**Team B (Long, Darwin, Emilio)**

**Scope of the Work**

Client, David Bender, has requested improvements on the current scheduling system used for Pennsylvania State Berks Campus. Essentially the client wants to have a smooth running system in which he can then create a schedule within reasonable time with minimal errors. Based on the client’s description, the current system runs adequately, but it can run better. Going through the process:

1. Client receives emails from teaching staff about their preferred days, times, and courses
2. Client then compiles all of the staff preferential data
3. Drafts schedule based on recommended academic plans and information from schedules made in previous years and other scheduling priorities
4. Assigns courses and sections to teaching staff according to preferential data
5. Send draft schedule to teaching staff to check for errors in scheduling which are then sent back
6. Revisions are made and sent out for any more errors

(Steps 5 and 6 will repeat until all errors are resolved)

After reviewing the process of drafting a schedule, the issues in the system are quite clear. First is the issue with data input. Having to wait for the teaching staff to create and email their preferential information can take up a lot of time. This is not including the time it would take to compile all of the information. Rather than emailing to the client, create a form the teaching staff can use to input the data into a centralized database so that information can be gathered and compiled automatically for the client. Next issue is dealing with the recommended academic plan. This plan is offered to help students keep track and schedule classes for upcoming semesters. Before assigning the teaching staff to sections, the client must first figure out what courses to offer. This revolves around the recommended academic plan. There are certain guidelines the client must follow while drafting the schedule:

* Priority: At least one section of the courses listed on the academic roadmap
* Priority: All mandatory courses are offered according to academic roadmap
* Secondary Priority: courses required to declare a major is offered both semesters

Before adding any other courses, the client must follow these guidelines to offer all the priority courses before adding any supplementary courses for electives. Rather than having to take the time to look through all of the roadmaps for all the majors, with a new centralized system it should automatically include the minimum requirements for the roadmaps to set up for new drafts.

**Key Problems**

**Solutions**

1. Teaching Staff data input through emailed excel spreadsheets.
2. Having to include the recommended academic plan for every major offered at Penn State Berks
3. Create a form that will input preferential data into a centralized database to reducing the time to consolidate information gathered from the teaching staff
4. Include the academic road map into the system to automatically add the minimum required courses for each major

**Business Impact**

Issues:

* Cost of resources in the development, integration, and maintenance of the new system.
* Adding new policies, training, and time for the users to familiarize themselves with the new system and its features.

Change Management: Moving to this new system will take some time as all old information has to be integrated into the new system as well as taking any hard/physical data and any statistical data from previous years. The system should also use old accounts to access the new system and augment the current capabilities of the old accounts. Slowly work towards the new system and make old accounts available for a short amount of time until full integration of the new system occurs.

Users: The major changes will mostly be on the back end rather than the front end of the system. Meaning that the changes will only affect how information is input into the system. Students will more than likely not notice any changes to the system. This new system will be aimed towards the course coordinators and teaching staff. Teaching staff will need to learn how to use the new system to post and find the courses they wish to teach along with entering their time preferences. Teaching staff may react negatively to the change as they now need to provide their schedule through a set medium instead of one of their choice which they might see as a time waste. In order to prevent this negative reactions provide training to the teaching and IT staff for the new system. The current teaching staff should learn how to use the new system and if there are problems they can consult the IT staff for any issues. The course coordinator should react positively due to having new tools that drastically reduce the amount time needed to draft a schedule.

Potential problems:

* Implementing security measure for the new system could be a challenge
* New system implies new potential areas to attack and thus new policies are needed to protect data and information
* Shifting from the old system to a new system
* Possible chance of data loss due to migration from the old system to the new system
* Sever scaling issues

Streamlining: With this database all information is consolidated into one system where it is easily accessible, usable, viewable, and editable by users. Requirements and rules will be easier to check and enforced reducing the number of mistakes. The turnover time will be faster as there are fewer areas where time can be wasted for the Drafter.

Improvements to current system:

* Less need for the user to move and consolidate information
* Ability to quickly survey the data using user made queries
* Rule checks minimize errors
* Easier to check information for all users.

Potential Benefits:

* Saves manpower and resources by making the process more efficient
* Easier to manage and secure data on one central system
* Moving to a newer system is also important in keeping practices up to date and eliminating old and bad practices in the current process.
  + Emailing preferences
  + Possible data redundancy

After weighing out the pros and cons of upgrading to a new centralized system, the benefits will most definitely outweigh any cost or problem that may occur during implementation. In the long run, the new system will decrease the amount of time needed to form a class schedule draft potentially giving the course coordinator more time to focus on other things like teacher preferences or offering a new course.