Assignment 3 Aaron Topic Motivation and Tools and technology

Topic

Here at OpenMinds, we are dedicated individuals working together to achieve a goal to make an internet experience safer for the most vulnerable of our society, children. With the use of the internet being at our fingertips, content has never been abundant. This easily accessible content is usually quite harmless but rather helpful to an experienced user, which is why we are creating an extension to the most popular web browsers out there, Talk 2 Me (T2M). T2M, is a chat bot. T2M goal is to give children a safe space a place to talk about their lives, good or bad without fear of judgment from any human. T2M will be programmed through the Microsoft Azure platform as it has already the foundation laid out for use to build this platform.

As mentioned above, T2M is a chat bot but not just any old chat bot but a chat bot that has the ability use machine learning to build a Digital Mental Health Profile (DMHP). Behind the scenes, as a user is browsing the web, site hoping from site to site, T2M is analysing the content the user is viewing and comparing the content to red flagged items pre-determined by child psychologists here at OpenMinds. The content that T2M analyses will be from text and images results and will measure how long they viewed said items for, and when did those items lead the user to next. Once a parameter has been by the red flagged items, T2M will automatically active to begin to attempt to have a conversation with user. Below is a scenario on how will work.

Scenario:

*Kenny is a teenager that attends high school. He regularly uses the internet each day after school and as long as he can on the weekend. He is a high achiever at school and usually uses the computer for his homework before does any online social networking. One day after school he comes home and as usual, his parents aren’t home because they work full-time and usually get home later in the evening. Ken isn’t new to bullying and usually shrugs it off at the worst of the times but today was a little different. He was actually physically hurt along with being teased and bullied. So, when he got home, he wasn’t his normal self, and skipped is homework altogether and started looking at content relating to self-harm. T2M, notices this change in behaviour (along with it being a red flagged item) and starts to engage with Kenny. Kenny spills about his day to the bot and the bot tries to offer some advice. Ken told the bot that he was feeling better but the T2M could still see that he was still looking at the same content well after the initial chat. The bot then decides to notify Kenny’s parents as it felt the parents needed to intervene and assist Ken.*

In the above scenario, this is one case where the bot knew something wasn’t right and that it had to intervene. There will be many parameters in place some rating from mild and others to extreme where the bot will notify the correct authorities through OpenMinds about a child of concern. Our goal here at OpenMinds is to create a tool to make children feel safe and keep the parents minds at peace.

Motivation

OpenMinds is consisted of a highly motivated team. When came together in the beginning, we were brainstorming ideas about our future project. We were all throwing ideas around the room during our meeting but there was one common interest, internet horror stories. We all stories about our experiences online, from the bad and to the extreme. With our common interest in our online experiences, one conclusion came up, that our online activities do say a lot about ourselves.

We also concluded that children could be the most vulnerable online. Catherine Knibbs, a child trauma specialist from internetmatters.org, says that children can be reluctant to let their parents into their online world. Which is concerning to us as many of us at OpenMinds are parents ourselves. With Talk 2 Me, we strive to make the dangers of the internet a lot safer and open communication between parents and children about their online activities.

Tools and technologies

Here at OpenMinds, we will be striving to take advantage of the most advanced technology to develop our chatbot. For the initial development course, we will be using Microsoft azure as our foundation for our development. We chose Microsoft azure because this service has a lot of the foundation needed to get ahead in the chatbot technology. Listed below is the technology that we will use and experiment with offered by Microsoft azure:

* Artificial Intelligence
* Chatbot services
* Machine learning
* Security services
* SQL Databases
* Online Storage (of personal information)
* Microsoft custom vision service
* Computer Vision

The list of tools and technology listed above is new to us here at OpenMinds however Lachlan, our lead developer for this project has some experience with SQL databases and storage of personal information. However, with our initial tests, the team is having no issues in learning and using the new technology.

However, the tools offered by Microsoft azure are not the only tools we will be using. To build this bot as a browser extension we will have to rely on other the browsers themselves. Initially we will have to code the browser using a text editor such our favourite, Atom and utilise the code from CSS, HTML and JavaScript to create the extension. As Atom is a free to use software, we will not have to license the software for use. As most of us at OpenMinds live in different states and locations within Australia we will not be able to have a home office at this present time. We will have to rely on the premium version of GitHub to share, edit and make new developments with Talk 2 Me. We will then utilise the API’s from the Microsoft Azure platform to make and host Talk 2 Me.

To develop the Talk 2 Me software, we will be using Microsoft Windows compatible hardware as it is the most versatile with the tools and technologies that we have chosen. These PC’s won’t have to be overly sophisticated to develop Talk 2 Me, so we will only require a mid-tier level PC. Other software not listed above, which we will still have to license and subscribe to:

* Windows 10 Enterprise
* Office 365 Business, which includes all the Microsoft Office suite and services including; Exchange, OneDrive, SharePoint and Microsoft Teams.
* Trend Micro security (antivirus and anti-ransomware)

The above tools and technology, software and the hardware, the OpenMinds team will be able to successfully create the Talk 2 Me chatbot. We hope to create more transparency with parents and children and to protect them in the online world.