Police Bot: Enhancing Social Media Governance with Policing Bots

Milestone 3 Presentation

Group Members:

Students:

- Gabriel Silva
- Cody Manning
- Liam Dumbell

Faculty Advisor / Project Client:

- Khaled Slhoub

Computer Science Project Instructor:

- Philip Chan

Overview:

- Discussion of Task Completion:
    - Decision on a single starting bot detection method.
    - Development on implementation of chosen bot detection method.
    - Data Collection System Improvements.
- Demo of rote bot detection method implementation.
- Demo of Database System.
- Faculty Advisor / Project Client Feedback
- Technical Challenges Update
- Plans heading towards Milestone 4

Task Completion

Decision on a single starting bot detection method.

- Academic papers provided by Client reviewed by each team member.
- *Reddit Comment Text Frequency Analysis* deemed most prudent for a starting bot detection method.
- Implemented using Python Spacy library.
- More bot detection methods needed in the future to ensure reliable degree of accuracy.

Task Completion

Development on implementation of chosen bot detection method.

- Bot Detection through Text Frequency Analysis in development and a working version has been created.
- Functional Bot Detection is currently in the prototype stage.
- Development towards Reliable Bot Detection is still ongoing.

Task Completion

## Data Collection System Improvements

- CSV data storage solution modified to include headers.
- bot_db mysql Database created to store all data retrieved by the framework.
- Python script created that automatically reads all CSV data and organizes them into relevant tables.
- bot_db is currently being hosted locally, but the functionality to switch to AWS has been added.
- The switch to AWS will be made when local data storage becomes insufficient

Bot Detection Progress Demo

https://www.youtube.com/watch?v=D79GxjfcuUY

Database System Demo
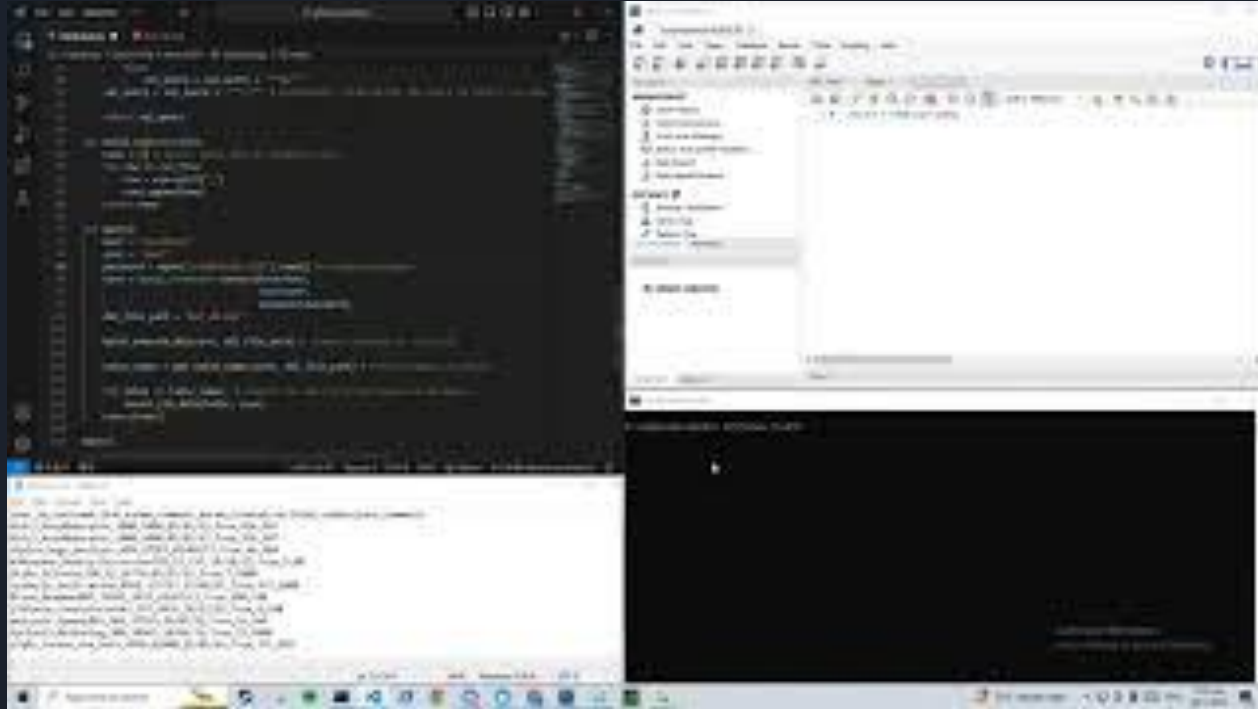
Faculty Advisor / Project Client Feedback

- Text Frequency Analysis was agreed to be a good starting bot detection method for our project.
- The need for additional bot detection methods that address our current system's weaknesses was discussed.
- Setting a meeting with one of our client's PHD student was discussed and is set to take place before the end of semester to discuss working on porting our framework back to Twitter (in addition to Reddit).
- A Progress Evaluation document was also provided to our client that overviewed our contributions, developments, plans and feedback for Milestone 3 which was signed.

Technical Challenges Update

Progress on Resolving Challenges

- Expanded skills using the Reddit API.
- Expanded experience with using / creating Reddit Bots.
- Expanded HTML Knowledge.
- Expanded Knowledge on Bot Detection Methods and Implementations.

Technical Challenges that require attention going forward

- Deepen understanding on the math behind text frequency analysis.
- Start in-depth research in other bot detection methods.
- Start research on Bot Distinguishing Methods and Implementations

Milestone 3

Task	Completion	Cody	Gabriel	Liam	To Do
Improve data collection system	80%	25%	25%	50%	Improve our database and data collection systems, more info displayed is the goal.
Research and decide on a single starting bot detection method	90%	60%	15%	25%	This is something that could easily change, but we are feeling good about our chosen method.
Start implementation of chosen bot detection method	100%	33%	33%	33%	
Create a working demo of rote bot detection (with the data collection integration)	80%	25%	50%	25%	The demo could be improved, hoping to make more functionality for the next one.

Milestone 4

Task	Cody	Gabriel	Liam
Continue work on our chosen detection method (find potential additions)	33%	33%	33%
Begin planning for the distinguishing method	33%	33%	33%
Create a demo of our updated work	33%	33%	33%

Moving Towards Milestone 4:

- Continue work on implementing Bot Detection through Text Frequency Analysis.
- Identify and Incorporate additional bot detection algorithms to improve accuracy of predictions.
- Update database with any new fields from bot detection development
- Start research and development on Bot Distinguishing System.
- Create Bot Distinguishing Prototype.
- Create Demos of improved Bot Detection System and prototype Bot Distinguishing System.

This concludes our presentation, Thank You