# FIT Schedule Planner

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# Introduction

- Students use PAWS to register for classes for the upcoming semester

- Students use CAPP to see if they are on track for their graduation

- Students use the programs provided by the FIT website to ensure they are taking the right courses

# Description of Current Systems

- Paws class lookup
  - Students can look up information about the classes that will be provided in the upcoming semester (like section times)

- CAPP degree evaluation
  - Students can look at the classes they have taken and determine whether the classes counted towards their degree or not

- Programs
  - Students can look up the degree they desire and see what classes should be taken during each semester

# Opportunities/Pains and Associated Trends
## (identifying problems to solve)

# Initial Opportunities/Pains
## (Pains -> opportunities)

1. Students can only look up one class at a time with the PAWS class lookup
   - Each new search has to be started from the beginning
   - Can be frustrating to find classes that do not have contradicting times

2. CAPP degree evaluation does not include electives which can be confusing
   - Students need a certain amount of science electives, math electives, etc. so the degree evaluation should show that

3. Everything is separate which is inconvenient
   - Students would have to gather information from each source and put it together on their own leaving room for error

# Associated Trends
## (pains + trends -> better opportunities)

- Some students tend to take unnecessary classes due to confusion

- Some students tend to have a hard time fitting all of their classes together

# Feedback of User 1 on Opportunities/Pains

1. ## Does the user agree/disagree with the opportunities/pains?
   - This user agreed with 2 of 3 pains, they think that the CAPP degree evaluation does include electives, you just have to read it carefully

2. ## If not, what are the opportunities/pains?
   - They did not identify any additional opportunities/pains

Tyler Ton

# Feedback of User 2 on Opportunities/Pains

1. ## Does the user agree/disagree with the opportunities/pains?
   o This user agreed with 2 of 3 pains, they do not use the PAWS interface at all so were unable to provide feedback in that area

2. ## If not, what are the opportunities/pains?
   o They did not identify any additional opportunities/pains

Garret Gmeiner

# Feedback of User 3 on Opportunities/Pains

1. Does the user agree/disagree with the opportunities/pains?
   - This user agreed with 3 of 3 pains

2. If not, what are the opportunities/pains?
   - They did not identify any additional opportunities/pains

Taylor Carlson

# Summary of User Feedback on Opportunities/Pains

|  | Opportunity /Pain 1 | Opportunity /Pain 2 | Opportunity /Pain 3 | Suggestions |
|---|---|---|---|---|
| User 1 | Agree | Disagree | Agree | N/a |
| User 2 | N/a | Agree | Agree | N/a |
| User 3 | Agree | Agree | Agree | N/a |

# Proposed Opportunities/Pains

1. None of the interviewed users provided any additional opportunities or pains

# Ideas to Create Value/Benefit: Core Features of the System
(Ideas for solving the problem—"how")

# Initial Core Features of the System

1. Schedule planning that will allow students to view all the available classes and times that will fulfill certain credits from their program
   - Displays weekly schedule as classes are added

2. A checklist generated using the student's program and CAPP degree evaluation to display which parts of the program have been completed and which parts still need work (including electives)
   - Displays progress bar to show what percentage of credits have been fulfilled

3. A python script that scrapes from the schedules, CAPP, and programs to load all the needed information in order to use the UI
   - This will bring everything together in one place

# Types of Users

- The only user type needed would be Student

# What can each type of users do?

- The student will be able to...
  - Load their program
  - Load their CAPP degree evaluation
  - Look at any classes available in the upcoming semester
  - Piece together a class schedule that works for them
  - Review any credits that have been fulfilled/unfulfilled based on their program

# Feedback on features from User 1

1. ## Does the user agree/disagree that the features are an improvement and create value?
   - "A nice UI or app would make it really nice. Streamlining the process" (Tyler Ton)
   - "Streamlining" the process does not only help with time, but stress too

# Feedback on features from User 2

1. Does the user agree/disagree that the features are an improvement and create value?
   - "It would be really convenient to have everything in one place" (Garret Gmeiner)
   - This quote implies that Garret agrees that our added features would be an improvement

# Feedback on features from User 3

1. Does the user agree/disagree that the features are an improvement and create value?
   - "It's always such a struggle to create class schedules because of everything you have to take into account" (Taylor Carlson)
   - Taylor said these features would be a "great improvement" to the existing system

# Summary of User Feedback on Features

| | Feature 1 | Feature 2 | Feature 3 | Suggestions |
|---|---|---|---|---|
| User 1 | Agree | Agree | Agree | N/a |
| User 2 | Agree | Agree | Agree | N/a |
| User 3 | Agree | Agree | Agree | N/a |

# Proposed Core Features of the System

1. ## Prerequisite Check
   - When adding a class to a user's schedule, the system will check if prerequisites were met
2. ## Time Conflicts
   - System will highlight any overlapping classes to make it evident to the user
3. ## Class Availability
   - Before try registering for a class, the system will check if class is available (if class is full or not, if class is offered or not)
4. ## Filtered Searches
   - To help with broad class searches (like free elective), user will be able to filter by subject, professor, times, course number, credit range, or Rate My Professor score

# Summary of System Features

1. **Schedule Planning:**
   a. Allows students to view all available classes and times that fulfill certain credits from their program.
   b. When adding a class, the system:
      i. checks if prerequisites are met
      ii. checks if class is available (full or offered)
      iii. highlights overlapping classes
   c. Displays weekly schedule as classes are added.
   d. Add filtered search to helps with broad class searches, allowing filtering by subject, professor, times, course number, credit range, or Rate My Professor score.

2. **Checklist and Progress Tracking:**
   a. Generated using the student's program and CAPP degree evaluation to display completed and incomplete parts of the program (including electives).
   b. Displays a progress bar showing the percentage of credits fulfilled.

# Tools (languages, libraries, packages) that can help with the core features

- ## Scrapy (Python)
  - Allow us to scrape information from the internet
- ## PyQt (Python)
  - Allow us to generate a GUI for the user
- ## https://apps.fit.edu/schedule/main-campus/fall
  - Where we can scrape fall classes from
- ## https://apps.fit.edu/schedule/main-campus/spring
  - Where we can scrape spring classes from
- ## https://www.fit.edu/programs/
  - Where we can scrape degree requirements

# Potential technical challenges
## of the core features

- Privacy could be a challenge since the CAPP degree evaluation is password protected

- Distribution could be a challenge since we are aiming for a GUI instead of a website