

## Project proposal template

### Graduate School studentships

### March 2015

<i>Project title</i>	<input style="width: 95%;" type="text" value="A Service Oriented Approach for Big Data Applications"/>
<i>First Supervisor</i>	<input style="width: 15%;" type="text" value="Dr"/> <input style="width: 80%;" type="text" value="Souheil Khaddaj"/>
<i>Second Supervisor</i>	<input style="width: 95%;" type="text" value="Professor Vesna Brujic-Okretic"/>
<i>School</i>	<input style="width: 95%;" type="text" value="Computing and Information Systems"/>
<i>Other member of supervisory team (no more than three KU supervisors in total)</i>	<input style="width: 80%;" type="text"/>
<i>Specific requirements beyond 2:1 degree</i>	<input style="width: 95%;" type="text"/>

**Project summary**  
**(max 4,000 characters)**

Currently, data is being accumulated at unprecedented scale, not only in terms of production but increasingly also in terms of consumption. But if it is today easier to produce, acquire and distribute content, it should also be equally easy to select and identify the desired piece of information among the huge amounts of information generated every day. However, factors such as scale, complexity, timeliness, reusability, performability and correctness have impact on the production of value from Big Data. Historically, many of these factors are associated with software quality engineering and known as Quality of Service (QoS).

Thus, the aim of this project is to produce a Cloud based service oriented architecture that not only covers the multiple phases of Big Data analysis but also enforces an assured QoS level. Such architecture will cover different complex analytic services, organised in pipelines or workflows that analyses patterns of executing requests to identify the dependencies of each task. Workflows should be scheduled in the order necessary to achieve business objectives while meeting many of the QoS identified above. This is particularly important as new data must be taken into account along existing data and existing analysis.

