Making Twitter Bots for Digital and Cultural Literacy

Prepared for the 2017 Digital Pedagogy Lab Vancouver
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The goal of this workshop is to create artistic, literary, educational, and/or activist Twitter bots based on your own creativity and historical and/or literary figures, texts, archives, and other cultural heritage collections. The goal is to demonstrate how Twitter bots are easy to create and teach, produce artistically and rhetorically powerful output, and help develop code and digital literacy skills in a humanistic and critical context.

What is a bot?

A bot is an autonomous software machine that acts as a person or personifies a concept, creature, or thing. While there are millions of practical bots deployed on social networks (especially Twitter and Tumblr) and operating systems (i.e. Clippy, Siri, Alexa, Cortana, Google), the bots that we will focus on for this workshop are created for artistic, literary, educational, and/or activist purposes. We will be creating art designed for the Twitter stream: recurrent, generative, and perhaps interactive.

Twitter Bot Examples

- @IAM_SHAKESPEARE tweets out lines from Shakespeare's complete works.
- @MagicRealismBot sketches out narratives in the magic realism tradition.
- @str_voyage tweets out moments in an endless wandering maritime voyage.
- @thinkpiecebot generates the titles of think pieces ranting about millenials.
- @sloganotron creates advertising slogans inspired by *Mad Men*.
- @NRA_Tally produces horrifying mass shooting scenarios and an NRA response.
- @Every3Minutes tweets a hypothetical slavery transaction every three minutes.
- @tinyprotests creates protests on diverse causes using emoji. (See source code.)
- @JuntaControlPR tweets excerpts from PR's Fiscal Control Board (See source code.)
- @pls_take_breaks offers us reminders and activities for us to take a break.
- Explore my Activist Bot and Artistic and Literary Bots lists on Twitter.
- See also the Bot Collection in the *Electronic Literature Collection, Volume 3*.

Our Tool: Cheap Bots Done Quick!

Cheap Bots Done Quick! (CBDQ) is a wonderfully simple and empowering framework for bot creation and hosting created by George Buckenham and using Kate Compton's Tracery JavaScript Library. This platform generates text (or ASCII and emoji art) using templates, variables, and datasets. It can also respond when tweeted at, allowing you to create chatbots.

In CBDQ, you define variables (the word listed on the left) and the dataset-- the options the system will randomly select from when each variable is called. CBDQ always begins by choosing a sentence from "origin" and when one of those sentences has a variable (a word surrounded by hashtags, like #alternatives#), it seeks that variable and chooses an option within that variable's dataset. See the image below.

Tracery JSON

```
{
    "origin": [ "this could be a tweet", "this is #alternatives# tweet", "#completely different#"],
    "alternatives" : ["an example", "a different", "another", "a possible", "a generated", "your next"],
    "completely different" : ["and now for something completely different", "so long and thanks for all the fish", "or, maybe, #alternatives# badger"]
}
```

(Annotations: "variables" points to "origin", "alternatives", "completely different"; "datasets" points to the list arrays)

While there are other ways to create more powerful and functionally sophisticated bots, CBDQ, is simple, accessible, and foregrounds coding in simple way, making it a powerful educational tool.

Workshop Preparation

For best results, you should come to the workshop having completed steps 1-3.

1. Explore the Twitter bot examples listed above for ideas and inspiration to come up with a concept and basic operation of a bot you would like to create.
2. Think of sentence templates, variables, and datasets that you can use to generate the kind of output you want your bot to generate. Here are some useful resources.
3. Create a Twitter account for your bot.
   a. You will need an e-mail address for that account. You can create one from scratch, or if you have a Gmail account, you can add +botname to your e-mail address before the @ sign (leonardo.flores@upr.edu → leonardo.flores+bot@upr.edu).
   b. Flesh out the account with a profile picture, header picture, and description. This is where you begin to develop its character and personality.
4. Go to Cheap Bots Done Quick! and connect to your Twitter account.
5. Create your bot:
   a. Change the code to meet your needs, keeping "origin" as the starting variable, and paying attention to having precise punctuation-- JavaScript is unforgiving of errors, but CBDQ will tell you exactly where the problems are.
   b. You can test the output by hitting the refresh button below.
   c. Optional: define its responsiveness (optional).
   d. Launch your bot: set up post frequency, click save and presto!
6. Share your bot on Twitter with the following hashtag: #DigPedBot

Additional Reading

- Botwiki: Tutorials for Twitter Bots - offers many other tools, tutorials, and frameworks for creating Twitter bots.
- Genre: Bot in I ♥ E-Poetry offers a categorized list of bots and links to short entries about them.
- How to Make a Twitter Bot with Google Spreadsheets offers step by step instruction on using Zach Whalen's SSBot tool.
- Basic Twitter Bot Etiquette is a practical and thoughtful set of guiding principles for bot making by Darius Kazemi.
- In my Interview with the Bot column in BotWatch, I define and discuss some key questions around bots.