**A Real Time Three Dimensional Representation of the Social Network ‘Reddit’ for use in a Virtual Reality Environment.**

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## Declaration

I hereby certify that this material, which I now submit for assessment on the program of study as part of B.Sc. Honours Computer Science and Software Engineering qualification, is *entirely* my own work and has not been taken from the work of others - save and to the extent that such work has been cited and acknowledged within the text of my work.

I hereby acknowledge and accept that this thesis may be distributed to future final year students, as an example of the standard expected of final year projects.

Signed: Adam D’Arcy Date: 3rd/March/2017

**Chapter One: Introduction**

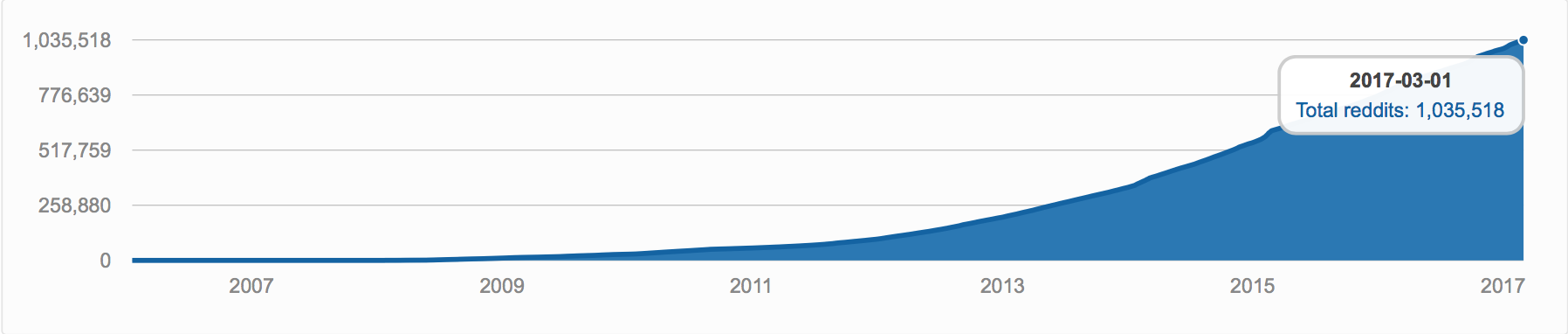
**Summary**

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* 1. **Topic addressed in this project**

The main topic addressed in this project was to create an immersive, real time representation of the social network Reddit. In order to achieve a modern, useful and truly immersive experience the development of this representation was geared toward use in a Virtual Reality environment.

There is no greater way to provide an immersive experience at the moment than through that provided by Virtual Reality. Headsets such as the Oculus Rift and HTC Vive and mobile alternatives like Googles Cardboard and Samsung’s Gear VR are providing new avenues to train Professional Sports Stars [1] and treat Posttraumatic stress disorder [2] among many other applications of the technology.



**Figure 1.0: Growth of Number of Subreddits on Reddit, 2006/01/17 – 2017/03/01 [3]**

Reddit is often described as the “front page of the internet”, but the front page is just the tip of the iceberg. As of 01-03-2017, 1,035,518 Subreddits existed on Reddit according to redditmetrics.com [3], the same day approximately 16.7 Subreddits a minute where created on the site. The topic of this project is to develop a way of representing as much of this information as possible into a real time, interactive experience to provide a glimpse of a larger portion of Reddit than isn’t obvious from interacting through Reddit’s text based UI and in doing so give some insight into how these Subreddits are connected and finally to show something about Reddit not visible in the usual boring two-dimensional screen based world we live in.

* 1. **Motivation**

There is something for everyone on Reddit. There are Subreddits for everything from ‘r/FUNNY’ to ‘r/PERSONALFINANCE’ and communities aimed at programmers (r/programming), cat people (r/CatsStandingUp), freaks (r/Freaks), geeks (r/Nerd\_Corner) and those who just want to watch the world burn (r/ooerintensifies) among more than one million others. But what’s the difference between r/programming and r/coding, and how are they connected? Or are they even connected? And how would it be possible to represent this information in an intuitive manner without overwhelming the end user? These are the questions I attempt to address with this project. With this project I attempted to create a representation of Reddit that encapsulates more than individual Subreddits, individual user preferences or even a subsection of Reddit as a whole. I strived to provide the end user with an experience that immerses them deep within Reddit’s molecular build up, to develop a representation of Reddit, as much of Reddit as possible, that encapsulates how Subreddits are connected, which Subreddits are connected, which Subreddits aren’t connected and to provide a way of instantly delving deep into the soul of Reddit. //add the abstract kinda problem in more detail

* 1. **Problem Statement**

Reddit is a social network compromised of more than one million Subreddits, how would it be possible to develop an intuitive and functional yet enticing representation of this complex network without overwhelming the end user? And would it be possible to show how Subreddits are connected to one another? The main technical problem that had to be solved during the development of this project was to develop an algorithm capable of interpolating Reddit data in real-time and producing useful results that can be used to represent Reddit in a three-dimensional Virtual Reality environment.

* 1. **Approach**

**References**

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2. Mary Aiken & Mike J. Berry: Posttraumatic stress disorder: possibilities for olfaction and virtual reality exposure therapy, *Virtual Reality,* June 2015, Volume 19, [Issue 2](http://rd.springer.com/journal/10055/19/2/page/1), pp 95–109
3. <http://redditmetrics.com/history/month>