On the Structure and Usability of a Course Planning and Audit System

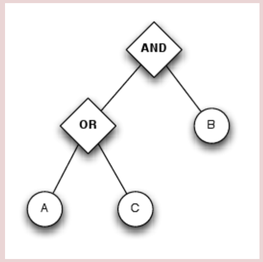
Tal Rusak, Vincent Kam, G. Scott Russ, Christopher Barnes
Advisor: David Gries

Coursework and Requirements

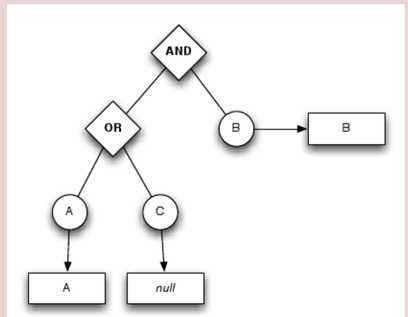
Academic requirements can be:

- Individual Courses
  (CS 2110, CS 3110, ECON 2040)
- Option Groups
  Include several possible rules, such as:
  x Courses in total
  x Courses [must be/must not] be in *y* of the following groups
  x Courses must be at a level *y*
- Free-Text requirements
  Requirements that must be manually approved by an advisor.

Academic programs (majors) can then be represented as a tree using the above components:

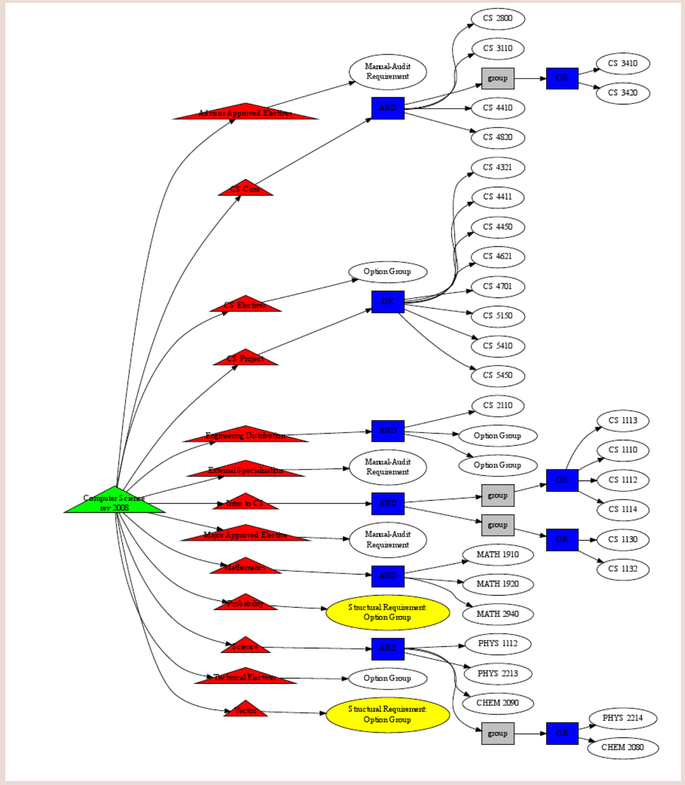


Tree can be easily audited by walking down its components:

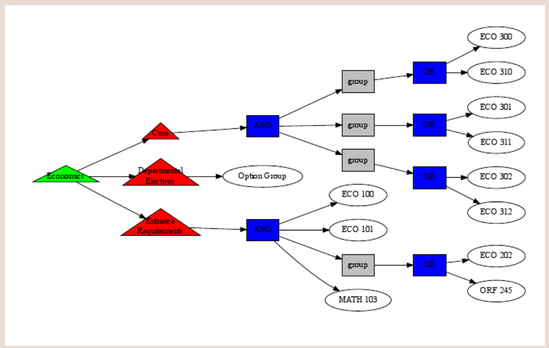


Example Major Expression Trees

Cornell's New Computer Science Major:



The Economics Major at Princeton:

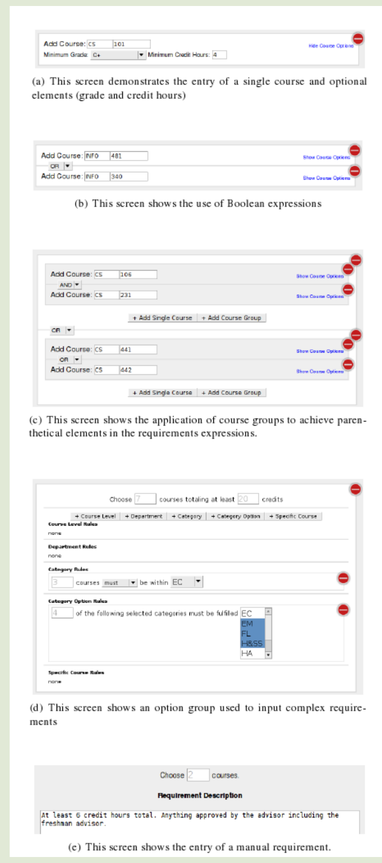


Where is the BOOM?

We present a novel paradigm for expressing and auditing major requirements using tree-based logical expressions. We also show the human-computer interface that demonstrates the ease-of-use of our system.

System User Interface

Entering Requirements:



(a) This screen demonstrates the entry of a single course and optional elements (grade and credit hours)

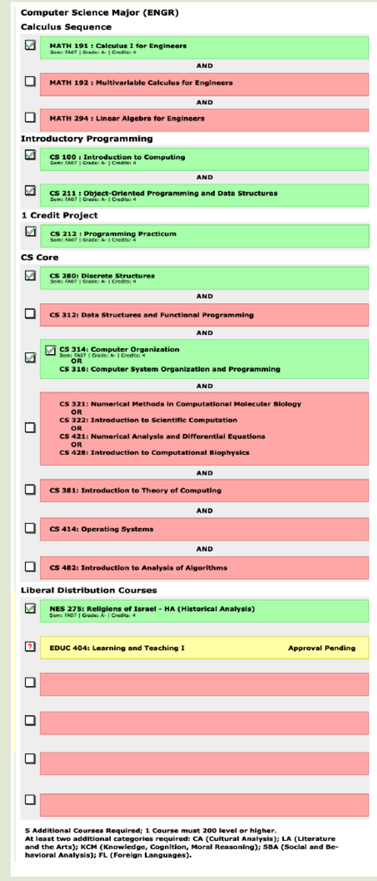
(b) This screen shows the use of Boolean expressions

(c) This screen shows the application of course groups to achieve parenthetical elements in the requirements expressions.

(d) This screen shows an option group used to input complex requirements

(e) This screen shows the entry of a manual requirement.

Major Progress:



Overall major interface: