**Software Development Plan**

**Bionic Beavers**

**Project Overview**

The aim of the project is defined in the project overview document. Namely

The aim of your project is to build a web application that can retrieve information on single

nucleotide polymorphisms (SNPs) associated with T2D and integrate them with population

genomic and functional data. The web application should also be capable to produce informative

plots and analyses in this regard. The web application should return results which are presented in a

manner that will help answer biological questions.

**Scope and Objective**

The scope of the project is to produce a proof of concept that meets the requirements of the project, it is not to produce a publicly available end-user product. As such it will be deployed on a local machine and made available on the public web.

Question: Is it OK to use a local machine or are extra marks available for deploying to a public server?

Broadly speaking, this means that SNP data will be stored in a local database and will be accessed by a web interface. The objectives are set out in the project over view document.

**Architecture and Tools**

Data will be stored in a SQlite database according to the schema in annex A.

The Flask web server will be used to host the web pages, which will allow the user to interrogate the database.

Code and document management for the project will be performed by GitHub.

**Resources and time line**

Resources available are the team members: Showlin UDDIN (SU), Kat CHAN (KC), Mihails PERMJAKOVS (MP), Burhan AHMED (BA) and Japhet MINDANA (JM). Teaching resources are provided by five 40 minute weekly tutorials.

Project commencement is 23rd January with final submissions on 6th March and presentations on 7th March.

**Roles and responsibilities**

Responsibilities are to be divided up as follows between the team members.

Team Leader, a single person responsible for coordinating the work of the team and ensuring deadlines are met. This person also participates in the other tasks.

Web development

Data base development

Data research:

Graphs and plotting

Data presentation and summary statistics

GitHub setup

Testing

Presentation planning

Documentation

Question: There is no information on what documentation is required. Is this user instructions, a system architecture document, explanation of how the software works?

**Dependencies and Steps**

For Tutorial 1

Produce this software development plan

Identify data to used

Set up GitHub for the team

All team members have SQLite, Flask and GitHub Desktop installed on their laptops.

For Tutorial 2

Database created and data imported. Tested locally using simple SQL commands. Deployment instruction provided on GitHub.

First draft of web pages developed using standalone data.

For Tutorial 3

All team members have database loaded on their laptops.

Fully developed web pages deployed to interrogate the database.

For Tutorial 4

Web pages extended for provide all functionality defined in the project document.

Testing complete.

For Tutorial 5

Documentation produced.

Software deployed as a release to GitHub.

Code Freeze.

First draft of presentation produced.

1 Week Later

Presentation fully complete and practiced by the team.

Presentation to the marking board.