**Graph database based timetabling system**

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Section 1:

This is a semester 2 project for Graph Theory module of year 3 Software development course. Aim of this project is to develop a prototype timetabling system for GMIT like the one currently used. As this is a graph theory module the Neo4J database will be used to store the timetable data. Neo4j stores data in nodes connected by relationships so the biggest immediate problem is deciding on what data should go into nodes and what sort of relationships should there be between its units.

Section 2:

Looking at the existing database model that is used here in GMIT. I have decided that main data to stored can be separated into these basic units:

1. Room name/number;
2. Course code/name;
3. Subject/module name;
4. Lab group ID;

These 4 units of data can be collected into single node “Timeslot” with properties referencing the nodes. The name given to composite node is intentional as it represents a single slot in timetable filled with data.

Relationship is used to connect the data units to Timeslot node. This relationship is called “Assigned\_to” as it implies the unit is assigned to the timeslot during creation of database time slot.