COMP205P

Microsoft Capita Team 2 / Bi-Weekly Report 7

Date: 10/02/2017
Team: Lambros Zannettos, Nathan Liu, Junwen He

Sprint 2

Overview

During this sprint we aimed to optimise the system as much as possible and tackle the core problems to make the system to improve the scalability of the system. Some of the improvements we made include the Set Engine (the engine that creates set data), the REST service and storing of the sets.

Meeting summary

Tue, 31 February 2017
We evaluated the work the team did for the previous sprint and discussed the work that we needed to do for the first week of the sprint. This included demonstrating the current system we have in place and then finding areas of potential improvement with the teaching assistant.

Fri, 3 January 2017
Team meeting.

Tue, 7 February 2017
Syseng lab session.

Fri, 10 February 2017
Meeting with Team 1. We briefly discussed how the two team projects can start coming together, and more specifically about the exchange of data between frontend and backend.

Tasks Completed

- Zip/UDP/Server-to-client communication experiments.
- Implementation of an Azure blob and storing sets onto the blob in a structured format. Pointing the REST service to the blob so the service can read data from the blob.
- Creating a new REST endpoint that allows for the intersection of sets. Experimentation with different data structures to make sure intersection is as fast as possible and finishes in O(n).
- Pointing the Set Engine to write data to the blob and upgrading the engine using a Factory provider class and Entity Framework to read data from more than one database.

Problems to be resolved

- REST endpoint recently broke for Team 1 and will need fixing as soon as possible.

Plan for next two weeks

- Increase communication with Team 1 so our two projects can start coming together.
    - Talk about the form of the data being exchanged.
    - Decide on ‘parent sets’ that can be implemented as a prototype to show the system at work.
- Work on caching sets in memory and how to retrieve sets which could potentially be located in memory rather than on disk.

Individual reports

Lambros Zannettos:
I have been experimenting with Expression Trees in an effort to implement the ‘set lifecycle tree’ idea that was mentioned in the previous biweekly report. I also did some work with Entity Framework “universal” SQL Queries and worked on figuring out what the best way to model the system would be in terms of OO principles.

Nathan Liu:
For the first part of the fortnight I worked on making the new REST endpoint for intersecting lists and upgraded the Set Engine to store data on the Azure blob in a tree structure. I also experimented with ADO.NET and the Entity Framework to make the Set Engine support different databases. For the second part of the two weeks I worked on pointing the Interpretation engine (a system that parses REST requests) to read data from the Azure blob that was previously reading data locally.

Junwen He:
For the Zipping and UDP services, I've made a testing database containing mockup data on Azure, and searched and tried several methods to abstract data from Azure database and found a faster way to do this.