

4th Year EIE Lab Project Meeting Minutes For Software Development Groups

12 September 2016

Attendance: Dr. S. Levitt, Prof. S. Hazelhurst, J. Zeegers, J. Gage, J. Allingham, P. Cresswell, T. Amoretti, S. Friedman, F. Nieuwoudt

Absent: M. Bezuidenhout

Minutes noted by: J. Gage

Meeting at School of Electrical Engineering Boardroom, University of Witwatersrand

Opening 12h15

Project Descriptions & Progress

Project 1 - Pipeline creation and visualisation for scientific workflows (J. Zeegers, J. Gage)

- Reviewed requirements of the previous week.
- MySQL database and graphviz graphs working to plot basic workflows.
- Challenge in J. Gage's Ubuntu requiring reinstallation.
- Challenge in linking scripts and text files. Discussed with Prof. Hazelhurst to use process ID's to achieve this.
- Need to work on instrumenting shell and adjusting log parsing and database storage to better plot graphs with precedence.

Project 2 Detecting Epistasis using deep learning (P. Cresswell, J. Allingham)

- Basic linear model working with 50% accuracy.
- Working on TensorFlow visualisation of learning network.
- Tested different dataset size performances. Included different epistatic effect combinations.
- Need to do more work on datasets.
- Need to write log files for graphing with latex.
- Dr. Levitt asked about internal working of neural network. This will be looked into as project progresses.

Project 3 Gamifying DevOps (S. Friedman, F. Nieuwoudt)

- Looked into build server API with mixed results. Challenge with inconsistent error and success messages. Using entire log rather than individual messages to overcome this.
- Need to process information and store it in database.
- Prof. Hazelhurst asked about combatting against fake data. Working on ways of discouraging it. It should be obvious to admins and other players.

Project 4 - Dynamic firewalls for virtual private clouds (M. Bezuidenhout, T. Amoretti)

- Setup machine networks with Apache web server for communication.
- Challenge in getting VM to use host firewall. Prof. Hazelhurst suggested using libvirt firewall library for specifying VM rules on host machine.
- Need to convert rules to BDD's.
- Use only "Accept" and "Drop" messages with extra BDD bits. Use CUD for this.
- Need to learn CUD.

General Comments

- All groups need to demo progress next meeting.
- Next meeting will be Monday 19 September 2016 at 12:15 pm in the Jackson room.