Enhancing Social Media Governance with Policing Bots - Milestone 4 Evaluation

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Client:

- Dr. Khaled Slhoub - kslhoub@fit.edu

Progress of current milestone (Task Matrix):

Task	Completion	Cody	Gabriel	Liam	Falco	To Do
Research detection algorithm to work in tandem with the current one, and implement it if possible.	80%	20%	20%	20%	20%	More algorithms are always good, but we need to have more testing methods on our current algorithms
Work on efficiency for the current detection module	60%	10%	40%	5%	5%	Code has been improved slightly, but we wonder if the nature of the project is fairly slow.
Work on the database functionalit	90%	20%	10%	60%	0%	Database really just needs a host at this point

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Research methods for the deciding module	20%	5%	0%	0%	15%	All of it, we are still debating on how this is going to be done.

Discussion for each accomplished task for the milestone:

- Task 1: We have implemented another algorithm for bot detection. This one is made to have a weight for several parameters we choose. Bot detection is decided based on these factors:
    - Account age
    - Amount of karma the user has
    - Whether or not the user has a verified email address
    - The length of time between posts (Posting faster than a human could reasonably post is looked upon poorly)
    - The difference between the users posts (Repetitive posts are looked upon poorly)

  These features are used to come up with a numerical score, with each of them having different levels of importance, a verified email alone will not immediately flag the account as a bot, for example.
- Task 2: A few functions were modified to alleviate redundancy, resulting in a slightly faster run time. The way that posts are grabbed is an example, before; we had several searching and conditional statements that have been removed for speed. The program will always be a little on the slower side, as it requires web-scraping and API calls, but we will continue to try to trim whenever possible.
- Task 3: The database is mostly done at this point, it is just a matter of deciding where all of the data is going to be stored. We are exploring options for database hosting, but are not sure what the solution will be yet.
- Task 4: Detection took priority in this milestone, so not a lot of time was dedicated to the distinguishing features.

Discussion of contribution for the current milestone:

- Cody Manning: Cody helped work on the new detection algorithm, did research on possible fixes for our distinguishing problem, and wrote this document.
- Gabriel Silva: Gabriel worked on making the new detection algorithm. He also worked on the efficiency of the code that already existed.
- Liam Dumbell: Liam worked on the new algorithm, and did some minor fixes to our database functions.

- Nickolas Falco: Falco worked on the detection algorithm, and also has been theorizing about how we may be able to detect maliciousness in the bots we find

Plan for the next milestone (Task Matrix):

Task	Cody	Gabriel	Liam	Falco
Find and implement more detection algorithms	Research and implementation	Research and implementation	Research and implementation	Research and implementation
Figure out the distinguishing module	Research and implementation	Research and implementation	Research and implementation	Research and implementation
Ebook page and poster	Ebook		Poster	

Discussion for each task of the next milestone:

- Task 1: So as we have been advised, there is no perfect detection algorithm. We need to figure out as many different detection methods as possible. We also need to have a way to make all of the detection algorithms work together, so we can get a clear, concise, consensus on whether a user is a bot or not.
- Task 2: We need to figure out how we are going to detect maliciousness in the bots we detect. This is something that our advisor is really interested in, and is one of the main tenets of the project. Major research and development is going to be needed for this. It has been suggested that we perhaps implement some machine learning for this task, but we need to have something to train off of to start with.
- Task 3: The ebook and poster won't be much of a problem, so we will have one person working on each of them. We don't have any idea on design for that stuff though, so we plan to ask for opinions from other people more inclined to graphic design.

Dates of meeting with Client:

- February 16th, 2024

Client Feedback on Milestone 4:

- See faculty feedback below

Dates of meeting with Faculty Advisor:

- February 16th, 2024

Faculty Advisor Feedback on Milestone 4:

- Task Feedback: Our advisor was impressed with our current detection algorithms, but reminded us that having more methods of detection is always a goal. He also emphasized the importance of making sure that the framework is able to detect maliciousness in particular. Advised us to work on that a lot for the next milestone.

Evaluation by Faculty Advisor:

- Faculty Advisor: detach and return this page to Dr. Chan (HC 214) or email the scores to pkc@cs.fit.edu
- Score (0-10) for each member: circle a score (or circle two adjacent scores for .25 or write down a real number between 0 and 10)

Cody Manning	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
Gabriel Silva	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
Liam Dumbell	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
Nickolas Falco	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10

Faculty Advisor Signature _____ Date: _____