The Rutgers Administrative Management System (RAM)

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***Abstract*—The Rutgers Administrative Management System (RAM) will extend the Graduate Course Request System (GCRS) idea that was originally proposed by this group. In our previous proposal, GCRS was described as a system that would allow for easier and faster delivery and approval of graduate course requests for undergraduate students that incorporated a multi-purpose interactive "Visual Transcript", which provides an interface for visualizing and extracting useful information from a student's course history. The RAM system is a close relative to the GCRS. RAM System will still include the Visual Transcript component described in the original project proposal, however the RAM system will consider a different use case; that is, the RAM system will provide an interface for efficiently matching potential teaching assistant's with courses and faculty who require a teaching assistant. A generality of this use case is the well known 3D-Matching problem. The RAM system will implement an approximation algorithm for 3D matching and will incorporate visual components to allow for human-computer interaction in order to find a maximal matching of the three entity sets.**

I. Project Description

The Rutgers University Graduate CS Department allows for undergraduate students to register for graduate courses through a special request process. This process, as it is now, involves manually signing a form for every graduate course that the student wishes to register for. This signed form must then be signed by the instructor of the course that is being requested. Afterwards, the form is given to the graduate secretary of the Graduate CS Department. Depending on whether or not the requested course requires a prerequisite override (it often does, considering the student submitting this request is an undergraduate student), the form would then have to be forwarded to the graduate school for approval. This step of the process specifically may take up to a full week to complete! Once the course request is finally approved by the graduate school, the student receives his Special Permission Number (SPN) for the requested course.

Not only is this process tedious to describe, but it is tedious in practice as well. The student often has to chase down instructors for their approvals in person, as it is not realistic for them to constantly check their emails for course requests, as well as do the necessary background checks on the student to see if an approval for their request is appropriate. Further complications occur if an instructor is on sabbatical leave, if the graduate secretary is taking a day off, etc.. To make matters worse, students are bound by the add/drop week deadline for course registration at the beginning of every semester, thus making this registration process a timely matter that cannot always be done before the start of the semester. These issues are further compounded by the fact that the Rutgers Graduate CS Department has been growing in terms of student enrollment. The increased frequency of these requests end up delaying this process even further.

We propose the GCRS - Graduate Course Request System, which is a system that can be linked with Rutgers's Central Authentication System (CAS) to allow for Rutgers faculty to digitally manage and pass along student graduate course requests. This system will use our Visual Transcript visualization, which will allow easy and fast data visualization of a student's course history and related data. Incorporating Visual Transcript into GCRS will give an interactive interface for faculty to quickly see the information they require when it comes to approving these requests.