**Project Meeting – 5 (12/05/2021)**

**(Dr. David Walker)**

**Discussion:**

**• Types of visualisations needed graphs:**

* 3D visualisations? D3 does not out of the box have this, maybe some other solutions; multi-dimensional scaling – PCR/plotly.js
* Multiple plots
* Heatmap
* Parallel co-ordinate plots

**• Tools/calculations:**

* Pareto front approximations (how to visualise, calculate on server?)
* Decision/objective space – currently show objective space for DTLZ1/DTLZ2
* Fitness landscape
* Minimising objectives
* Showing relative similarity of solutions
* Explore performance of EAs running in parallel (compare visualisations of EA data running parallel?) (highlight parameters of EAs on the visualisations and the dashboard?)

• **Posting data:**

* Currently thinking websockets or just basic http? - done
* How quickly is the data sent? - done
* What type of data? - done
* make it modular – done
* visualise pareto fronts (given the solutions from the optimiser) – a couple of bugs - DONE

• Testing:

* DTLZ1
* DTLZ2
* OneMax

• Next steps:

* Fix a couple of bugs on the pareto-front/scatter - DONE
* Replay option; paused/resume state - DONE
* Slider to move back through generations - DONE
* Test how we can use 1D data with OneMax; we may need to change type of data we store i.e. fitness values - DONE
* Fetching data (bug) – scales increasing during runs, should only be decreasing - DONE
* 3D pareto front – Not MVP (criticism)
* 5 objectives – PCA pre-processing (minimising objective data as it comes in) – Not MVP