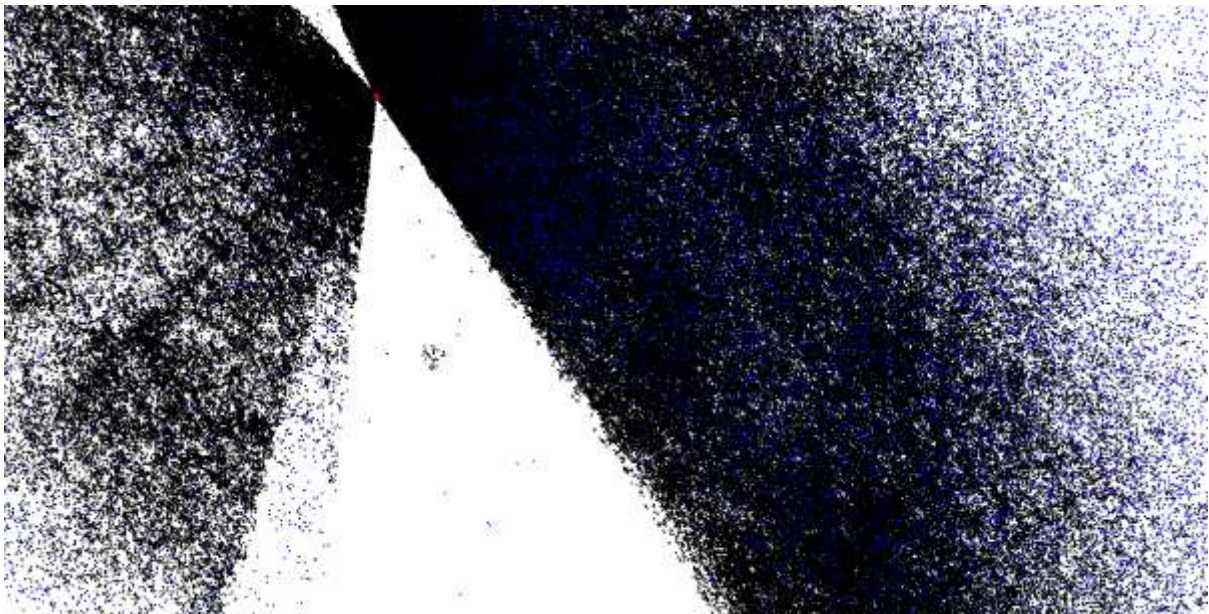


Mapping the Universe Project

The Sloan Deep Sky Survey (SDSS) is an astrophysics project in its tenth year, which has the goal of mapping the observable universe. In July 2012, the project team released 60 terabytes of scientific data into the public domain, allowing anyone to download their photographic observations and measurements of 2.2 million stars and galaxies. To date, the project team have photographed and collected data on approximately one third of all the observable objects in the night sky.

Using the data this team has collected, it should be possible to create a virtual 3D space in which to accurately plot the relative positions of these stars and galaxies and 'fly through the universe'. To achieve this goal, the parallel processing capabilities of the School of IT's Blade Centre will be used for real-time rendering of over 2 million astronomical images as a user navigates within this virtual universe.

A simple proof of concept has been developed on a laptop - the output from which is shown in the graphic below. Each dot represents either a star or galaxy. The central red dot is a representation of our galaxy. These dots will be replaced by actual images of the stars and galaxies they represent in the final iteration of this project.



The next step in this project is to design a suitable physical platform, incorporating the Blade Centre, for software components (Oracle and R) shown below.

