UCI Office of Information Technology
Academic Web Technologies

The ScoreShare Story

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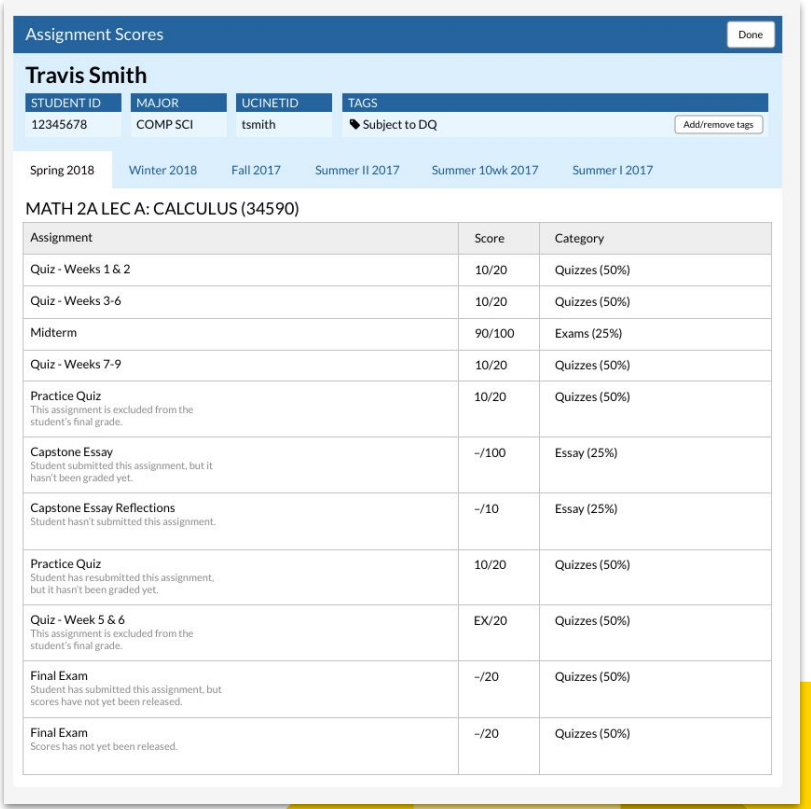
Software Engineer

Overview

- Why build ScoreShare? (Ray)
- How we built ScoreShare (Alissa)
- Q&A

What is ScoreShare?

- **Opt-in tool** for students to share interim assignment scores with advisors
  - Students **must** opt-in
  - No automatic opt-ins
- Equivalent of printing a **grade sheet** and showing it to an advisor
  - Advisors see no more than what students see
- **Assignment scores** pulled from both UCI Canvas & the legacy LMS's gradebook
  - We're using Canvas Data



Why ScoreShare?

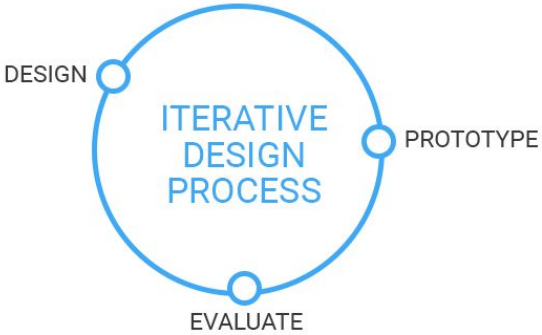
- Advisors often have incomplete or second-hand information
  - Print-outs of grade sheets
  - Students saying how well they are (or aren't) doing
- UCI growing its toolset for academic advisors
  - Compass: delivers reports on students in many lenses (academics, progression, demographics, etc.)
    - http://compass.uci.edu
  - Appointments: online appointment scheduling system
    - https://appointments.due.uci.edu
  - Scout: online form management app
    - https://scout.eee.uci.edu
  - ScoreShare
    - https://scoreshare.eee.uci.edu

Origins

- Requested by Athletics
  - Aid with timely NCAA compliance
  - Replace paper process
- Emergent need by Undergraduate/Undeclared Advising
  - Replace paper process
- Desire to make tools to help advisors
  - We have a lot of rich data
  - Would it be useful (and appropriate) for advisors to have access?

User-Centric Design Process

- User interviews
  - Participants: Athletics, U/U, Nursing, Pharm Sci, Phys Sci, ICS
- Mockups & feedback
- Pilot



Questions/Goals

Thursday, July 21, 2016 1:08 PM

Things we need to know

- Do they look at assignment grades now?
  - If so, how?
  - If not, why not?
- Why would they use ScoreShare
- How would they use ScoreShare
- Who would use ScoreShare
- Are these constraints acceptable:
  - Student must opt-in
  - Not all instructors use Canvas Gradebook or EEE Gradebook
  - Not all instructors who do use them release their scores
  - Not all instructors who release their scores also release stats
  - Advisor view would show only the data the student had access to
    - Unless we went to the Academic Senate?

Prompting questions (if needed)

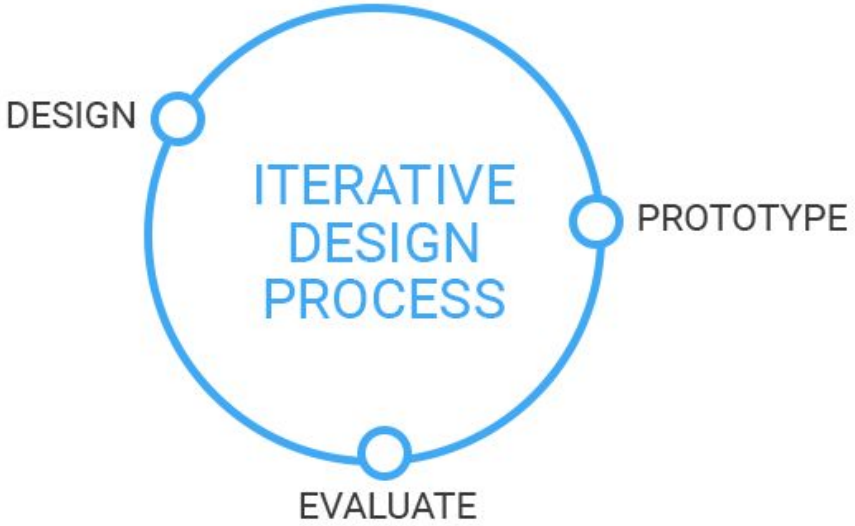
- How do you view interim student grades?
- What are you usually looking for when you look at those interim grades?
- How often are interim grades required to be reported as a part of an AP/DQ avoidance contract?
- If you store these grades now (rather than just view them), how/where do you store them?
  - What sorts of retention policies are in place for these?
- Suppose you had access to an online system that would display assignment scores and grades from Canvas Gradebook and EEE Gradebook.
  - How would you use this data?
  - Would this data help you to more effectively advise students?
  - Who in your office would need access to such a system?

Philosophical Differences

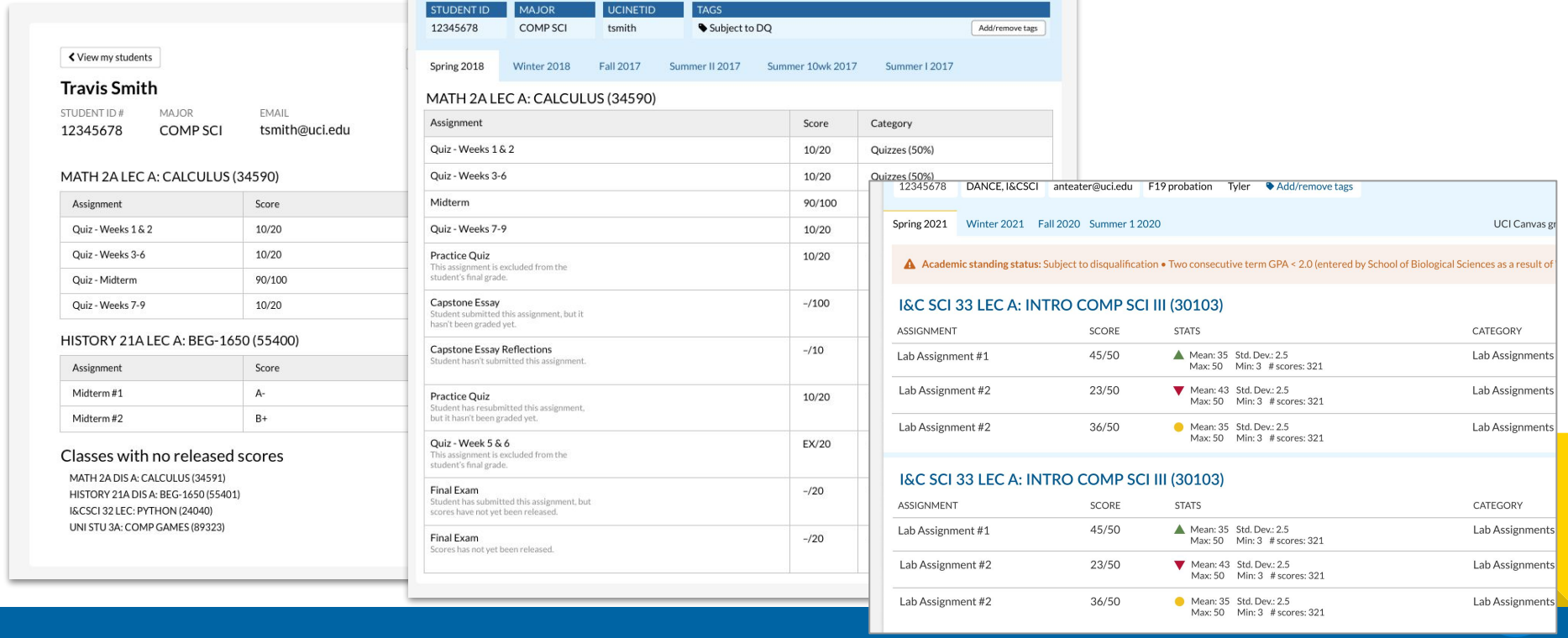
- First: All UCI undergraduate advising units are understaffed
- Two differing advising philosophies:
  - Provide as much guidance and monitoring as possible
  - Be hands-off and intervene only when necessary

2017 Pilot

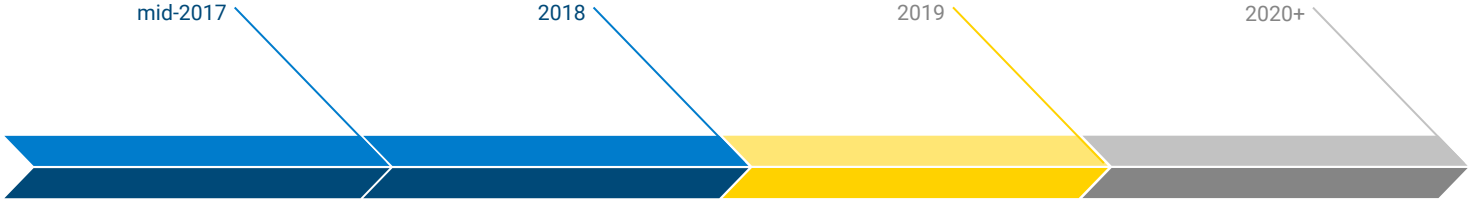
- Philosophy
  - User-centered Design
  - Build to the Need
  - Break down the Silos
  - Embed Ourselves
- Approach
  - Business Analysis
  - Prototyping
  - Iterate
  - User Test
  - Improve
  - REPEAT!



Design Evolution



Timeline



User research, design, implementation

Invite-only limited pilot

DUE - Undergraduate/Undeclared Advising

DUE - Summer Bridge

UCI Athletics

Campuswide deployment

Pharmaceutical Sciences

Physical Sciences

Social Sciences

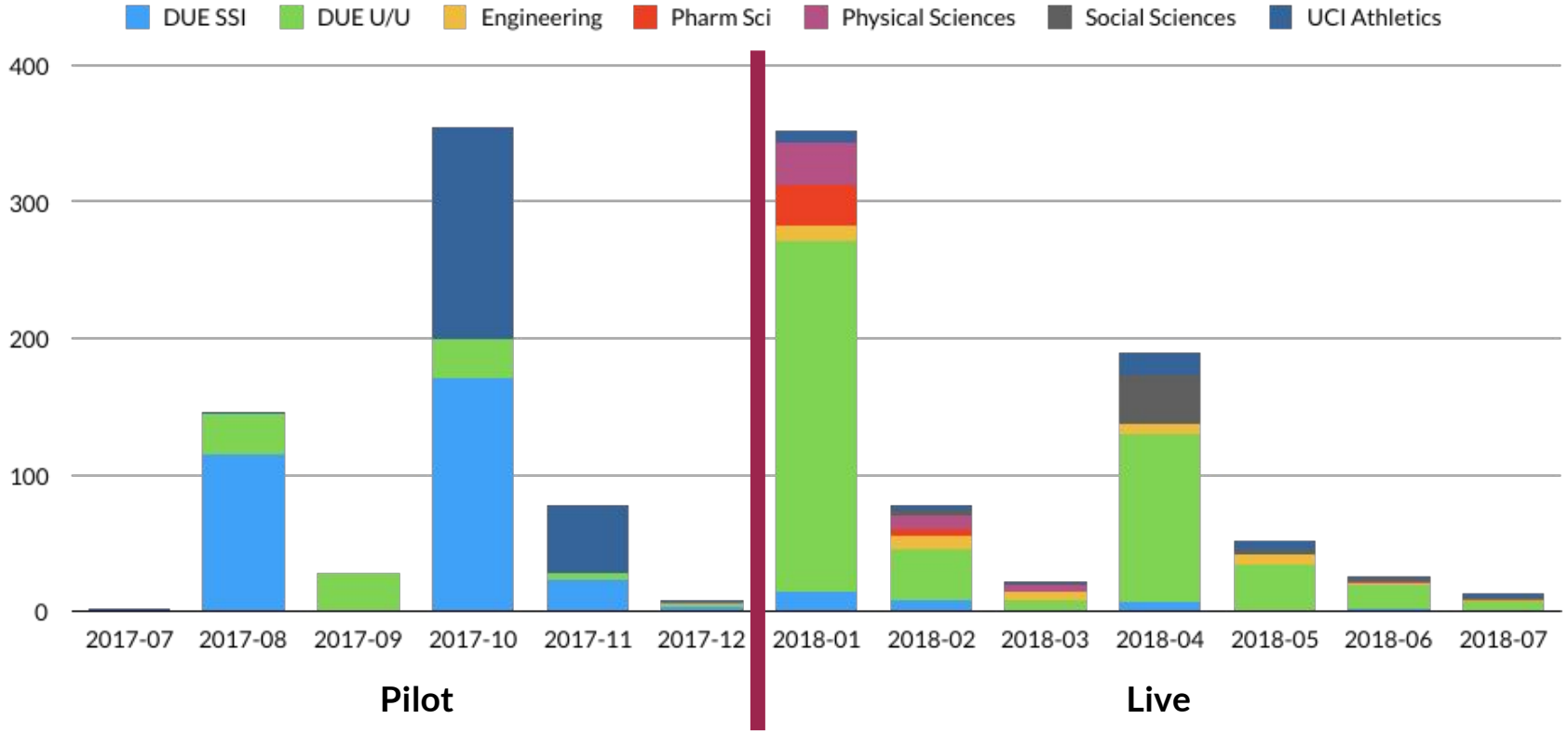
Engineering

Soon: Information & Computer Science

User requested feature development

- Stats
- Control over opt-ins/out-outs
- Probation tracking

Who's using it - opt-ins over time



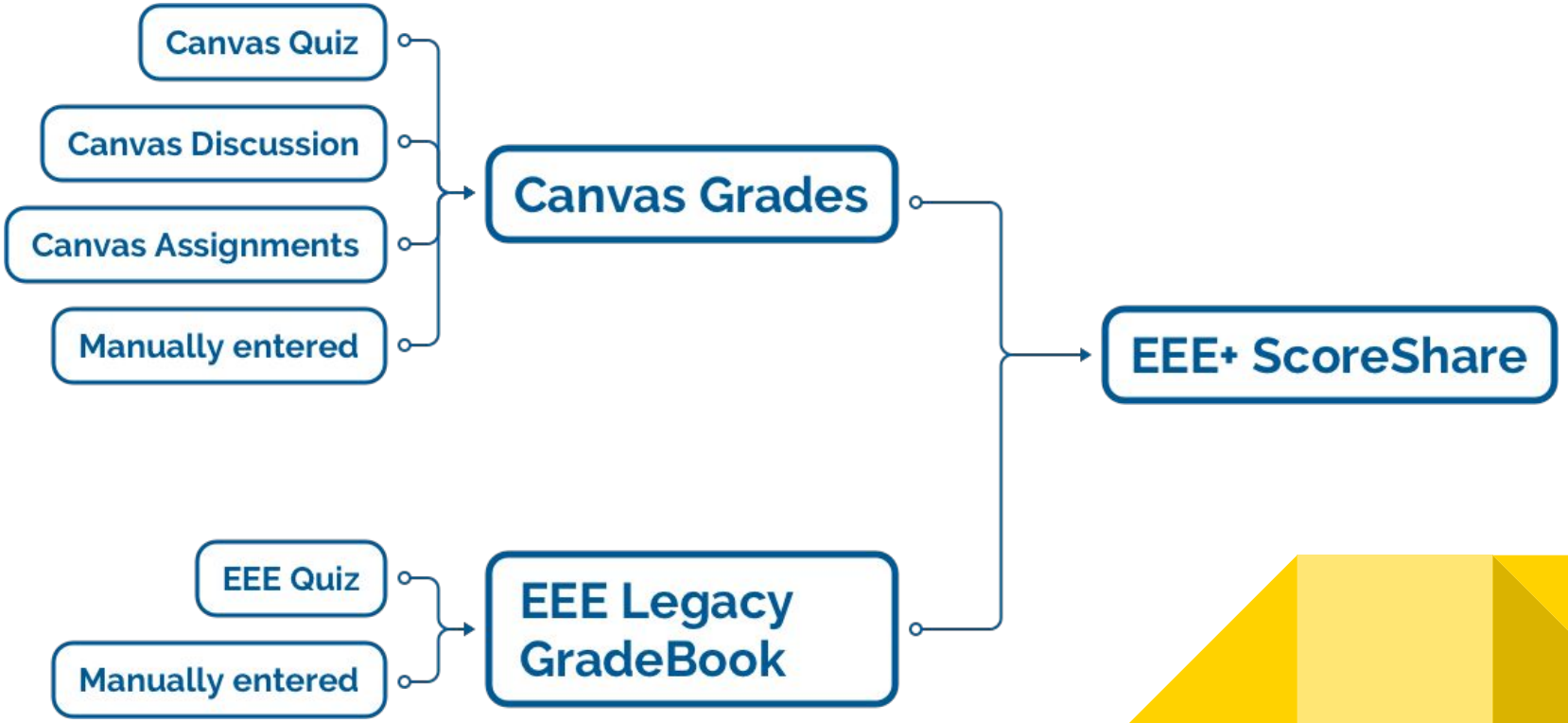
Who's using it?

- UCI Athletics
- Division of Undergraduate Education
  - Undergraduate/Undeclared Advising
  - Student Success Initiatives (to support students in the Summer Bridge program)
- School of Engineering
- Program in Pharmaceutical Sciences
- School of Physical Sciences
- School of Social Sciences

Features: Data feeds

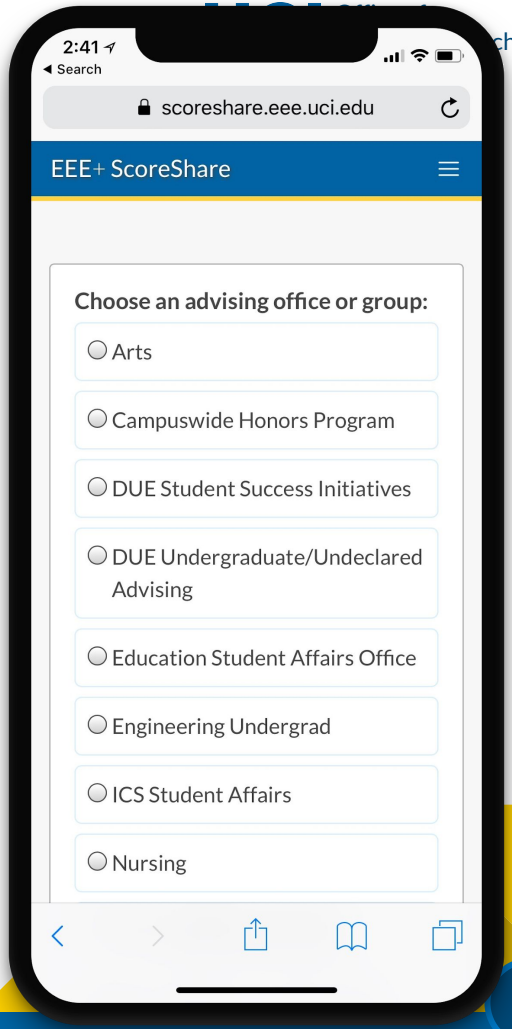
- **Assignment scores from both UCI Canvas and legacy LMS gradebook**
- **Timely data**
  - Real-time for legacy gradebook
  - 1-2 day delay for UCI Canvas due to Canvas Data processing
    - We didn't use the API because it was incredibly slow; we've complained about this to Instructure and it continues to be a topic of conversation in our monthly calls with them

Grade Flow from Canvas/EEE to ScoreShare



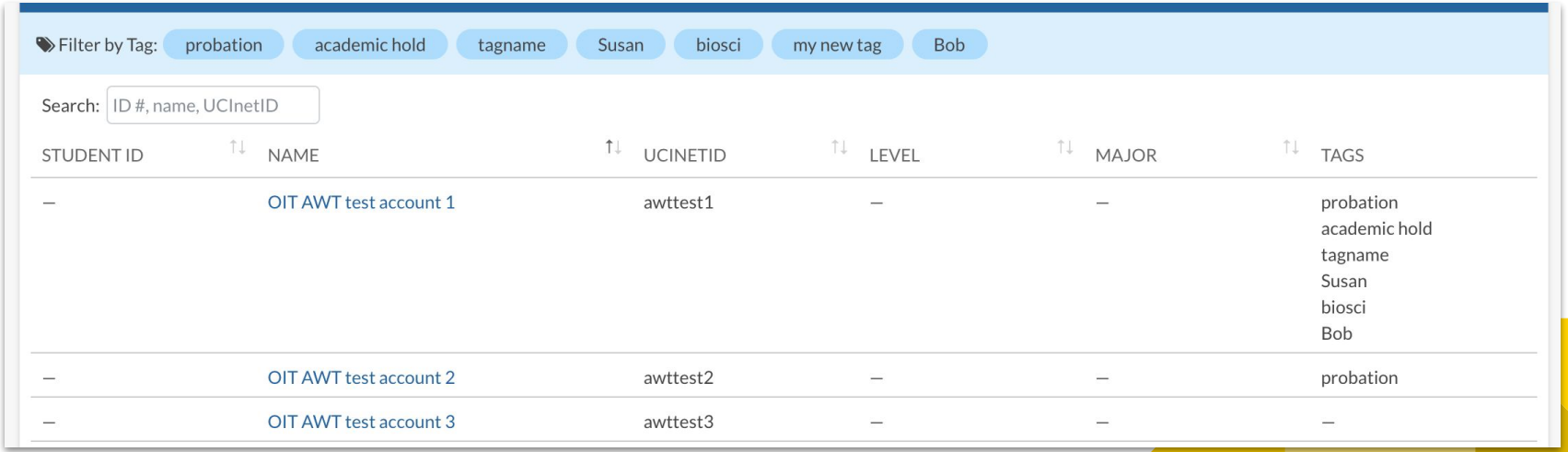
Features: Student-facing

- **Mobile-first UI**
- 4 clicks/taps:
  - View opt-ins (and login if needed)
  - Opt-in to a group
  - Select the group
  - Confirm
- Goal: frictionless opt-in (“no excuses”)



Features: Organization

- **Tagging**
  - Advisors can tag students for easier discovery in the future

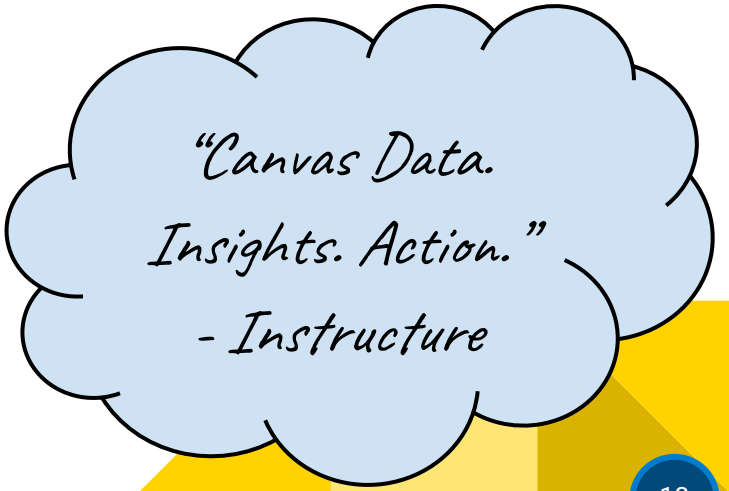


Demo time!

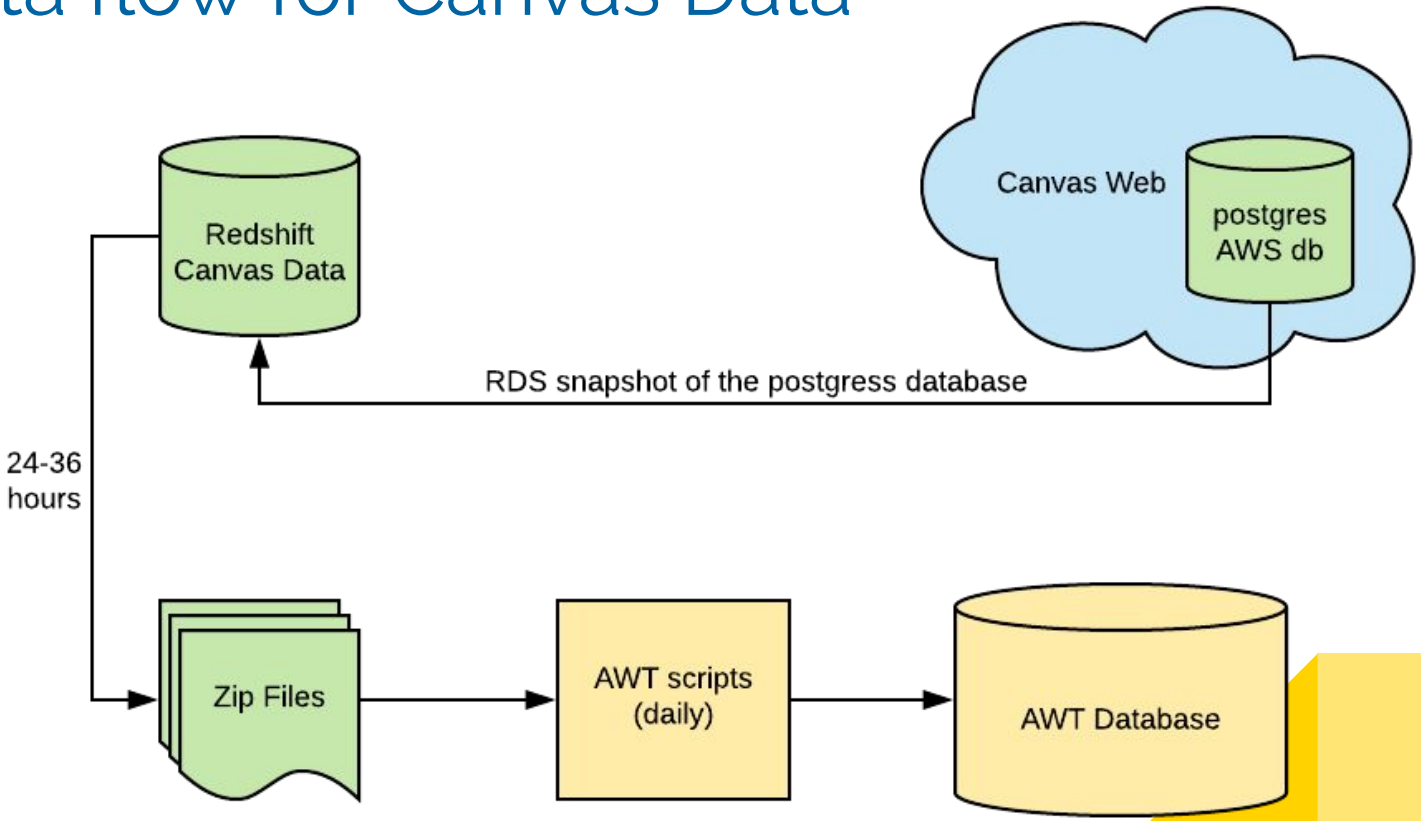
What is Canvas Data?

"Canvas Data is a service that provides schools with optimized access to all their data for reporting and queries." - Instructure

- Transformed version of almost all of the data from your instance of Canvas (assignments, users, etc.)
- Star-schema for easy data warehousing, processing, etc.

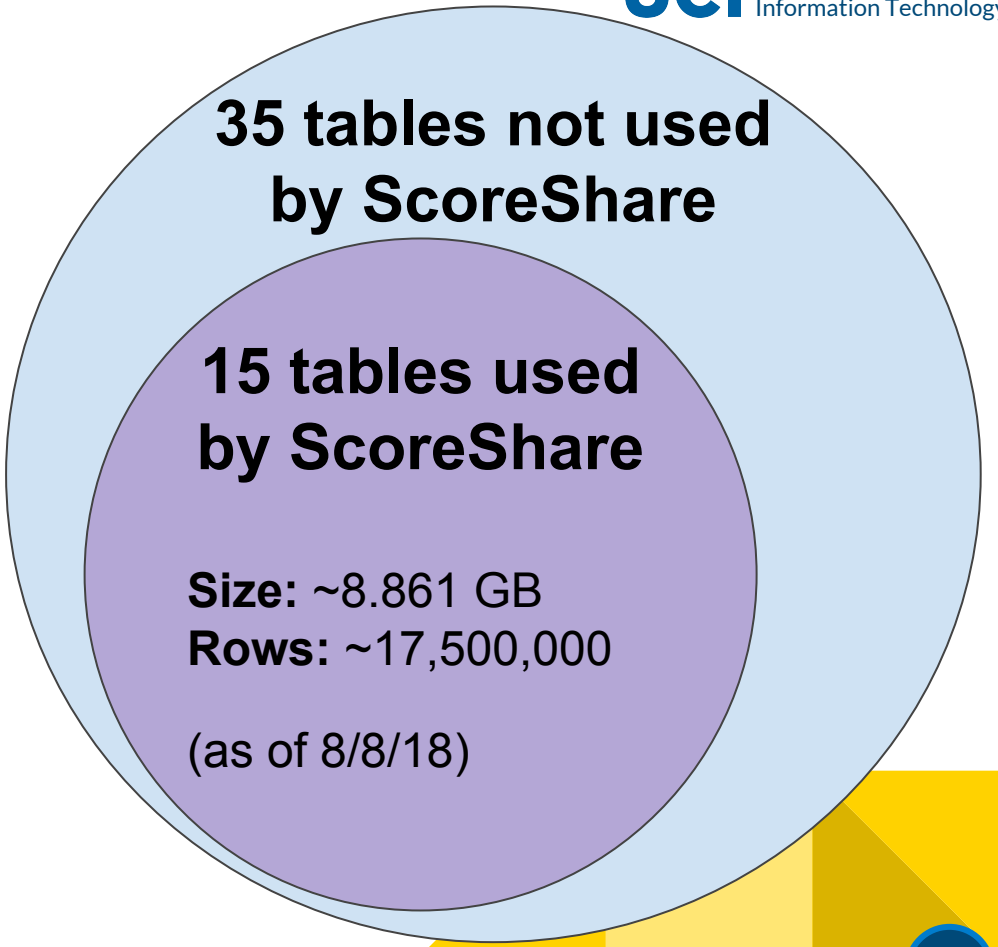


Data flow for Canvas Data



Canvas Data Tables

- 50 tables total
- Download all 50 tables
  - Used by another group on campus (Compass)
  - Potential for data analysis in the future
- Load 15 tables into our database
  - Takes 2-4 hours to load just those 15



Canvas Data Tables Used by ScoreShare

Assignment Info	
Assignment Details	assignment_dim, assignment_fact
Category Names	assignment_group_dim
Category Weights	assignment_group_fact
Drop highest/lowest flag	assignment_group_rule_dim
Due Dates Overrides	assignment_override_dim, assignment_override_fact
Drop Rules	assignment_rule_dim

Additional Info for Linking (Unexpected)
assignment_override_user_dim, assignment_override_user_fact, assignment_override_user_rollup_fact

User Info
user_dim

Course Info
course_dim

Submission Info
submission_dim, submission_fact

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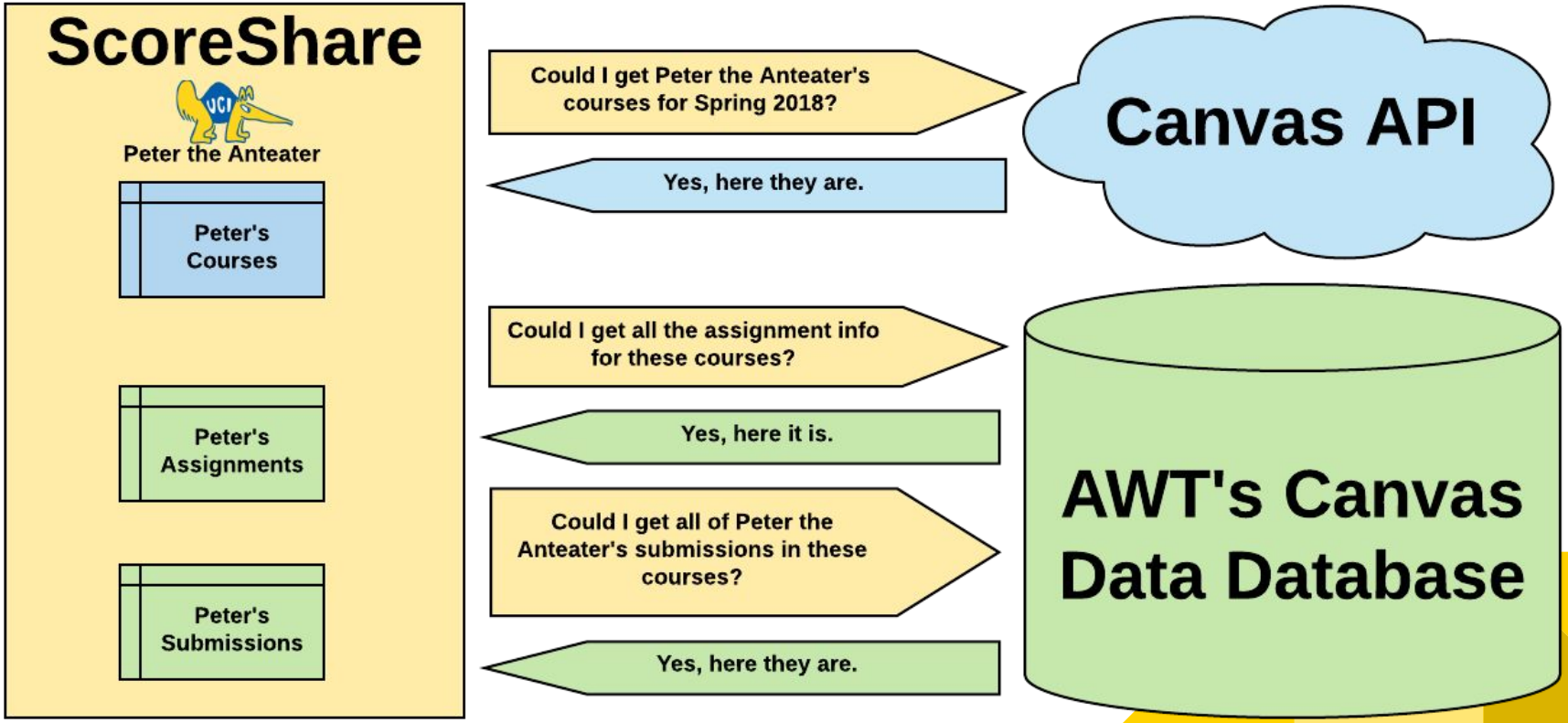
Canvas API vs. Canvas Data

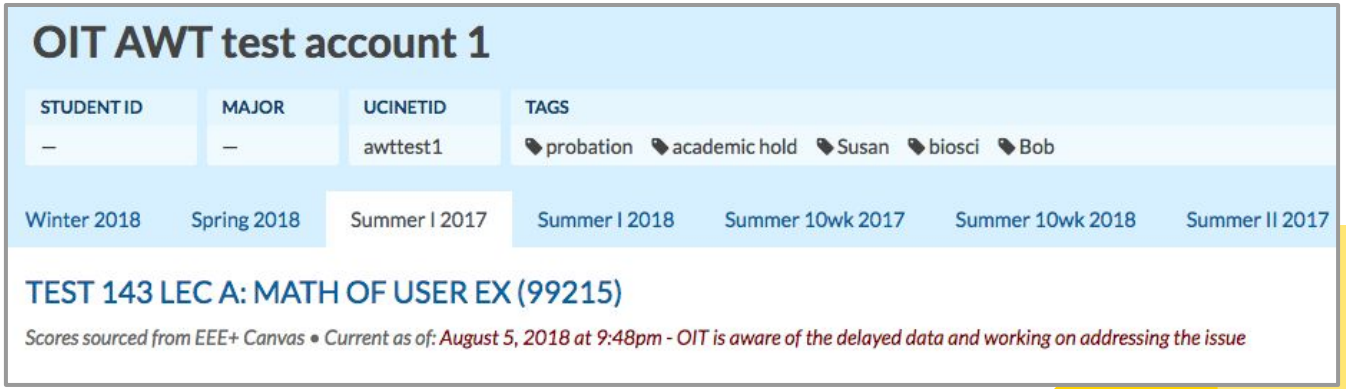


Why not use the API?

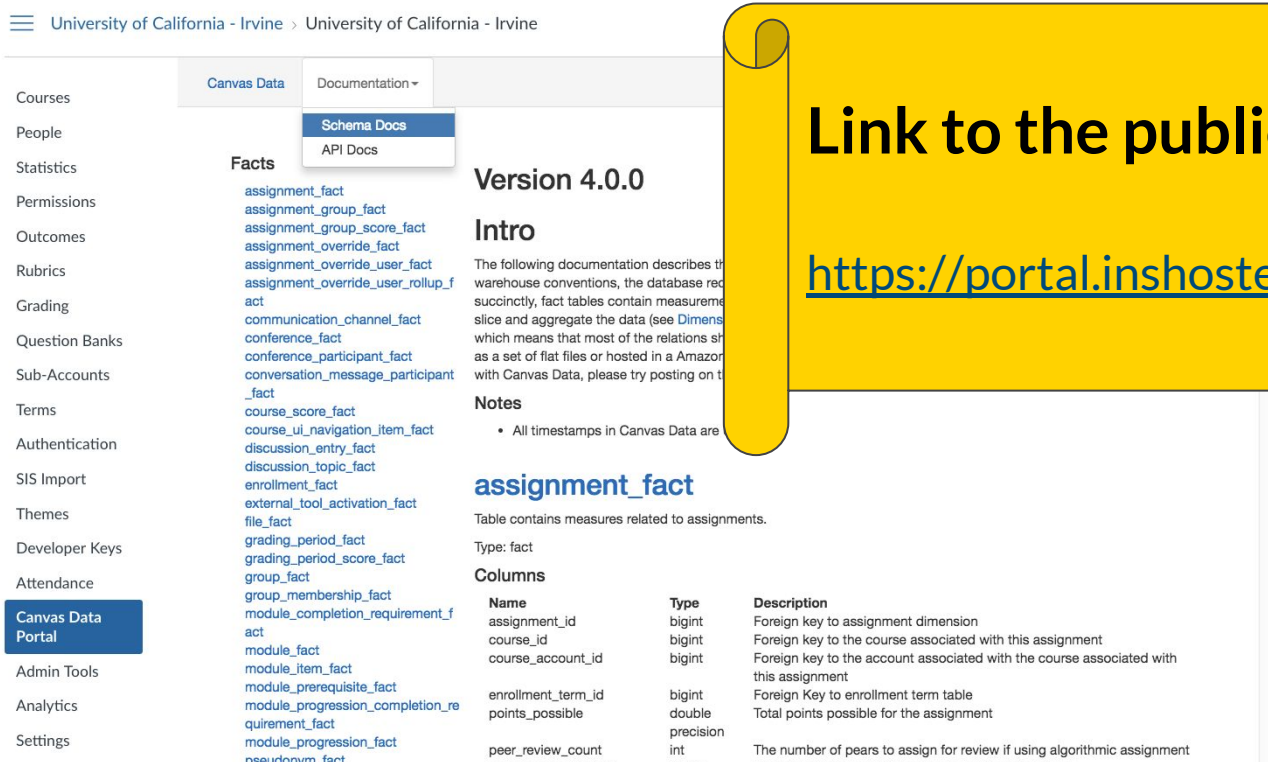
Maintenance

Canvas Data releases require code updates (for us).

- Releases occur once every 2-3 months (historically)
- Updates require manual work (usually just updating the version number)
- We built custom error handling and logging for this



Canvas Data Portal



Link to the public portal:

https://portal.inshosteddata.com/docs

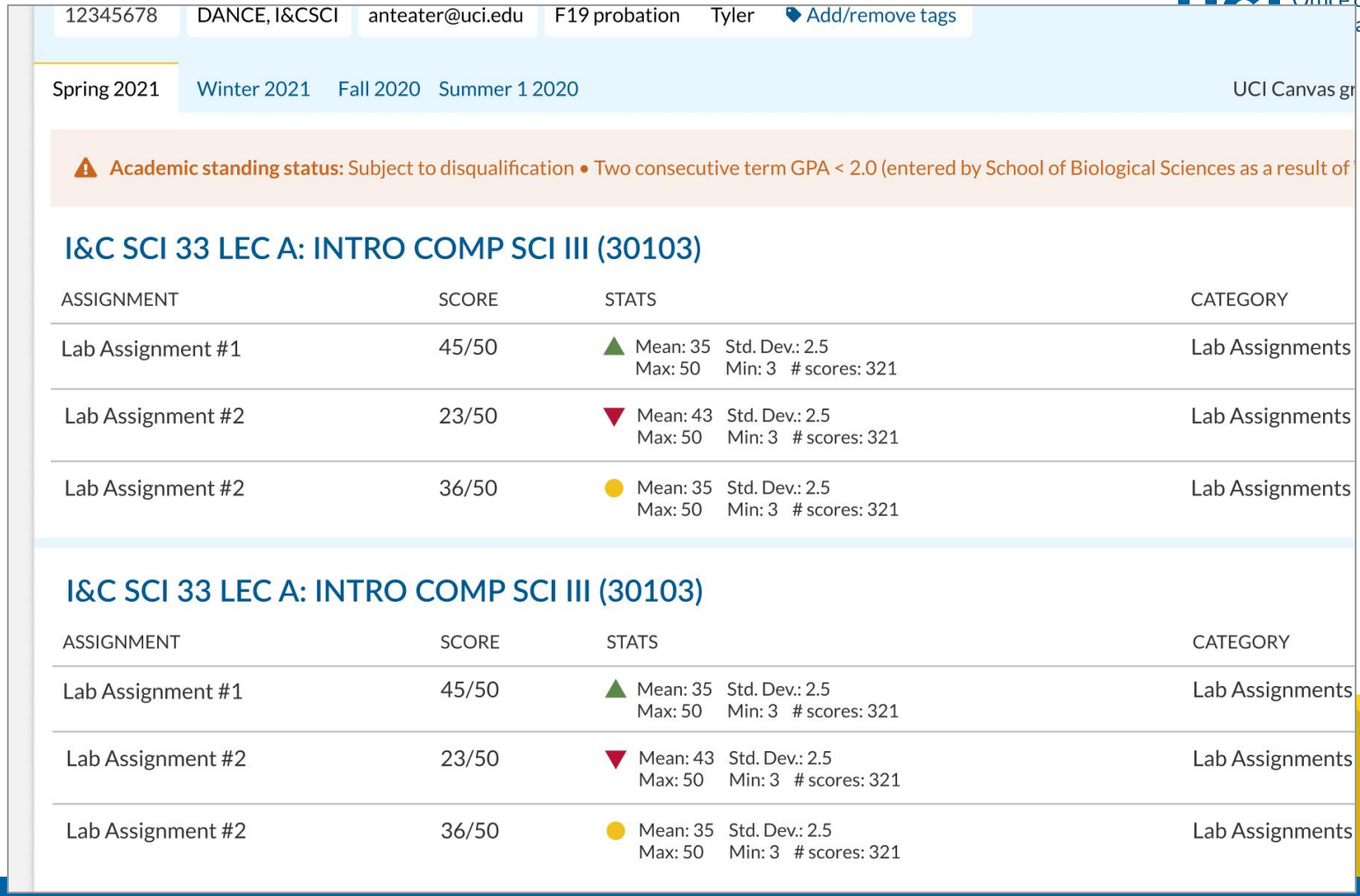
Additional Challenges

- No Canvas Data for test instances
  - Harder to find projects in the tool for students
- Canvas Data is a giant, constantly growing data set
  - Required special considerations by our server support team

What's next?

Future development ideas

- Richer data from Canvas (including assignment statistics)
- Let advisors opt students out (launching soon!)
- Ties to other student data systems, like Compass
- Leverage work to provide instructors and students with better grade views
- Better tag management
- More flexible opt-outs



12345678 | DANCE, I&CSCI | anteater@uci.edu | F19 probation | Tyler | Add/remove tags

Spring 2021 | Winter 2021 | Fall 2020 | Summer 1 2020 | UCI Canvas gr

Academic standing status: Subject to disqualification • Two consecutive term GPA < 2.0 (entered by School of Biological Sciences as a result of

I&C SCI 33 LEC A: INTRO COMP SCI III (30103)

ASSIGNMENT	SCORE	STATS	CATEGORY
Lab Assignment #1	45/50	Mean: 35 Std. Dev.: 2.5 Max: 50 Min: 3 # scores: 321	Lab Assignments
Lab Assignment #2	23/50	Mean: 43 Std. Dev.: 2.5 Max: 50 Min: 3 # scores: 321	Lab Assignments
Lab Assignment #2	36/50	Mean: 35 Std. Dev.: 2.5 Max: 50 Min: 3 # scores: 321	Lab Assignments

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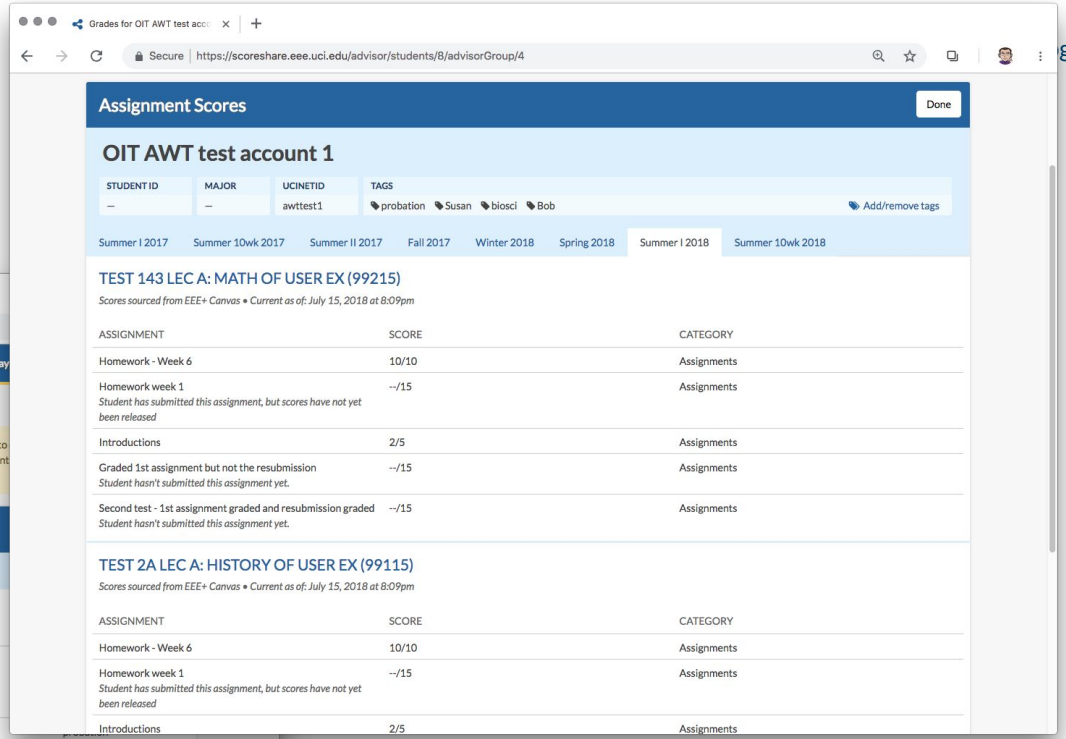
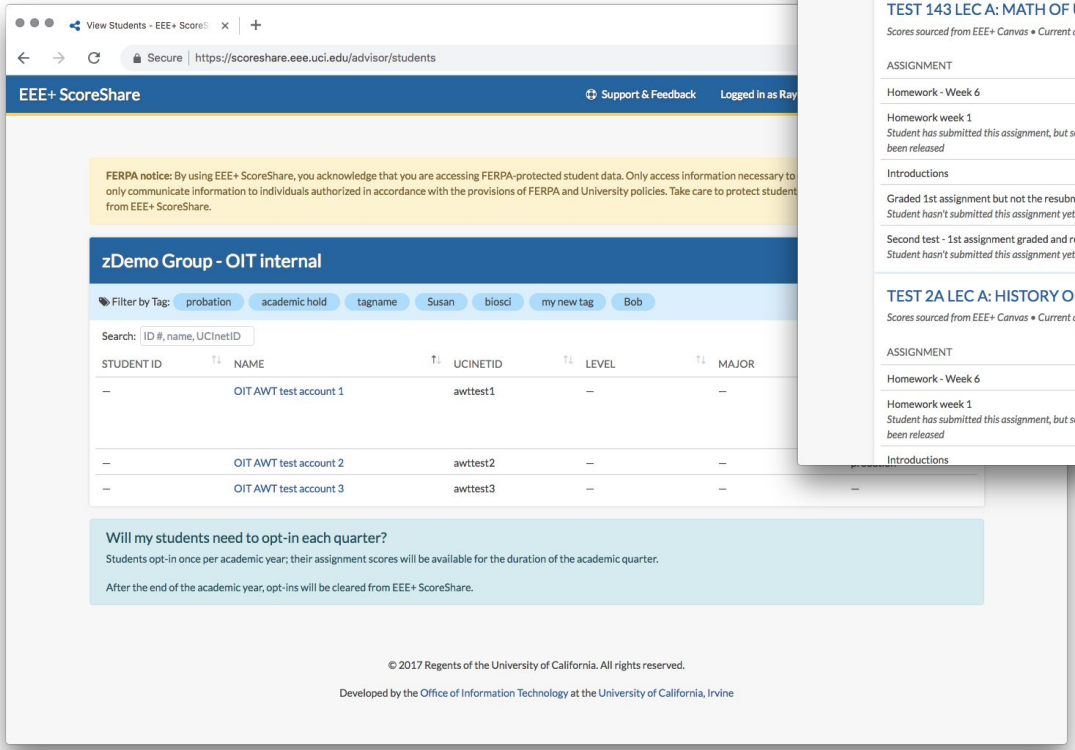
Screenshots





Overview

ScoreShare is a tool that provides academic advisors with student assignment performance data to better inform their decision-making processes and streamline advising sessions. We (UCI's Academic Web Technologies team) partnered with academic advising units around campus to design and pilot ScoreShare in 2017.

In this session, we will share our experience building a web application that relies on assignment and grade data from Canvas, as well as the challenges in combining this with data from our legacy learning management system.

We will also provide background about the tool, why we built it, and our process for designing the tool in partnership with our advisors.