Head Professor User Guide:
Matchmaking

Senior Project Website

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Overview

This user guide is designed to help a person who will be fulfilling Head Professor role in the Senior Project Website. This document will provide a walkthrough for the matchmaking feature. The specification for executing those actions will be provided. Additionally, to aid understandability, screenshots of the corresponding user interface elements are included to help the user.

Glossary

NRMP- National Residency Matchmaking Process, the manner by which medical residents are assigned residency programs wherein residents rank programs and programs rank residents, residents get the program they want unless someone the program wants more comes along (displacement) and there's no more room

Displacement- To take another's position in NRMP applied to the website it has the connotation of a criteria i.e. a project displaces a student by interest of student (whoever wants the project more wins) or by more skilled student with regards to project requirement

Friendly – Means geared towards students, in VIP matchmaking friendly means projects positions are filled by students who want the project. For Other Project matchmaking means displacement by student interest as the criteria

Scientific –Means geared towards head professor in VIP matchmaking means all students are filled for project position even against their will.

Compromise- Means geared towards balance for students and projects during other project matchmaking, the criteria is the skill-based displacement.

Heuristics- Common-sense approach, in computer science has the connotation of using a common sense approach to guide a result, aka greedy algorithm

VIPs- very important projects, projects you rank 2-100, higher means more priority which means gets filled up first with better students

Other Projects- projects you rank 1 which means you are leaving matching hands off to an extent other than choosing NRMP criteria for displacement

Automatic VIP Matching- Matches all VIP at once and allows head professor choose all scientific or all friendly

Manual VIP Matching- Matches VIP one at a time allowing mix and match of scientific and friendly, also allows to run rest of VIP as automatic at any moment

Match Page Meaning

On each match page the same UI comes up the following defines the UI elements. The blue number at the side corresponds to the listing below.

1. Defines the title state of match pages (Auto) (VIP), (Manual) (VIP), Match Phase 1 VIP Confirmation etc.
2. Hides and shows all students (by default all hidden)
3. Title of match criteria (what separates one column from the next)
4. Statistical data regarding the match overall

    a. Student average interest is average of students interest across all the averages of all the projects in that column

    b. Average total skill fulfillment is average of skill total fulfillment for all projects

    c. Student average fulfillment is the average of every projects student average fulfillment

d. Total overflow skills is how many skills are not utilized by every student in the match

5. Title of the project along with statistical data for the project

    a. Head professor rating is the rating the head professor gave this project (applies to VIP only)

    b. Student interest average is the interest average of the team

    c. Skill total fulfillment is the amount of skills the team provides the project that it needs / amount of skills the project needs

    d. Student average fulfillment is the average of each team members % of Project Skills achieved

    e. Student total overflow skills is how many skills are not utilized by the project's team

    f. Skill fulfillment data shows all the project's skill needs, green ones are fulfilled, orange are not

6. Name of student along with statistical data

    a. Interest is the rating the student gave the project, if -1 they were forced, if 1 they likely let the system do matching for them and did not rank any projects, anything else is there actual interest

    b. % of project skills achieved is how many skills they contribute to the project / how many skills the project needs

    c. Amount of overflow are skills not utilized for them for the project

    d. Skill contribution is the skills contributing to the project's need if green they have that skill for the project, if orange they do not

    e. Below that if hovered over shows all of a student's "wasted" skills that are not utilized by the project

Ranking and Preparation Phase

After having projects in the systems and students in the system go to admin.

There set up the deadline for when students have to rank projects by.

Set the update minimum (minimum projects a student must rank for their ranking to matter)

User Management System

Manually Add New User

First Name

Last Name

email@example.com

Student ▼

Create New User

Email Templates

Set Deadline for Students to Choose a Project

Start Date: 07/01/2014   End Date: 07/30/2014   Set Deadline

Join/Leave Period Begins   /Leave Deadline

01-14-2014   8-2014

July 2014

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

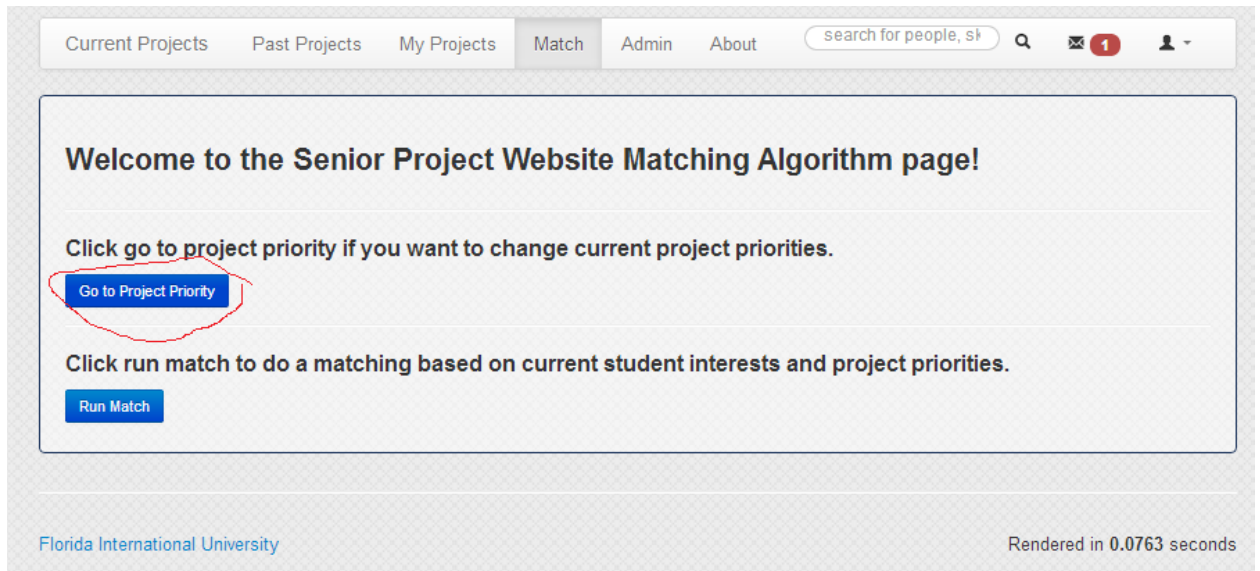**Update rank minimum**

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Save Minimum

Florida International University   Rendered in **0.0363** seconds

Now click on match at the top navigation bar
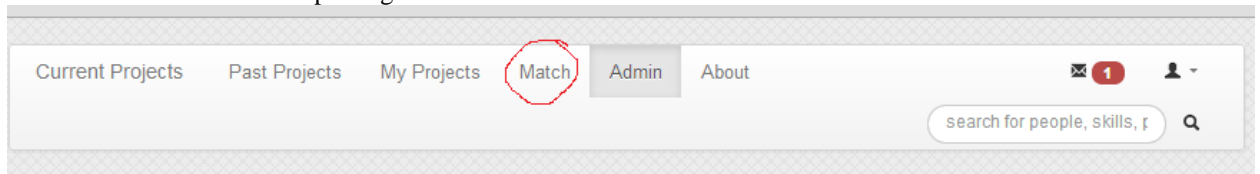
Now click Go to Project Priority

Now you rank the projects as the head professors according to the guideline at the top. Note: From here you can customize the system to work entirely by National Residency Matchmaking Program algorithm wherein the students get to choose projects as they wish; more or less (rank all projects 1). Alternatively you can micromanage and optimize all projects in a certain order (rank all projects 2-100). In ties the project with more skill requirements go first.

| Current Projects | Past Projects | My Projects | Match | Admin | About | | ✉ 1 | 👤 ▾ |

search for people, skills, p 🔍

Welcome to the Senior Project Website Project Priority Page!

Here you set the priorities of current projects.

As a reminder, projects with the rank "0" or less will not be considered in the matching algorithm.

Projects ranked "1" will be considered as not important to you.

Projects between "2-100" will be going intensive matching for optimality and are considered VIP (very important projects). Higher means more priority.

Question & Answer Software

Proposed By: Amin Sarafraz
Mentor: Amin Sarafraz
Max Students: 3

PHP Drupal MySQL HTML Open Source Linux Apache

Rank: 2

Data Mining and Reporting System for Venture Hive's Company and Entrepreneur Data

Proposed By: Luis Amat
Mentor: Luis Amat
Max Students: 3

Grails Java Data mining Mysql Weka JSON Rest

Rank: 0

Mobile Judge: Version 3

Proposed By: Masoud Sadjadi
Mentor: Masoud Sadjadi
Max Students: 3

Sencha touch Javascript Html5 Css3 MySQL Php Apache Linux

Rank: 0

Then click save at the bottom

Save Priority Ranking Scheme

Florida International University

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You have now saved your own rankings, and set up the deadline student must rank by and minimum project numbers a student must rank.

Now in class instruct the students to enter the senior project website. Instruct them to enter their skills (or synchronize it with LinkedIn) and to rank projects if they wish. Note they can choose to not rank project and in such a case they will be matched by the system according to their skills.
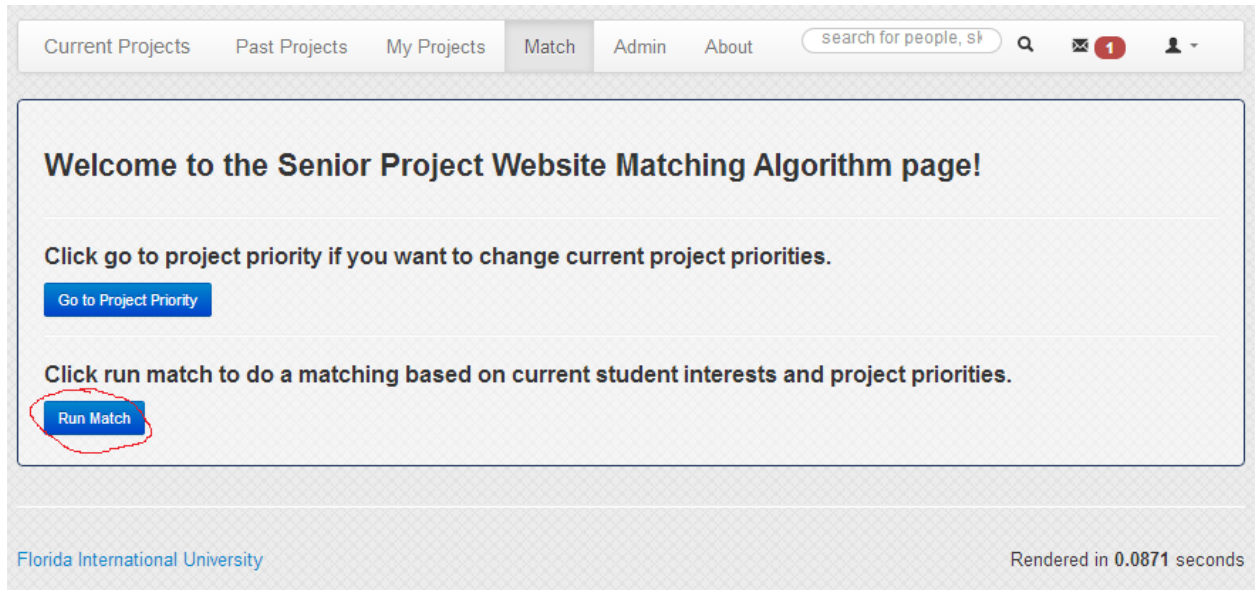
Now wait until the deadline to continue on to the matching phase.

Matchmaking Phase

After the deadline happens you can now start the matchmaking process. After logging back in go to the match tab.
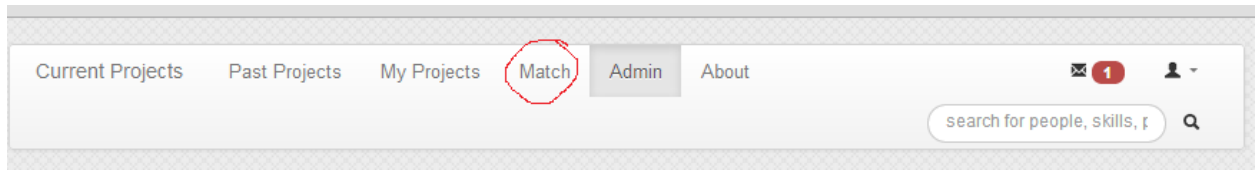
And click run match.

Here you will have the option to run very important project in two manners: automatically, and manually. In both cases two categories, "friendly" and "scientific" will be allowed, choosing the former means your important projects are filled with the best students who want the project, the latter means all students consider making it more likely for a better match overall. You should want to choose one where students are not forced if its bearable else you might lead to student dissatisfaction. So choose one of the two options. Eventually your choice will collapse together. We will start with automatic.

Automatic page looks like this.

After reviewing the options in auto choose one and continue.

Continuing leads to a confirmation page for the first phase

Click continue at the bottom to go the phase 2

If you choose to go manual instead of auto you do the following for each page

Clicking continue on manual does this for each project until you are done, which will lead to the confirmation on page 13, do rest automatically loads the "automatically" page with the remaining projects.

After clicking continue to phase 2 the following page loads similar to automatic VIP matchmaking

In this context NRMP matchmaking means the NRMP algorithm is applied which essentially means each student get the project that they want. The left column friendly means that if a lot of students want a certain project the one who gets that project is the one who wanted it the most. Contrast to compromise where the one who is more skilled for the project gets the contested position. Displaced students get rematches until either all projects are filled (meaning there's no more project for anyone to join) or all project they wanted are filled.

Choose one as before and continue

A final screen shows up showing all of the prior choices realized. Clicking "Save Match Configuration" here finishes the matchmaking process and saves the configuration to the database and redirects to the match home page. Congratulations in completing a matchmaking process. **Note: clicking "Save match configurations" overrides prior database data regarding a student's matching to a project**

Match Results

Below is the final match configuration for all projects please confirm to send to database.

Note: When applicable green means the skill is fulfilled. Orange unfulfilled. Gray unnecessary (hover to reveal).

Show/Hide All Students

VIP Matching Final Details

Overall Match Data
Student Average Interest: 38
Average Total Skill Fulfillment: 30%
Student Average Fulfillment 14%
Total Overflow Skills: 7

MPI scalability and performance testing for complex coupled codes

Head Professor's Rating: 5
Student Interest Average: 54
Skill Total Fulfillment: 0%
Student Average Fulfillment: 0%
Student Total Overflow Skills: 0
Skill Fulfillment Data:

c++   fortran   mpi

Students Added:(1 out of 3)   Show/Hide Students

Hadoop and Map reduce project

Head Professor's Rating: 4
Student Interest Average: 52
Skill Total Fulfillment: 100%
Student Average Fulfillment: 50%
Student Total Overflow Skills: 3
Skill Fulfillment Data:

hadoop   pegasus

Students Added:(3 out of 3)   Show/Hide Students

Students Added:(0 out of 3) Show/Hide Students

Other Projects Final Details

Overall Match Data
Student Average Interest: 0
Average Total Skill Fulfillment: 0%
Student Average Fulfillment 0%
Total Overflow Skills: 0

Make Automatic Updates to a Current Merchant Online Store

Student Interest Average: 0
Skill Total Fulfillment: 0%
Student Average Fulfillment: 0%
Student Total Overflow Skills:0
Skill Fulfillment Data:

microsoft sql server   web applications   web design   web development

Students Added:(0 out of 4) Show/Hide Students

Unmatched Students

All students matched!

Save Match Configuration

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