

## F21RP – Research Methods and Project Planning

### Experimental Design

In your group, discuss the following tasks (a, b, c: 10 mins each task). Then report back to the whole class on your Experimental Design for each task (a, b, c).

In each case you should:

1. Define Research Questions;
2. Formulate Hypotheses;
3. Design an experiment to test the hypotheses
  - a. Define Independent and Dependent Variables
  - b. Define confounding Variables

Tasks: Design experiments to explore:

- a) whether playing music within web pages affects how people browse the web pages;
- b) for providing access to database, WWW and email services over a network, whether it is better to have the three services on a single big server or on three separate smaller servers of equivalent total power;
- c) whether modelling the whole dialogue as opposed to modelling just the previous utterance to respond to a user query affects the performance of a Conversational Agent. **HINT:** Try both automatic and human evaluations.