of the group: Apply to be a Thingpedia developer from the Settings page on the website. For Organization name, generate a unique name prepended with “cs294s-2019”.

3. After the application has been submitted, you should see a developer key shown in the Thingpedia website. You can then add the remaining group members to the organization through the Console tab. You should see that all members of your group have the same developer key.

Writing Thingpedia Entries

Your Task

Your group will develop a new Thingpedia entry for everyone to use. Specifically, you should develop an entry that you would find useful as a student. For example, you could consider adding an entry that would allow you to ask about the Marguerite, check a course website for homework assignments, or find out whose performing on campus. Feel free to be creative in thinking of possible entries; just make sure your entry is something you’d find useful in your life as a student.

To obtain full credit for this task, you must complete both the configuration part of the device and at least 1 function per student in the group. Each function must have at least 3 example commands.
Logistics

Your group must sign up at [http://tinyurl.com/y4bykqa9](http://tinyurl.com/y4bykqa9) indicating what device you wish to implement.

Submission must happen through the “Upload a new device” button in the Thingpedia page. You can submit any number of times, and after you submit you can start testing the new device. Only the last submission will be graded.

We recommend you look at the tutorials at [https://almond.stanford.edu/thingpedia/developers/thingpedia-tutorial-nyt.md](https://almond.stanford.edu/thingpedia/developers/thingpedia-tutorial-nyt.md) to get started. The tutorials include examples using RSS feeds, APIs, web-scraping[^1] and accessing personal account information using OAuth. You can use these tutorials as templates for your own entries. The final tutorial provides generic instructions for entering a new device.

You can find detailed documentation in the [Thingpedia Developer Portal](https://almond.stanford.edu/thingpedia). You will need to read at least [Getting Started with Almond](https://almond.stanford.edu/thingpedia) and [Write Your Own Device](https://almond.stanford.edu/thingpedia). When writing example commands, you may also find [Introduction to ThingTalk](https://almond.stanford.edu/thingpedia) and [ThingTalk Reference](https://almond.stanford.edu/thingpedia) useful.

Tips

1. Depending on the type of device you add, different tutorials might make for better starting points. For example, if you want to monitor a website for a specific piece of data, you might find Tutorial 4 relevant. If you want to call an API, Tutorial 3 might be helpful[^2].

2. Make sure the APIs of the service you choose are working (for example using **curl** or **Postman**) before you start.

3. You can view the status of your Web Almond at [https://almond.stanford.edu/me/status](https://almond.stanford.edu/me/status).

4. In the same page you can find the logs for your Web Almond, which will make your life much easier to debug. You can use `console.log` and `console.error` from your code to print in these logs.

5. The training of natural language takes up to 27 hours. However, you can immediately test your device with ThingTalk directly (see 6). You can see the status of the training at the top of the details page for your entry. The training is complete when the blue banner disappears.

6. When you upload your device the first time, you will be able to use very limited natural language commands after waiting 5-10 minutes.

7. Before the training is ready, you can test by typing ThingTalk directly; this is accomplished using the \t prefix in Web Almond. For example, to test the command “@org.weather.current”, you can write:
\t now => @org.weather.current() => notify;.

8. When testing, save your ThingTalk code somewhere to avoid typing it over and over again.

[^1]: Please note that at the time of posting this tutorial is not yet up on the main site but will be up tomorrow, April 5th. If you wish to access the tutorial in the meantime you can view it at [https://almond-dev.stanford.edu/thingpedia/developers/thingpedia-tutorial-website-monitor.md](https://almond-dev.stanford.edu/thingpedia/developers/thingpedia-tutorial-website-monitor.md). Please don’t use the test server for anything else but viewing this tutorial.

[^2]: These numbers reflect the tutorial numbering once the web-monitoring tutorial is posted.
9. If Almond cannot understand a sentence after training, you can either add more example commands in the Thingpedia entry, or train it manually at [Train Almond] page.