

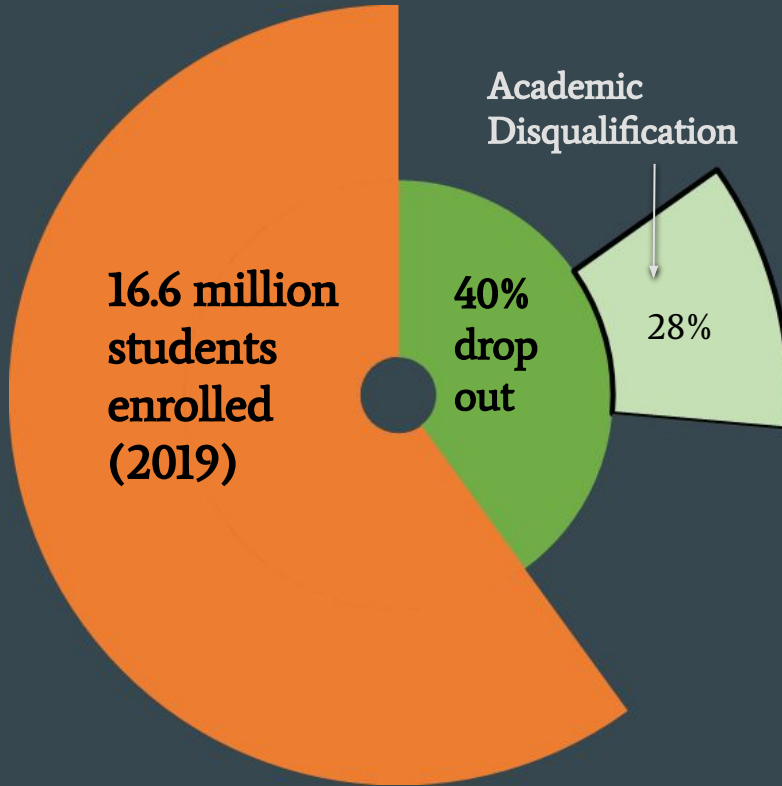
# BeyondTranscripts

...

Recommendations for student performance and retention



# PROBLEM



## Universities:

- ↓ ~\$8 million in tuition
- ↓ Ranking
- ↓ Federal and state funding
- ↓ Alumni donations
- ↑ Retention budget

## Students:

- ↓ \$32,000 in salary
- ↑ Worthless student debt

## Instructors:

- ↓ Instruction quality
- ↓ Course satisfaction

**Is there a solution to help everyone?**

# SOLUTION

A web-based platform that **provides personalized recommendations** to instructors and students by **analyzing fine-grained student data**.

Universities CAN:

**Retain students**

Students GET:

**Personalized recommendations**

Instructors CAN:

**Be more  
informed**

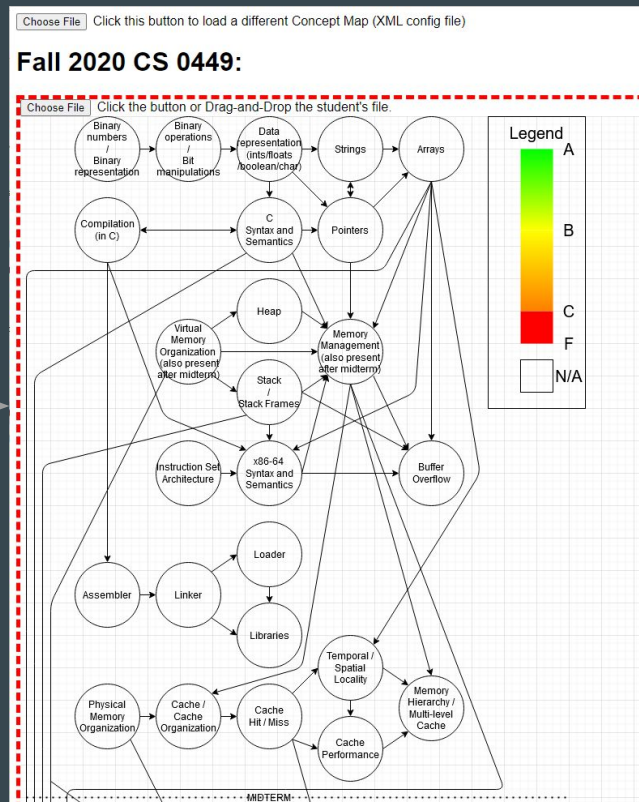
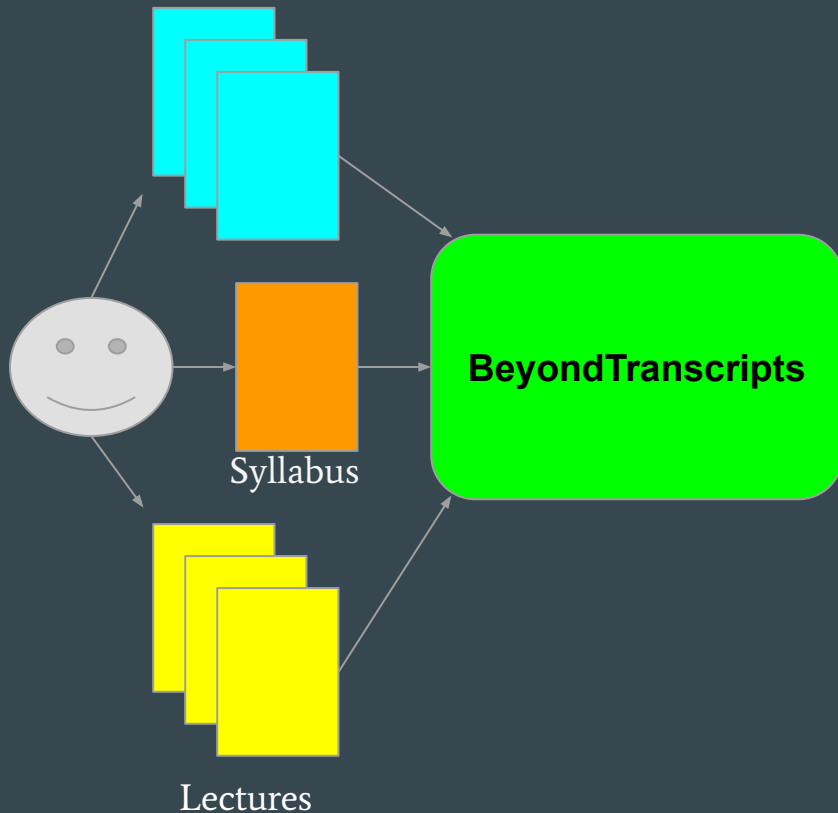
**Address student  
issues promptly**

**Efficiently adapt for future  
iterations of the course**

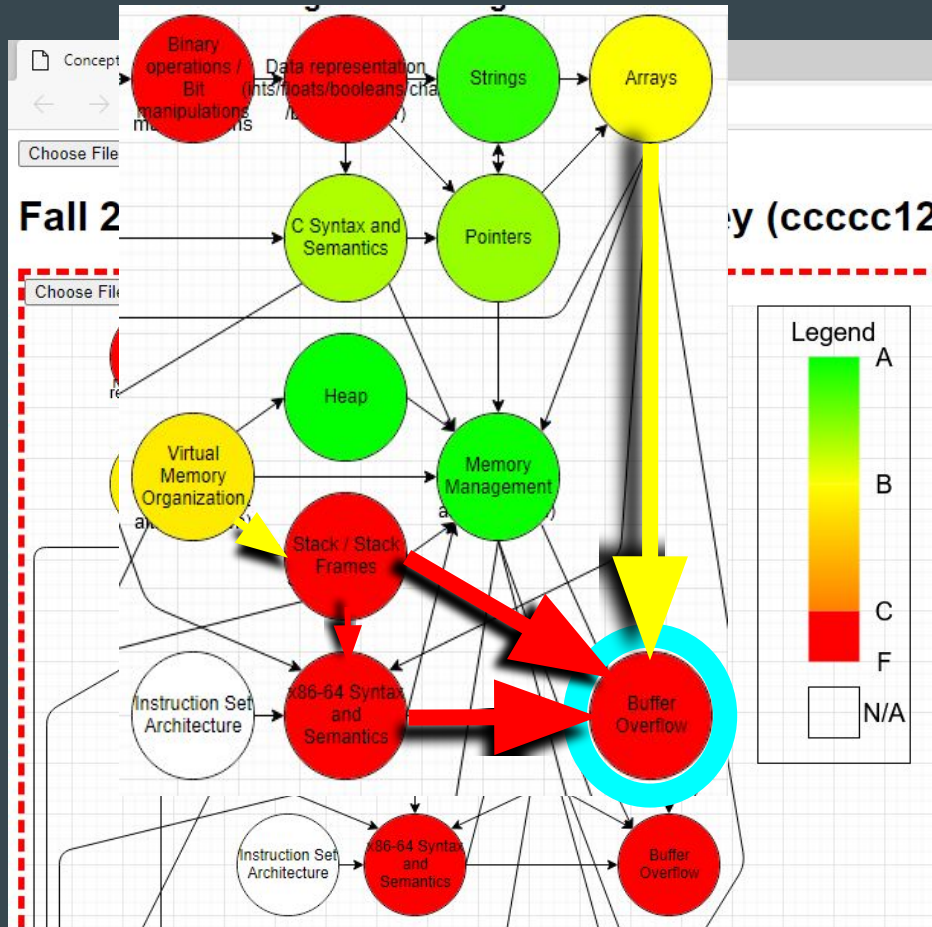
# PRODUCT - Map Generation

Assignments

Instructor



# PRODUCT - Student View



## Notice



The concept "Buffer Overflow" will be important for the next exam!

Study Tips

Okay

## Study Tips for "Buffer Overflow"



We suggest reviewing the following prerequisite concepts in this order:

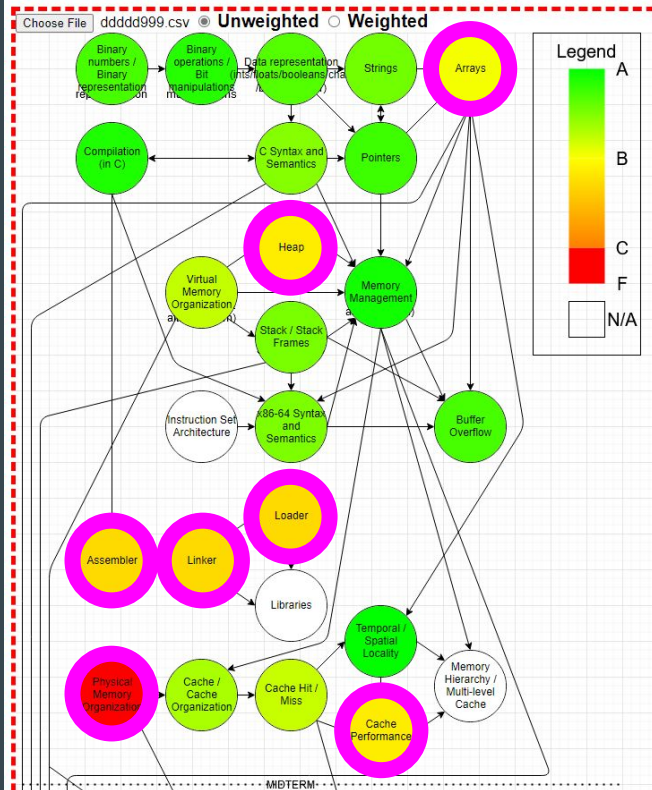
1. Arrays
2. Virtual Memory Organization
3. Stack/Stack Frames
4. x86-64 Syntax and Semantics

Okay



# PRODUCT - Instructor View (I)

Fall 2020 CS 0449: duck, donald (12345)



## Notice



Your students did poorly in the following concepts, which have been detected in the uploaded midterm exam:

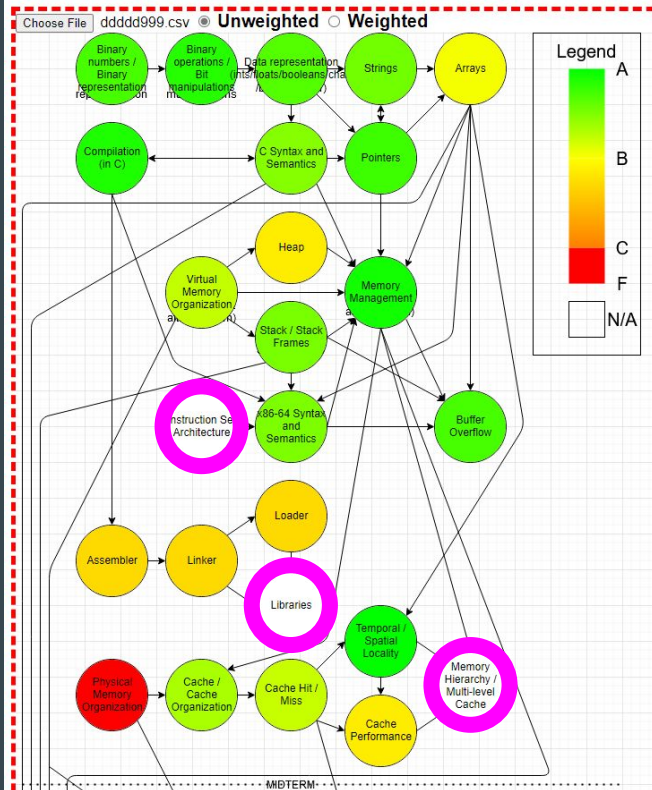
1. Arrays
2. Heaps
3. Assembler
4. Linker
5. Loader
6. Physical Memory Organization
7. Cache Performance

You should review these concepts in class before the midterm, if possible.

OK

# PRODUCT - Instructor View (II)

Fall 2020 CS 0449: duck, donald (12345)



## Notice



The following concepts have not been assessed, which have been detected in the uploaded midterm exam:

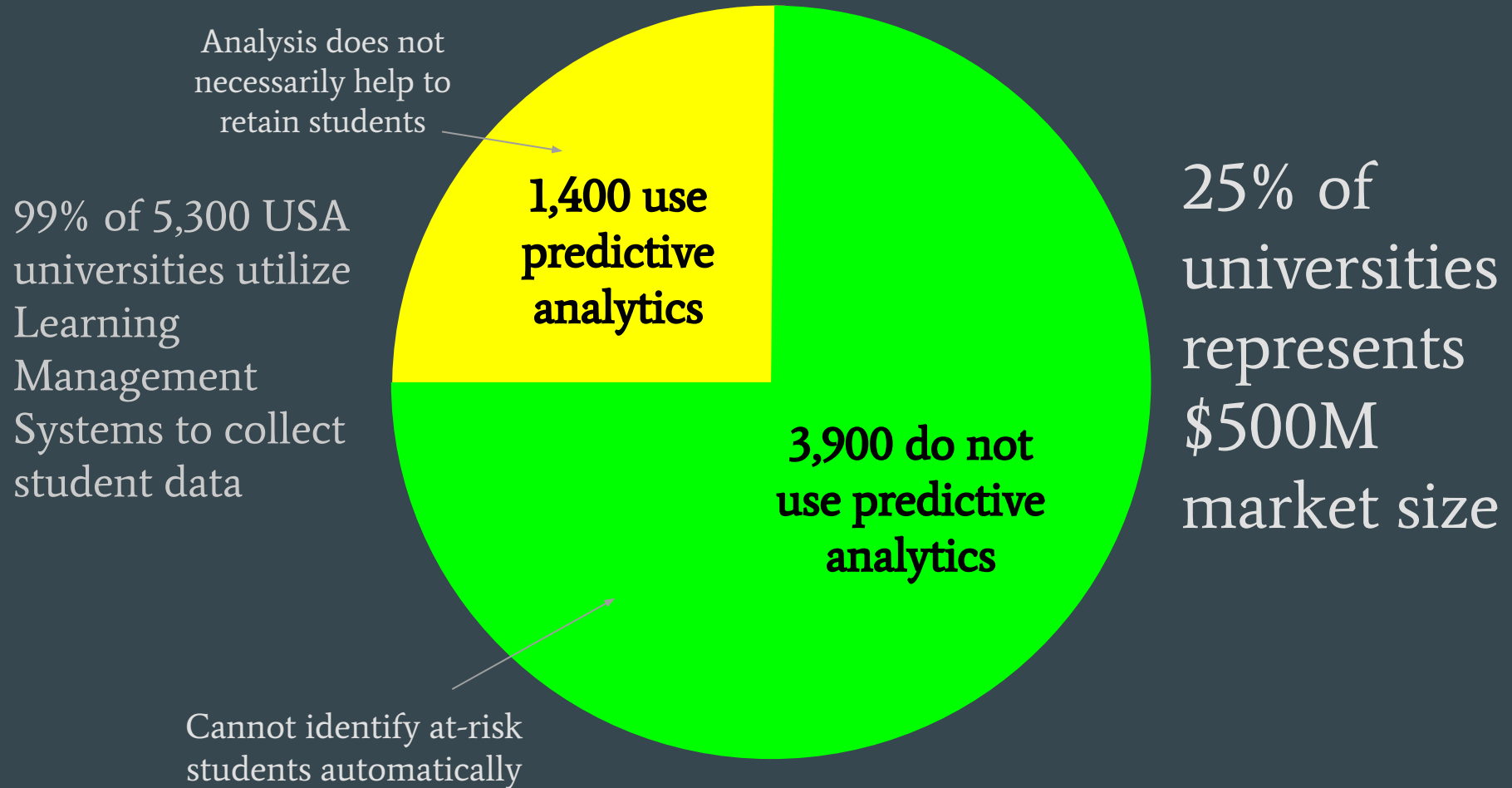
1. Instruction Set Architecture
2. Libraries
3. Memory Hierarchy / Multi-level Cache

You should consider reviewing these concepts in class, or remove the midterm questions that involve them.

OK



# MARKET VALIDATION



# 0

products analyze student  
performance in course content

4-BOX



BeyondTranscripts



Data Granularity

Coarse

Fine

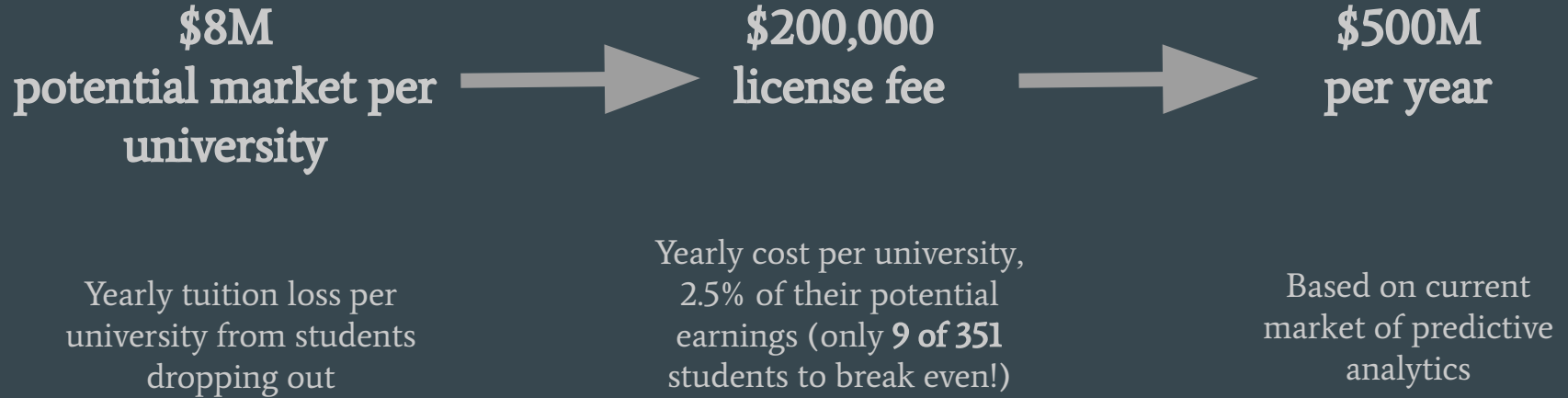


Significant

Recommendation Level

None

# BUSINESS MODEL



# DEVELOPMENT AND SUPPORT COST

Development: Build in-house for 6 months

Support: \$15,000 overhead for deployment at Pitt





Co-Founder and CEO:

Nathan Ong



Senior Software Developer:

Jacob Hoffman

Senior Software Developer:

Jonathan Hanobik

Software Developer:

Fangzheng Guo

Software Developer:

Jiaye Zhu



Co-Founder and Advisor:

Dr. Daniel Mosse

Support:

12 undergraduates

4 academic advisors

1 NACADA member

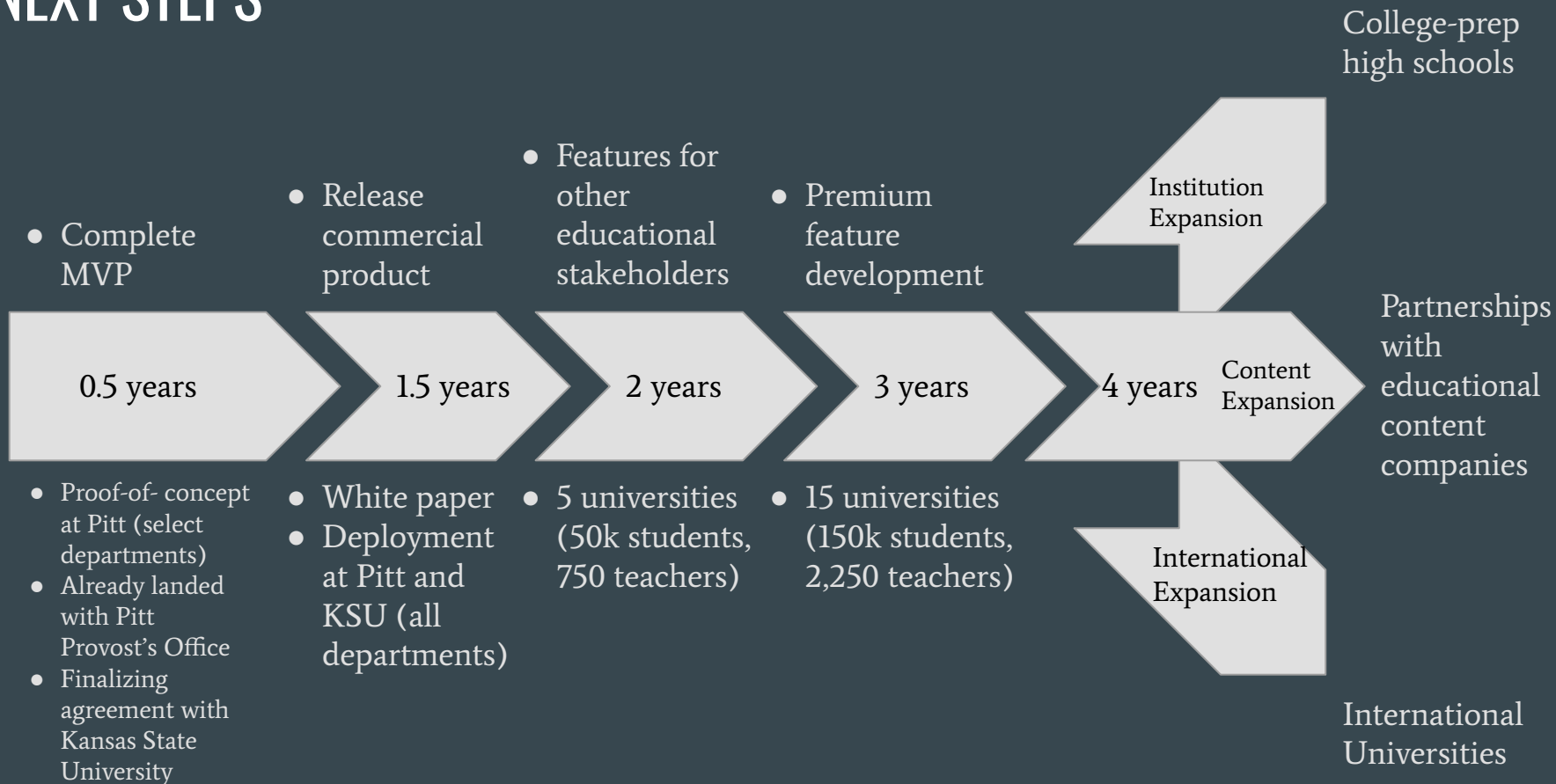


**Looking for Team Members in: Sales/Marketing**



# NEXT STEPS

## CRITICAL MASS



Transcripts no longer suffice;  
it's time to go

**Beyond Transcripts**

# EXTRA SLIDES

# PROBLEM

16.6 million students (2019), 40% drop out, 28% of that due to academic disqualification, average tuition is \$22,698 → \$42.2 billion, 5300 colleges/universities → \$7,962,287.09 lost per university per year on tuition (conservative, what if they are freshmen? Then the university potentially loses more on that student) (and universities spend on student retention)

No standard analytic tool to track student progression as they complete the major (aside from transcripts)

Focus on prestige/rank, and the costs associated with that

Maybe focus on Time To Degree instead,

We first focus on (low-hanging fruit): Better advising? Better instructor adaptability? (which then leads to better things)

Articulate possible ideal outcomes, and contrast that with where we are now, then how do we get there



# PROBLEM

**Financial:** 16.6 million students per year pay \$40B of tuition

BUT 40% drop out... \$8B lost per year

**Human:** 40% drop out, 28% of that due to academic disqualification

Until today: no standard analytic tool to track student progression

# PROBLEM

Student Retention: 16.6 million students (2019), 40% drop out, 28% of that (total ~11%) due to academic disqualification every year, 1.9 million students total

Universities lose out: tuition, ranking, federal funding, alumni donations, and spending extra on student retention

Students lose out: Dropping out means wasted tuition/student debt, and lose out on 32,000 extra salary

No automatic recommendation tool that analyzes course content information, instructors cannot gauge how prepared students are for upcoming assessments, especially if they teach many classes or teach large classes

# PROBLEM

## Student Retention:

- Out of 16.6 million students, 40% dropped out (2019)
- 28% drop out every year due to academic disqualification (1.9 million students)
- Each university in the USA misses out on \$8 million per year from student drop out

## Universities LOSE:

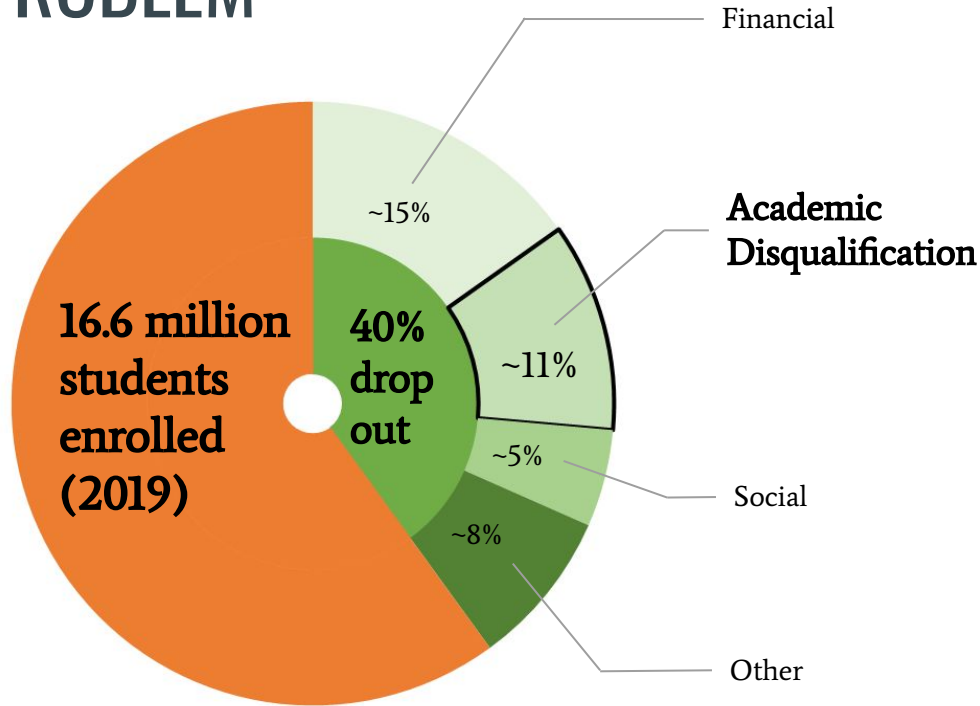
- Tuition Revenue
- Ranking
- Federal Funding
- Alumni Donations
- Wasted Retention Costs

## Students LOSE:

- Worthless Student Debt
- Average Salary Increase

**How can instructors be empowered to save at-risk students?**

# PROBLEM



## Universities:

- ↓ ~\$8 million in tuition
- ↓ Ranking
- ↓ Federal and state funding
- ↓ Alumni donations
- ↑ Retention budget

## Students:

- ↓ \$32,000 in salary
- ↑ Worthless student debt

## Instructors:

- ↓ Instruction quality
- ↓ Course satisfaction

**How can instructors be empowered to save at-risk students?**

# SOLUTION

A web-service that **analyzes fine-grained student data** to provide easy-to-understand and relevant analyses to all educational stakeholders

**Stakeholders:** students, instructors, academic advisors, and administrators

**NOVELTY and INSIGHT:**

- use **existing** fine-grained data within the course automatically

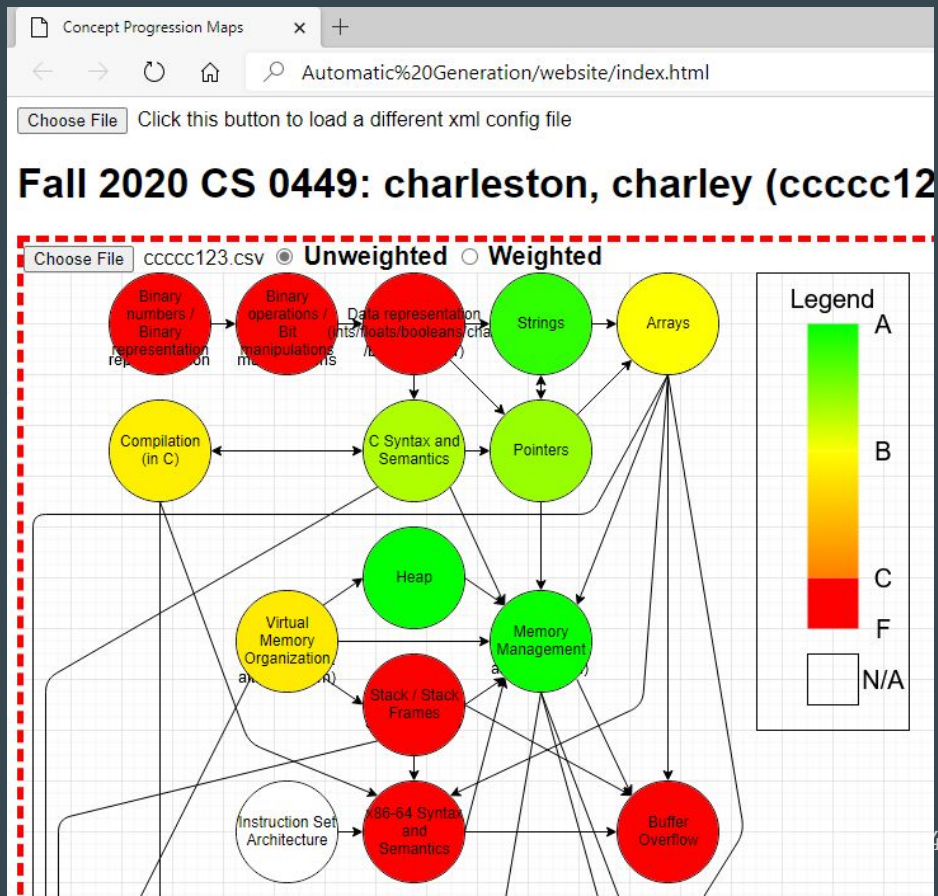
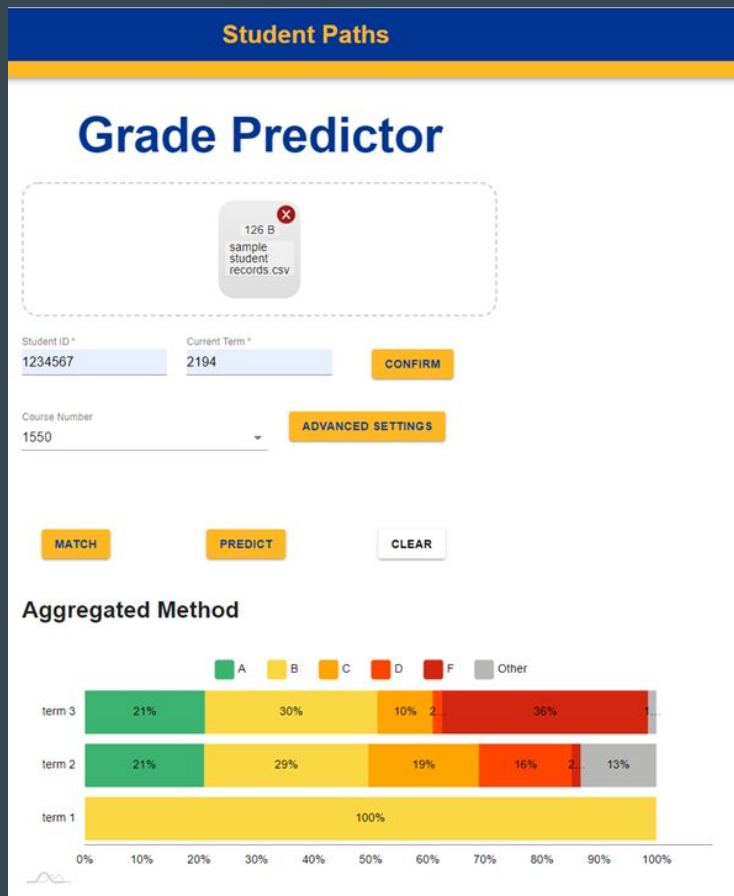
- use **machine learning** to take historical data and **make predictions (what are these)**

What is the outcome change from the solution? What is meaningful? What do the interventions do? Tie it to timing (can administer intervention faster)

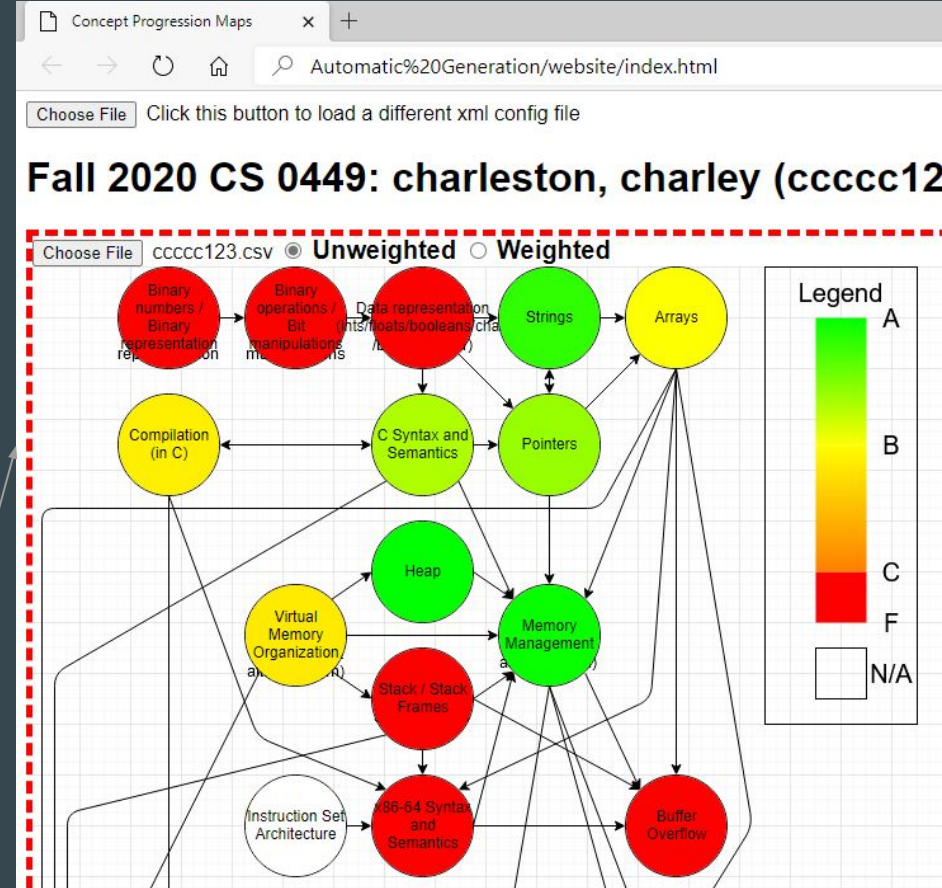
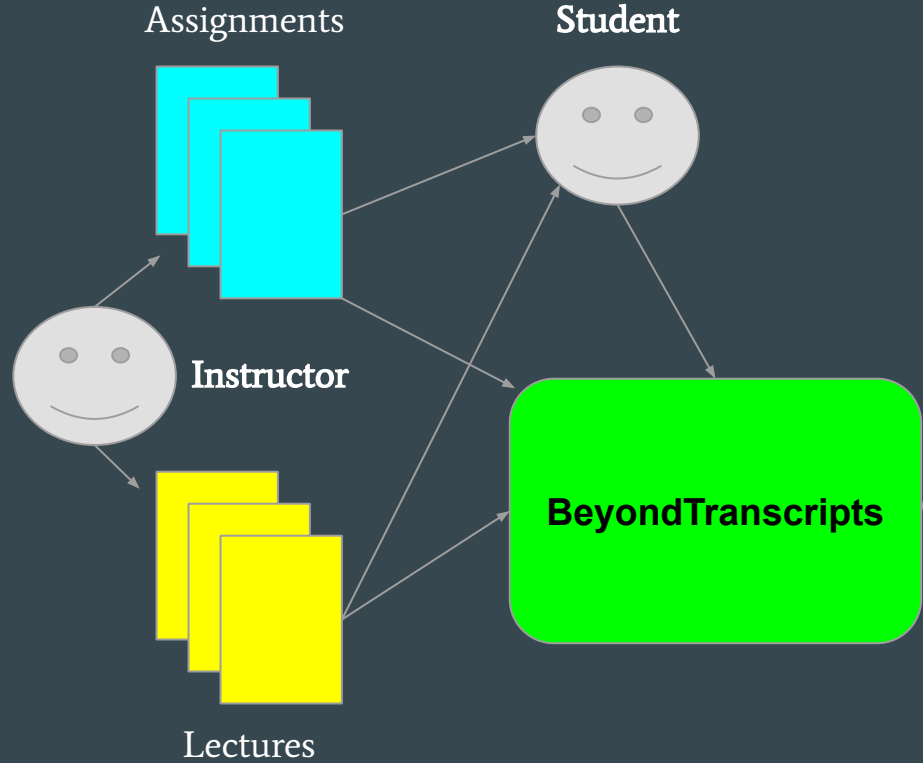
Wireframe of landing page/logo/primer of the solution



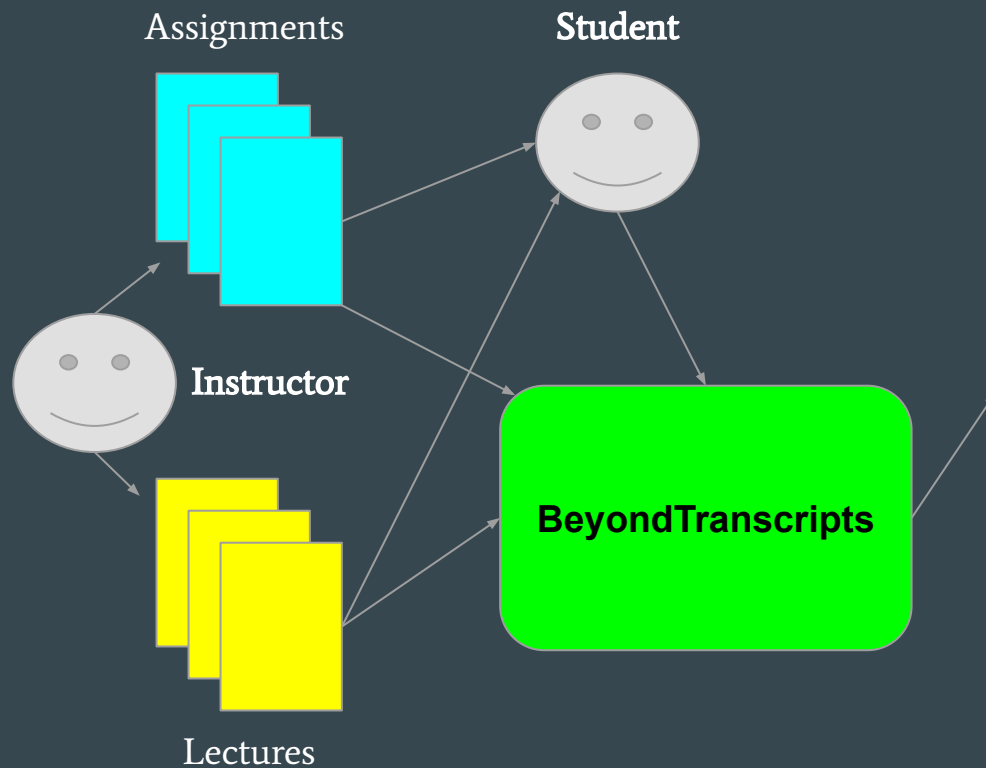
# PRODUCT



# Solution



# Solution



## Student Paths

### Grade Predictor

126 B  
sample  
student  
records.csv

Student ID \*

1234567

Current Term \*

2194

CONFIRM

Course Number

1550

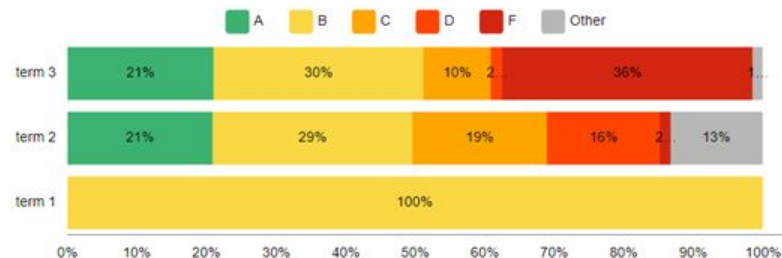
ADVANCED SETTINGS

MATCH

PREDICT

CLEAR

### Aggregated Method



# SOLUTION

**A web-based toolset that analyzes student data to provide recommendations for student and instructor success**

## Instructors and Universities WIN:

- Automatic Recommendations
- Retain More Student Tuition
- Instructor Flexibility
- Lower Retention Costs
- Efficient Course Adaptation

## Students WIN:

- Effective Instructor Advising
- Successful Higher Education
- Personalized Assistance
- Higher Average Salary
- Early Understanding

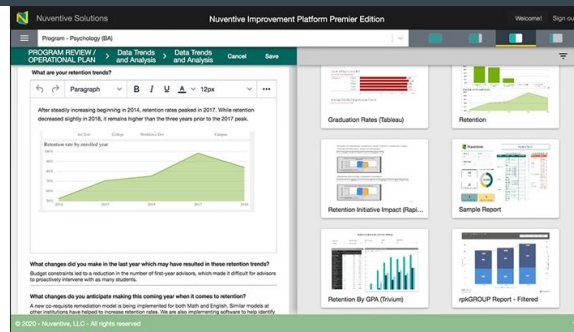
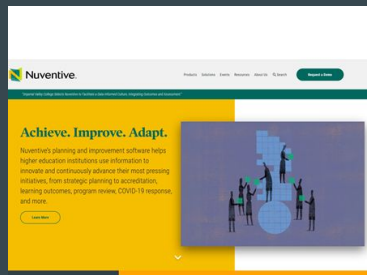
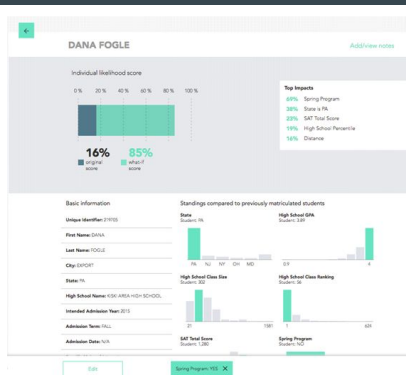
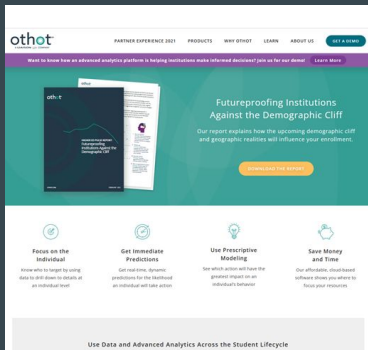
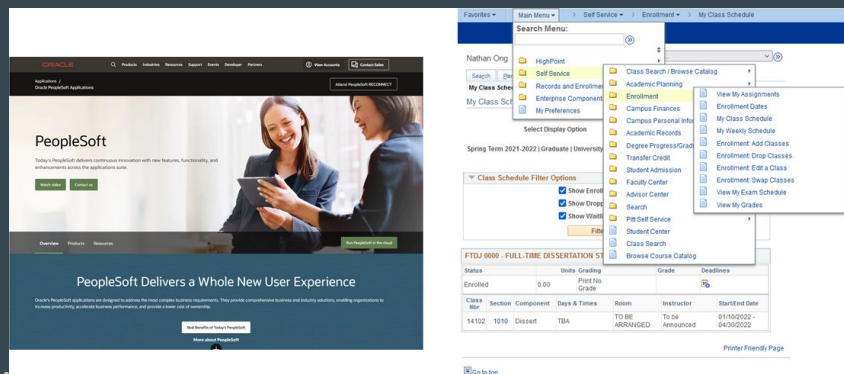
# Competition

Graph of competitors on:

Data granularity (final grades only → per question performance)

Automatic Recommendation Level (no recommendations → full predictive system?)

Do more research on OTHOT



# Business Model

## Direct to universities

- Why not per-student? It's hard to prove with too few students, we need the data from all the students.
- B2B access multiply efforts.
  - license at discount rate? \$200K/year? 2.5% of the university tuition?
  - Discount at beginning (hooking clients)? After 3 months free, give quarterly analysis to blow them away

Standard list price, provide a multiplier depending on the institution depending on adding additional features

4 Box/4 Quadrant?  
Market  
Players/Companies

Significant

Recommendation  
Level

Beyond Transcripts



Data Granularity

Coarse



None

Fine

Legend

- Red - Targeted Enrollment Marketing
- Orange - Academic Advising
- Green - Academic Administration
- Dark Blue - Direct to Student Software
- Purple - Learning Management System
- Light Blue - Course Content/Student Performance Analysis





# Compare to Peoplesoft



The banner features the Oracle logo at the top left, followed by navigation links: Products, Industries, Resources, Support, Events, Developer, Partners. On the right, there are links for View Accounts and Contact Sales. Below the navigation bar, the text "Applications / Oracle PeopleSoft Applications" is displayed, along with a button to "Attend PeopleSoft RECONNECT". The main image shows two women in business attire looking at a tablet. Below the image, the text "PeopleSoft" is prominently displayed, followed by a description: "Today's PeopleSoft delivers continuous innovation with new features, functionality, and enhancements across the applications suite." There are two buttons: "Watch video" and "Contact us". At the bottom, there are links for Overview, Products, and Resources, and a button to "Run PeopleSoft in the cloud". The footer text reads "PeopleSoft Delivers a Whole New User Experience" and "Oracle's PeopleSoft applications are designed to address the most complex business requirements. They provide comprehensive business and industry solutions, enabling organizations to increase productivity, accelerate business performance, and provide a lower cost of ownership." There is also a link to "Real Benefits of Today's PeopleSoft" and a button to "More about PeopleSoft".

ORACLE

Products Industries Resources Support Events Developer Partners

View Accounts Contact Sales

Applications / Oracle PeopleSoft Applications

Attend PeopleSoft RECONNECT

PeopleSoft

Today's PeopleSoft delivers continuous innovation with new features, functionality, and enhancements across the applications suite.

Watch video Contact us

Overview Products Resources

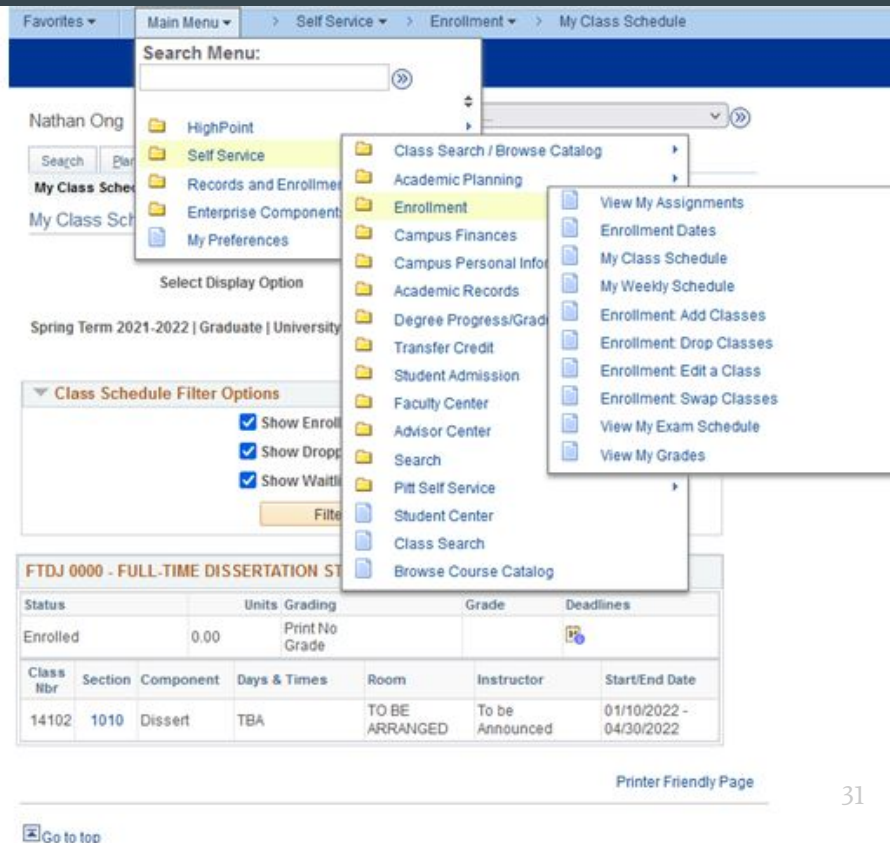
Run PeopleSoft in the cloud

PeopleSoft Delivers a Whole New User Experience

Oracle's PeopleSoft applications are designed to address the most complex business requirements. They provide comprehensive business and industry solutions, enabling organizations to increase productivity, accelerate business performance, and provide a lower cost of ownership.

Real Benefits of Today's PeopleSoft

More about PeopleSoft



The screenshot shows the PeopleSoft Self Service Enrollment menu. The user is logged in as Nathan Ong. The menu is open, showing a search bar and a list of options. The "Self Service" option is highlighted, and a sub-menu is displayed with the following items: Class Search / Browse Catalog, Academic Planning, Enrollment, Campus Finances, Campus Personal Info, Academic Records, Degree Progress/Grad, Transfer Credit, Student Admission, Faculty Center, Advisor Center, Search, Pitt Self Service, Student Center, Class Search, and Browse Course Catalog. The "Enrollment" option is also highlighted, and a sub-menu is displayed with the following items: View My Assignments, Enrollment Dates, My Class Schedule, My Weekly Schedule, Enrollment: Add Classes, Enrollment: Drop Classes, Enrollment: Edit a Class, Enrollment: Swap Classes, View My Exam Schedule, and View My Grades. Below the menu, there is a section for "Class Schedule Filter Options" with checkboxes for Show Enrollment, Show Dropouts, and Show Waitlist. There is also a "Filter" button. Below the filter options, there is a table for "FTD 0000 - FULL-TIME DISSERTATION STUDENT".

Favorites Main Menu Self Service Enrollment My Class Schedule

Search Menu:

Nathan Ong

HighPoint

Self Service

Records and Enrollment

Enterprise Components

My Preferences

Select Display Option

Spring Term 2021-2022 | Graduate | University

Class Schedule Filter Options

Show Enrollment

Show Dropouts

Show Waitlist

Filter

FTD 0000 - FULL-TIME DISSERTATION STUDENT

Status	Units	Grading	Grade	Deadlines
Enrolled	0.00	Print No Grade		


Class Nbr	Section	Component	Days & Times	Room	Instructor	Start/End Date
14102	1010	Dissert	TBA	TO BE ARRANGED	To be Announced	01/10/2022 - 04/30/2022

Printer Friendly Page

Go to top




# Compare to OTHOT



[PARTNER EXPERIENCE 2021](#) [PRODUCTS](#) [WHY OTHOT](#) [LEARN](#) [ABOUT US](#) [GET A DEMO](#)

Want to know how an advanced analytics platform is helping institutions make informed decisions? Join us for our demo! [Learn More](#)



## Futureproofing Institutions Against the Demographic Cliff

Our report explains how the upcoming demographic cliff and geographic realities will influence your enrollment.

[DOWNLOAD THE REPORT](#)



### Focus on the Individual

Know who to target by using data to drill down to details at an individual level



### Get Immediate Predictions

Get real-time, dynamic predictions for the likelihood an individual will take action



### Use Prescriptive Modeling


See which action will have the greatest impact on an individual's behavior



### Save Money and Time

Our affordable, cloud-based software shows you where to focus your resources


Use Data and Advanced Analytics Across the Student Lifecycle



## DANA FOGLE

[Add/view notes](#)

### Individual likelihood score



0 % 20 % 40 % 60 % 80 % 100 %

**16%** original score **85%** what-if score

### Top Impacts

- 69% Spring Program
- 38% State is PA
- 23% SAT Total Score
- 19% High School Percentile
- 16% Distance

### Basic information

Unique Identifier: 219705

First Name: DANA

Last Name: FOGLE

City: EXPORT

State: PA

High School Name: KISKADEE AREA HIGH SCHOOL

Intended Admission Year: 2015


Admission Term: FALL

Admission Date: N/A

### Standings compared to previously matriculated students


#### State

Student: PA




#### High School GPA

Student: 3.89




#### High School Class Size

Student: 302




#### High School Class Ranking

Student: 56




#### SAT Total Score

Student: 1,280

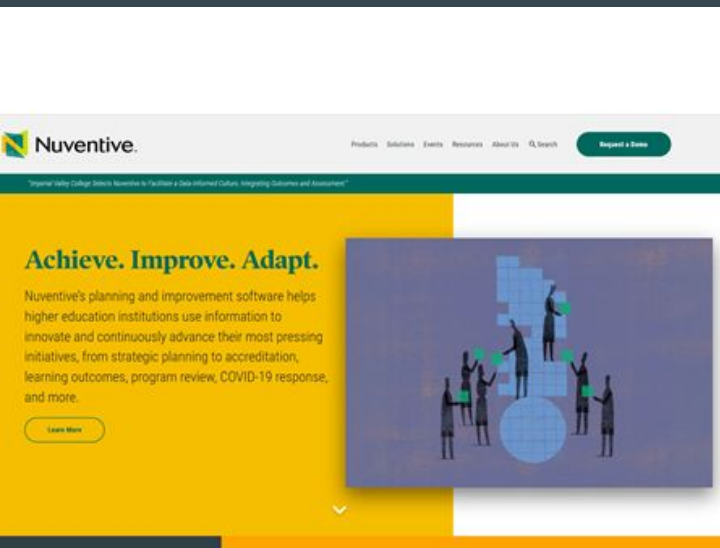


#### Spring Program

Student: NO



# Compare to Nuventive



**Nuventive.**

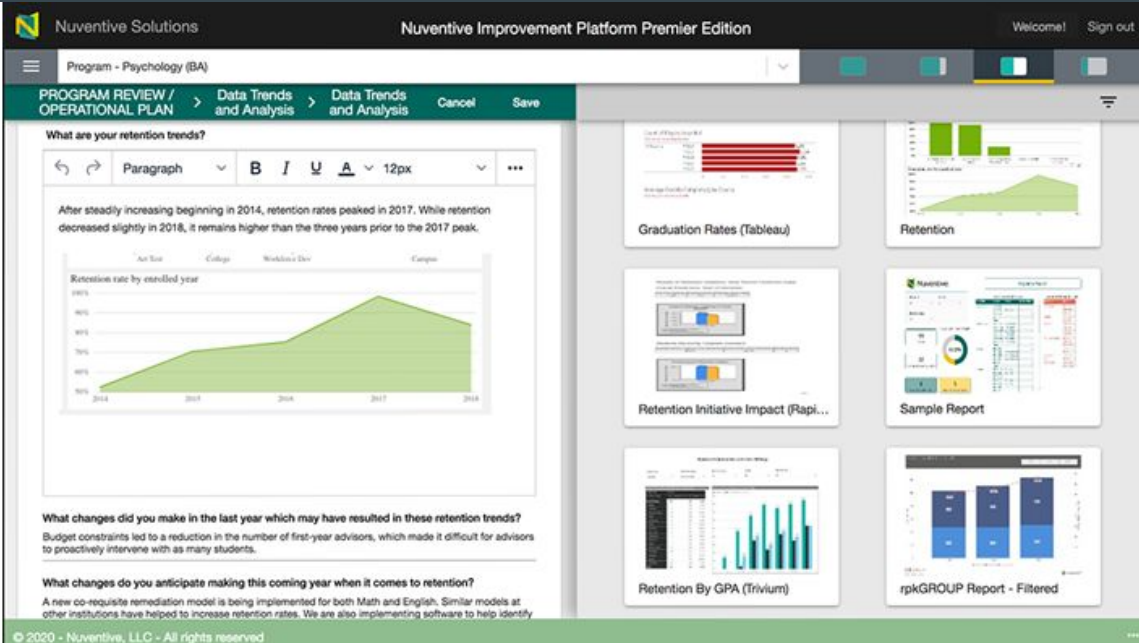
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"Orange Valley College Selects Nuventive to Facilitate a Data-Informed Culture, Integrating Outcomes and Assessment"

## Achieve. Improve. Adapt.

Nuventive's planning and improvement software helps higher education institutions use information to innovate and continuously advance their most pressing initiatives, from strategic planning to accreditation, learning outcomes, program review, COVID-19 response, and more.

[Learn More](#)



Nuventive Solutions Nuventive Improvement Platform Premier Edition Welcome! Sign out

Program - Psychology (BA)

PROGRAM REVIEW / OPERATIONAL PLAN > Data Trends and Analysis > Data Trends and Analysis Cancel Save

### What are your retention trends?

↶ ↷ Paragraph B I U A 12px

After steadily increasing beginning in 2014, retention rates peaked in 2017. While retention decreased slightly in 2018, it remains higher than the three years prior to the 2017 peak.

Retention rate by enrolled year

Year	Retention Rate (%)
2014	60%
2015	70%
2016	75%
2017	85%
2018	80%

What changes did you make in the last year which may have resulted in these retention trends?

Budget constraints led to a reduction in the number of first-year advisors, which made it difficult for advisors to proactively intervene with as many students.

What changes do you anticipate making this coming year when it comes to retention?

A new co-requisite remediation model is being implemented for both Math and English. Similar models at other institutions have helped to increase retention rates. We are also implementing software to help identify

Graduation Rates (Tableau)

Retention

Retention Initiative Impact (Rapi...

Sample Report

Retention By GPA (Trivium)

rpkgROUP Report - Filtered

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# What we have accomplished over the Blitz Day 24 hours

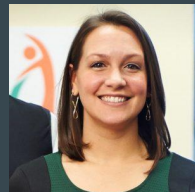
- Met with Entrepreneurs In Residence for advising of our initial startup pitch
- Developed a pitch deck based on the feedback from our advisors
- Added mock views of intended software solutions
- Researched and developed a new personal story
- Researched other competitors
- Researched statistics pertaining to our problem, target customers, and market scope

# Entrepreneurs In Residence

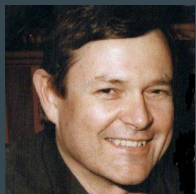
A special thanks to those who have advised us:



Joanna Sutton



Kelly Collier



Don Morrison



Justin Frankert