Twitter Assignment

July 2, 2018

You will now develop a way of controlling Cozmo by sending tweets. Fo this you will use the framework you have downloaded from github (`https://github.com/HWURoboticsLab/Leaps_material`). What I want to do is to send messages to the robot, which will drive to robot towards a cube, lift the cube and bring the cube towards you.

First you will have to register your twitter app. To do this you will need a twitter account. If you do not have one please create it by going to `twitter.com`. After you have created your twitter account please go to `https://apps.twitter.com/app/new` and click sign in (located in the top right corner).

Follow the instructions on the screen and click "create your twitter application" (see figure 1).

After this you will see a success screen with an API key on it. Select "Keys and Access Tokens" tab (see figure 2) and click "Generate an Access Token and Secret" (see figure 3) . Copy your consumer key + secret, and access token + secret key (see figure 4) to cozmo_twitter_keys (located in code/SDK_examples/lib/cozmo_twitter_keys.py) and replace the XXXX with your keys.

Look at the advanced tutorial (`https://github.com/anki/cozmo-python-sdk/blob/master/docs/source/tutorial-advanced.rst`) for information on what you can send to the cozmo. Look at the tweet_at_cozmo app (`https://github.com/anki/cozmo-python-sdk/blob/master/examples/apps/tweet_at_cozmo.py`) to see how you can implement these things.

Recap:

- Create a Twitter account if you have not got one already
- Connect the robot to twitter by requesting an API key
- Move the robot around by sending messages to twitter by sending do_drive and do_turn tweets and implementing the code

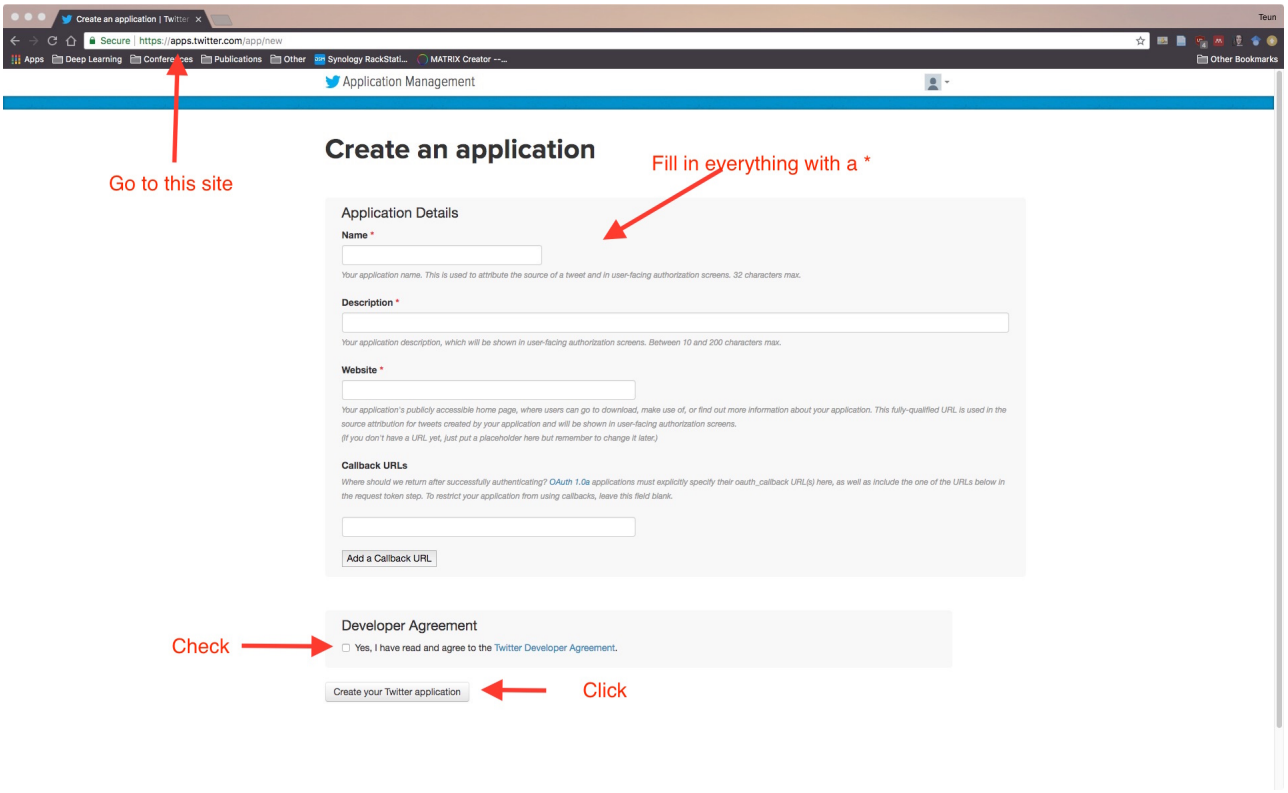

Figure 1: Fill in the boxes

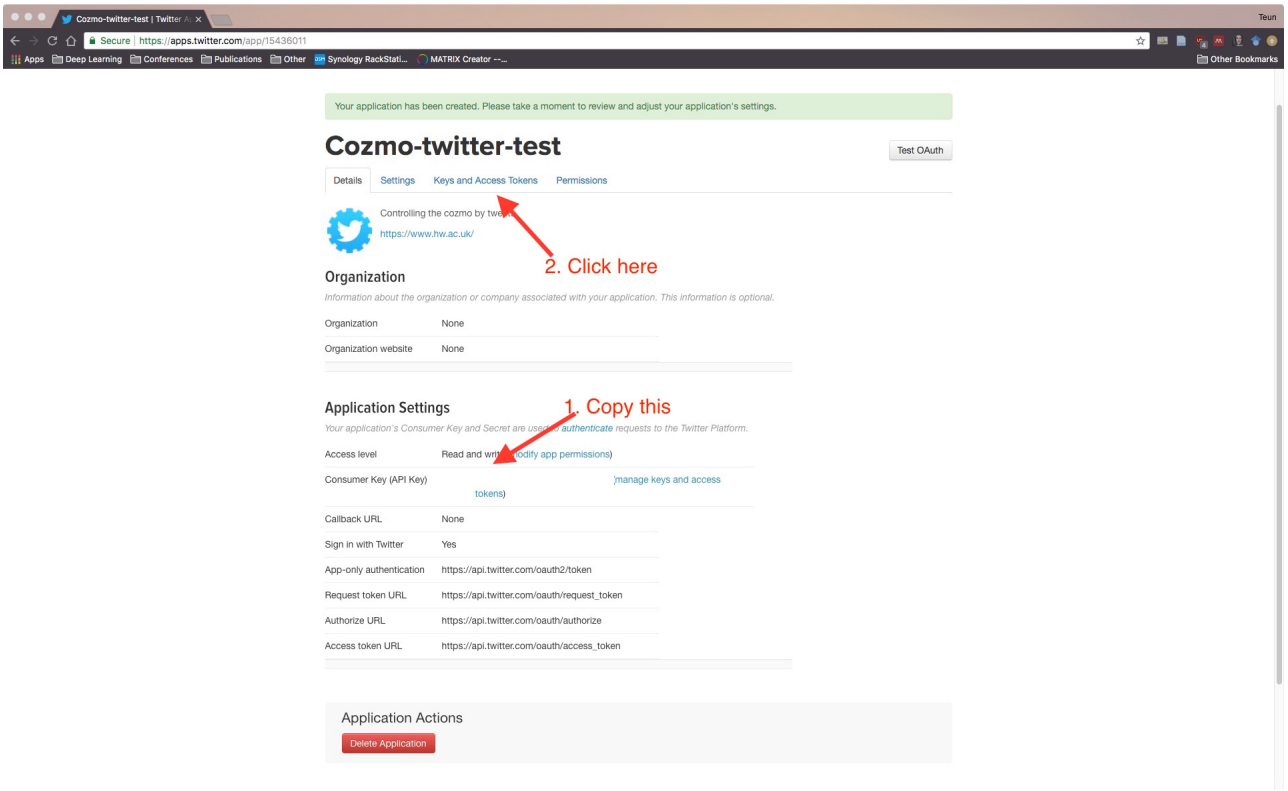

Figure 2: After a success you will see this screen

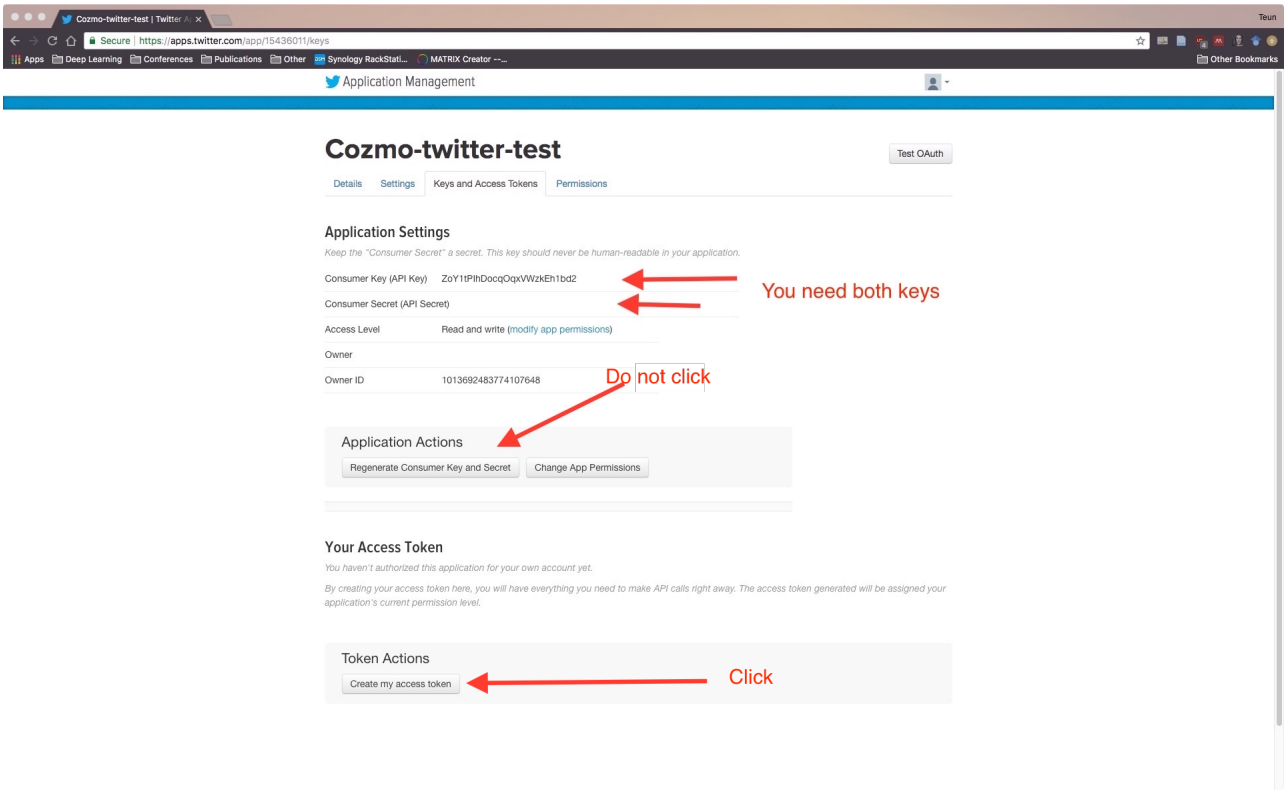

Figure 3: First click the bottom button

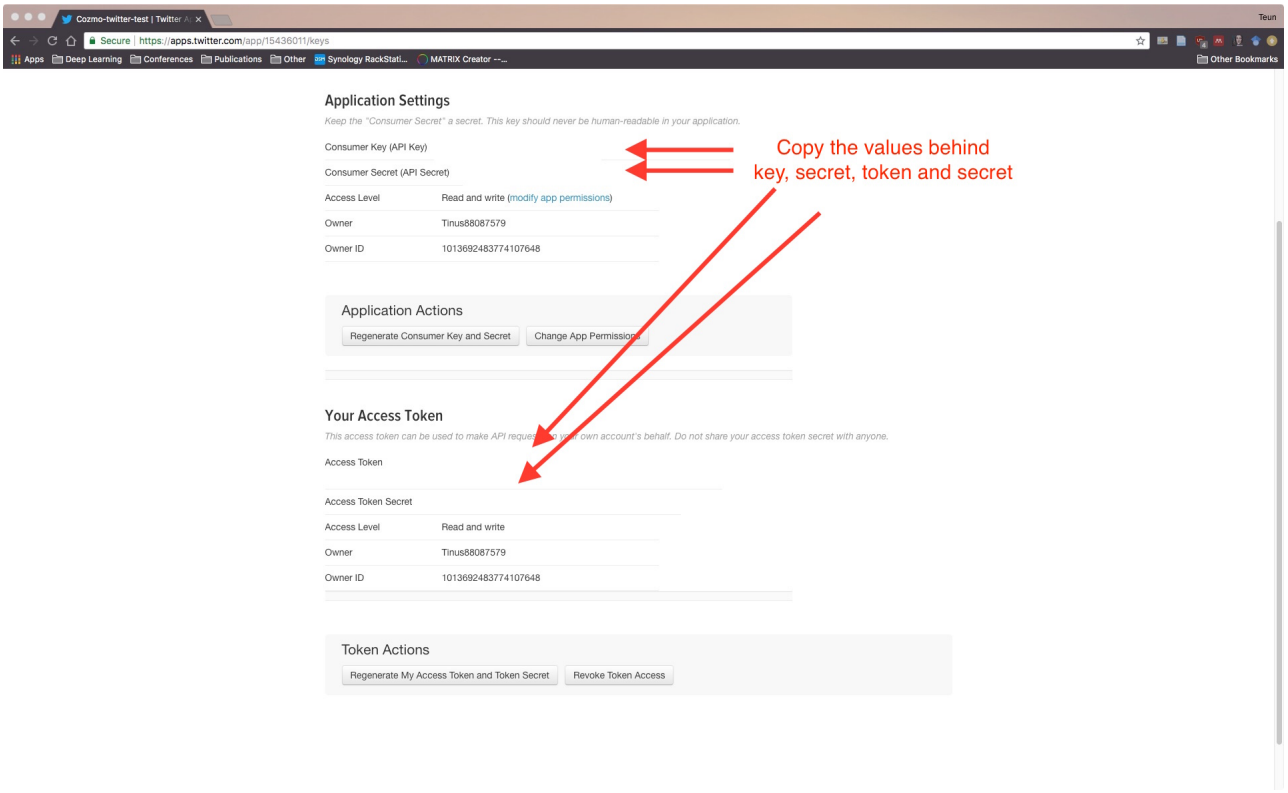

Figure 4: Copy the api and consumer keys

- Pickup a cube using twitter by sending do_lift tweet and implementing the code
- Make the robot move towards the cube, pick it up and bring it to you.
- Look in code-SDK_examples-docs-source-tutorial-advanced.rst for ways to use the twitter API
- Use (import) the classes in code-SDK_examples-lib to connect to twitter and to recieve the messages

An example of your class is given below:

```
import cozmo
from cozmo.util import degrees
import twitter_helpers
import cozmo_twitter_keys as twitter_keys
class ReactToTweetsStreamListener \
(twitter_helpers.CozmoTweetStreamListener):
    '''React␣to␣Tweets␣sent␣to␣our␣Cozmo,␣live,␣as␣they␣happen...''

    def __init__(self, coz, twitter_api):
        super().__init__(coz, twitter_api)


    # Useful during development - an easy way to delete all of Cozm
    # def do_deleteall(self, cmd_args, kw_args):
    #     cozmo.logger.info('Deleting all of your tweets')
    #     twitter_helpers.delete_all_tweets(self.twitter_api)
    #     return None


    def do_drive(self, cmd_args, kw_args):
        """drive␣X"""
        usage = "'drive␣X'␣where␣X␣is␣number␣of␣seconds␣to␣drive␣fo
        error_message = ""

        drive_duration = extract_float(cmd_args)

        if drive_duration is not None:
            drive_speed = 50
            drive_dir = "forwards"
            if drive_duration < 0:
                drive_speed = -drive_speed
                drive_duration = -drive_duration
                drive_dir = "backwards"

            self.cozmo.drive_wheels \
            (drive_speed, drive_speed, duration=drive_duration)
            return "I␣drove␣" + drive_dir + "␣for␣" +
            str(drive_duration) + "␣seconds!"
```

```
        return "Error: usage = " + usage + error_message
```