Breadcrumbs

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What we were left with

1. The raw data, directly from Gradescope, My Digital Hand and Piazza (.csv & .json)
2. A database that connects each student across all three platforms.
3. A Google slide deck of some of the work the group from last summer did to explore the data.
Short Term Goals

1. Use these tools to create generalizations about the class
   a. Identify struggling students
   b. How successful students used class tools
   c. What events were most critical for improving outcomes

2. Create dashboards for CS Instructors (our target clients)
   a. Isolate data for lowest performing students
   b. Return useful analytic data
      i. Individual assignment scores
      ii. Office hour attendance
      iii. Piazza contributions
   c. Identify “borderline” students who aren’t using resources
### Test Vectors: Examples

<table>
<thead>
<tr>
<th>Test</th>
<th>Submission 1</th>
<th>Submission 2</th>
<th>Submission 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td><strong>PASS</strong></td>
<td><strong>FAIL</strong></td>
<td><strong>PASS</strong></td>
</tr>
<tr>
<td>Test 2</td>
<td><strong>FAIL</strong></td>
<td><strong>PASS</strong></td>
<td><strong>PASS</strong></td>
</tr>
<tr>
<td>Test 3</td>
<td><strong>FAIL</strong></td>
<td><strong>FAIL</strong></td>
<td><strong>FAIL</strong></td>
</tr>
<tr>
<td>Test 4</td>
<td><strong>FAIL</strong></td>
<td><strong>FAIL</strong></td>
<td><strong>FAIL</strong></td>
</tr>
</tbody>
</table>
Long Term Goals

- Visited Piazza Post #54321
- Jaylyn Barbee Clever Hangman Test Vector: 00001
- Spent time in OH with TA #13
- Visited Piazza Post #12345
- Jaylyn Barbee Clever Hangman Test Vector: 00111
- Likely going to see this due to undoing changes that caused red
- These edges here would also have names and weights associated with them
- Jaylyn Barbee Clever Hangman Test Vector: 11111
- Jaylyn Barbee Clever Hangman Test Vector: 10011
- Long Term Goals
How are we doing this?

NetworkX

SQL

jupyterhub

Gephi
What we’ve done so far…

- We started with basic exploratory analysis which lead to...
- Populated missing tables & removed hard code values from the source code (Open/Closed Principle, increases flexibility).
- The Automated Student Flagger

What’s next?

- Graph visualization and analysis
  - Extensive use of Gephi and NetworkX
- Text mining and NLP on post content
- Predicting student outcomes
Questions?