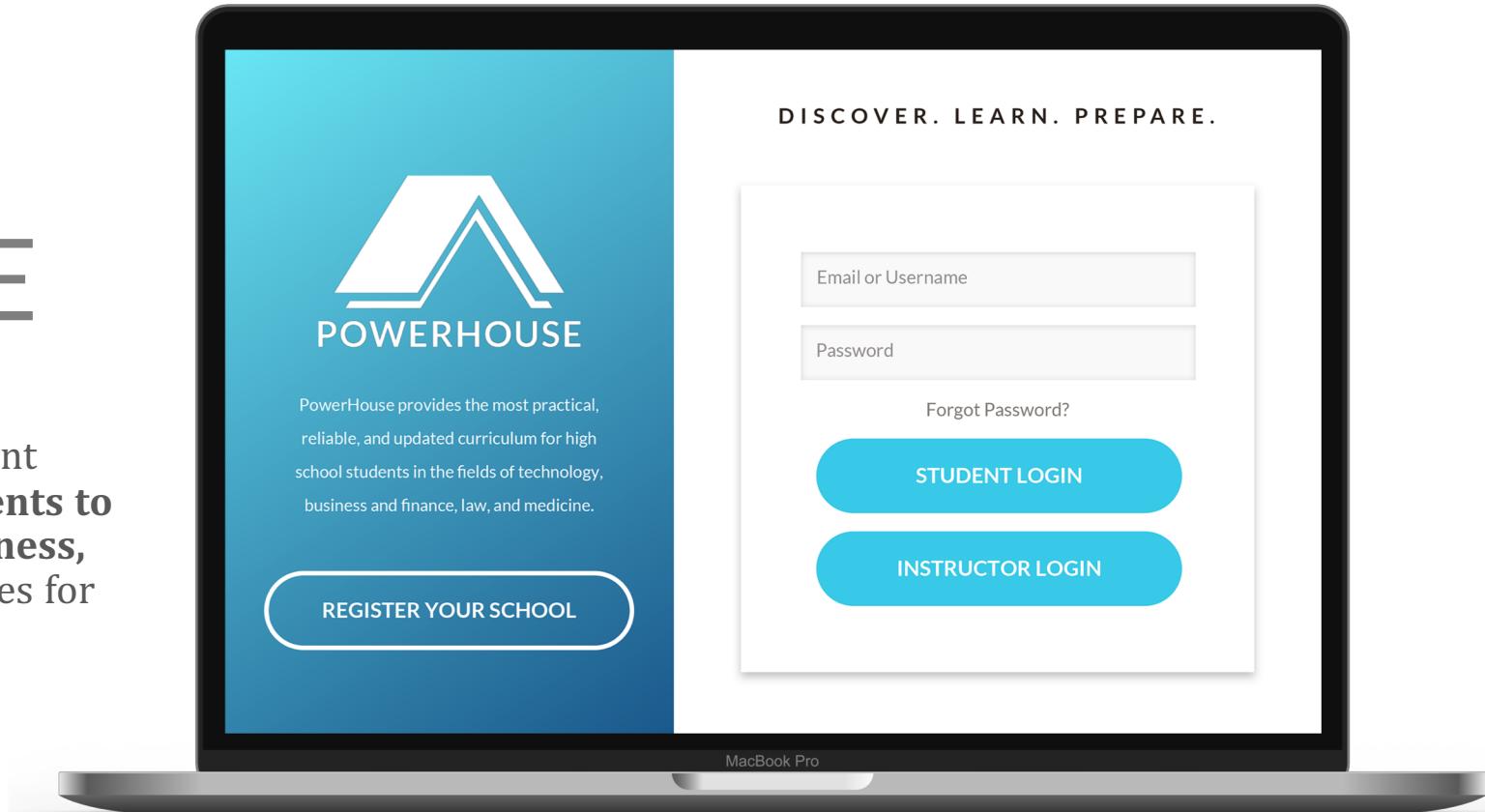


# POWERHOUSE

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Creating a high school education supplement platform aimed at **exposing high school students to pre-professional fields of technology, business, law, and medicine** that offers good experiences for both students and instructors.



# DESIGN OVERVIEW

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Many high school students are not exposed to pre-professional fields before entering college. Schools are too focused on providing traditional classes instead of exposing students to possible career fields. The idea is to design an online web platform, aimed at preparatory high schools, that **exposes these students to pre-professional fields of technology, business, law, and medicine.** This platform will provide comprehensive courses with curriculums created by professionals, but teachers at the school at which the platform is used assign the specific chapters and assignments, supervise work, assign supplemental projects, and communicate with students.

# USER RESEARCH

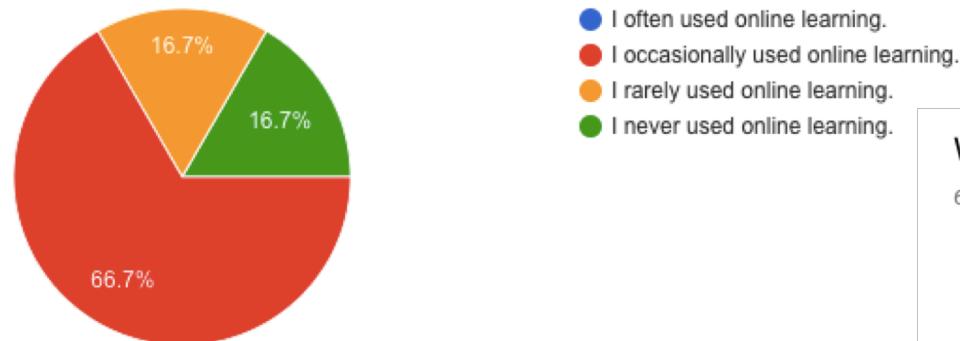
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I conducted a *survey* on six students and an *interview* on one teacher.

## Some example questions and answers from the student survey.

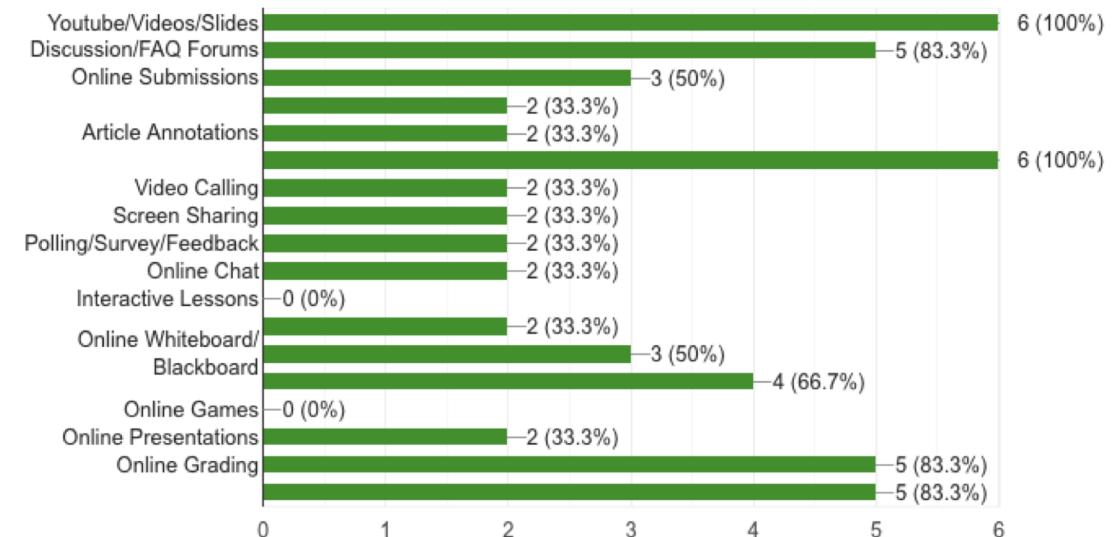
How would you describe your exposure to online learning using online platforms such as Khan Academy, edX, Coursera, etc., at any point in your school career, whether it be during class or outside class (eg. as homework or learning supplement)?

6 responses



### What online learning tools have used during your school career?

6 responses



# USER RESEARCH SUMMARY

STUDENTS	INSTRUCTORS
<ul style="list-style-type: none"><li>• Use these the most: videos/slides, file sharing, online-posted syllabus, online grading, and discussion forums.</li></ul>	<ul style="list-style-type: none"><li>• Usually confused by the complications of technology to take full advantage of online platforms.</li></ul>
<ul style="list-style-type: none"><li>• Largest obstacle of learning online is the <b><i>lack of motivation</i></b> to self-start</li></ul>	<ul style="list-style-type: none"><li>• Difficult to implement personalized activities.</li></ul>

For students, I will focus on keeping the syllabus, discussion forums, and videos/slides to create a basic ***functional learning platform*** and help ***Maintain motivation***.

For teachers, I will focus on ***keep controls simple***, mainly ***assigning the curriculum***.

# IDENTIFYING AUDIENCE

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There are two target audiences: ***students*** and ***instructors***. Their behaviors and desires are vastly different, and the design should cater to each of their specific needs.

# STUDENT PERSONA

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## BIO

Rowan is a sophomore student at the private high school, West High Academy. She loves all things art, including photography, drawing, animation, as well as theatre. She also has a knack for math and science. Rowan's older sister is a computer science major, and her brother works in a bank. Rowan, however, doesn't know whether she will follow her siblings' steps. She has never taken a computer science course, and her school does not offer any business or finance courses at the moment.

## ROWAN LOCKHART

**Age:** 15

**School:** West High Academy

**Year:** Sophomore

**Residence:** Upstate New York

**Character:** Artsy Explorer

## BEHAVIORS

Rowan tries to be organized as she keeps a planner with all her important events from school, extracurriculars, and personal life. Rowan falls on either end of the spectrum: extremely motivated or completely unmotivated. Rowan finds that what keeps her motivated is interest.

# TEACHER PERSONA

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## BIO

Josh is a math and economics teacher at West High Academy. He has been teaching for 28 years, and he has been at West High for almost 20 years. Besides teaching, Josh also works with other teachers to try to improve the curriculum at West High. He is one of the leading voices in bringing pre-professional and career development into the school. Outside of work, Josh likes to sail, hike, ski, and just about any outdoor activities. He is the father of three: two are in high school and one is in middle school.

## JOSH SMITH

**Age:** 55

**Profession:** High School Teacher

**Family:** Wife and 3 children

**Residence:** Upstate New York

**Character:** Meticulous Analytic

## BEHAVIORS

Josh is an early riser who likes his coffee black. He tries to plan his curriculum in advance. However, Josh has learned that make-ahead schedules always change, so he is ready to be flexible. Josh has always been a traditionalist when it comes to technology, so he is skeptical of online learning.

# MARKET RESEARCH

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I examined into three MOOC sites for inspiration: *Khan Academy*, *Coursera*, and *DataCamp*. I also took some inspirations from *Duolingo*, a free language learning site.

# KHAN ACADEMY

Courses Search 

Khan Academy

Donate Login Sign up

< Personal finance  
**Interest and debt**

Lessons

- Compound interest basics
- Interest basics
- Credit basics
- Credit cards and loans
- Debt repayment
- Personal bankruptcy

Compound interest basics

Learn

- Compound interest introduction
- The rule of 72 for compound interest

Interest basics

Learn

- Introduction to interest
- Interest (part 2)
- Why interest rates go up and down - by Better Money Habits®
- How rising or falling interest rates might affect you - by Better Money Habits®

Courses Search 

Khan Academy

Donate Login Sign up

College, careers, and more > Personal finance > Interest and debt > Compound interest basics

 Compound interest introduction  
 The rule of 72 for compound interest

Next tutorial Interest basics

is talk a little bit about compounding interest

0.02 / 6:37

Was this video helpful?



## Compound interest introduction

About Transcript

Learn about the basics of compound interest, with examples of basic compound interest

College, careers, and more > Personal finance > Interest and debt > Compound interest basics

 Compound interest introduction  
 The rule of 72 for compound interest

Next tutorial Interest basics

Sort by: Top Voted

Questions Tips & Thanks

Question Ask a question...

Lauric Sergiu 5 years ago

So you are telling me that in the USA they pay you to keep your money in the bank ? why isn't everyone depositing huge amounts into banks then ?

Reply 18 comments (58 votes) Upvote Downvote Flag

Andrew M 5 years ago

This is not just true in the US, it is true of banks just about everywhere. People do deposit huge amounts into banks. That's where banks get the money to lend. Right now the interest rates banks are paying are not very high, so money that might go into bank accounts if the rates were higher is being invested elsewhere.

Comment (9 votes) Upvote Downvote Flag

See 1 more reply

# COURSERA

The screenshot shows the course landing page for 'Organizational Analysis' on the Coursera platform. At the top, there's a navigation bar with the Coursera logo, a search bar, and links for 'Explore', 'Log In', and 'Sign Up'. Below the navigation, the course title 'Organizational Analysis' is displayed, along with the provider 'Offered By Stanford'. A prominent 'Enroll Starts Dec 31' button is visible. The course description indicates 'Financial aid available'. At the bottom of the main section, there are links for 'About', 'Syllabus', 'Reviews', 'Instructors', 'Enrollment Options', and 'FAQ'. On the left side, under the heading 'About this Course', it shows a rating of 4.7 stars from 439 reviews. Below the rating, a description states: 'In this introductory, self-paced course, you will learn multiple theories of organizational behavior and apply them to actual cases of organizational change.' To the right of this text is a circular icon with a globe and the text '100% online Start instantly and learn at your own schedule.'

The screenshot shows the course syllabus for 'Organizational Analysis' on the Stanford University website. The top navigation bar includes links for 'About', 'Syllabus', 'Reviews', 'Instructors', 'Enrollment Options', and 'FAQ', along with an 'Enroll Starts Dec 31' button. The syllabus section is titled 'Syllabus - What you will learn from this course'. It is structured into two weeks: Week 1, which includes 'Module 1 - Introduction' (3 hours to complete) and Week 2, which includes 'Module 2 - Decisions by Rational and Rule-based Procedures' (2 hours to complete). Each module has a thumbnail showing video icons and a link to 'SEE ALL'.

The screenshot shows a lecture video player for 'Lecture 1 - Introduction to Organizations - Part 1'. The video title is 'What is an Organization?'. The video frame displays a list of examples of organizations: Hospitals, Schools, Businesses, Stores, Companies, Factories, Families, Professional associations, Social movements, Fraternities, cliques, Peer groups, collectivities, and isolated individuals. A play button is overlaid on the video frame. At the bottom of the video player, there's a red bar with the Stanford University logo and the course title 'Organizational Analysis'. It also shows a rating of 4.7 stars from 439 reviews. A blue button labeled 'Try the Course for Free' is located at the bottom right.

# DATA CAMP

The screenshot shows the DataCamp website with the following details:

- Header:** DataCamp logo, search bar "What would you like to learn today?", navigation menu with Learn, Pricing, For Business, and user stats (7,875 XP).
- Course Information:** INTERACTIVE COURSE, **Introduction to Python**.
  - Start Course For Free** button.
  - Thumbnail: A green shield-shaped icon with the text "INTRODUCTION TO PYTHON" and a yellow Python logo.
  - Metrics: 4 hours, 11 Videos, 57 Exercises, 1,182,317 Participants, 4,700 XP, Download the app (for iOS and Android).
- Course Description:** Python is a general-purpose programming language that is becoming more and more popular for doing data science. Companies worldwide are using Python to harvest insights from their data and get a competitive edge. Unlike any other Python tutorial, this course focuses on Python specifically for data science. In our Intro to Python class, you will learn about powerful ways to store and manipulate data as well as cool data science tools to start your own analyses. Enter DataCamp's online Python curriculum.
- Related Tracks:** Data Analyst with Python, Data Scientist with Python, Python Programmer, Python Programming.

The screenshot shows the course outline for "Introduction to Python" with three chapters:

- 1 Python Basics**: An introduction to the basic concepts of Python. Learn how to use Python both interactively and through a script. Create your first variables and acquaint yourself with Python's basic data types.
  - VIEW CHAPTER DETAILS** button.
  - Continue Chapter** button.
- 2 Python Lists**: Learn to store, access and manipulate data in lists: the first step towards efficiently working with huge amounts of data.
  - VIEW CHAPTER DETAILS** button.
  - Continue Chapter** button.
- 3 Functions and Packages**: To leverage the code that brilliant Python developers have written, you'll learn about using functions, methods and packages. This will help you to reduce the amount of code you need to solve challenging problems!
  - VIEW CHAPTER DETAILS** button.
  - Continue Chapter** button.

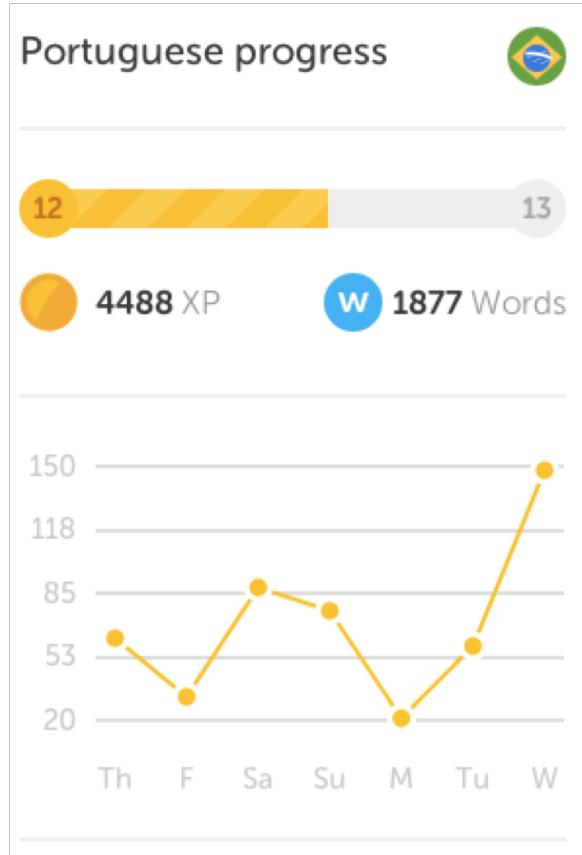
**Python Programming** tab is selected at the top right. On the right side, there is a sidebar for **Filip Schouwenaars**, Data Science Instructor at DataCamp, with a bio and a "See More" button.

The screenshot shows a video player interface for a lesson titled "Hello Python!" from the "Intro to Python for Data Science" course, taught by **Filip Schouwenaars**.

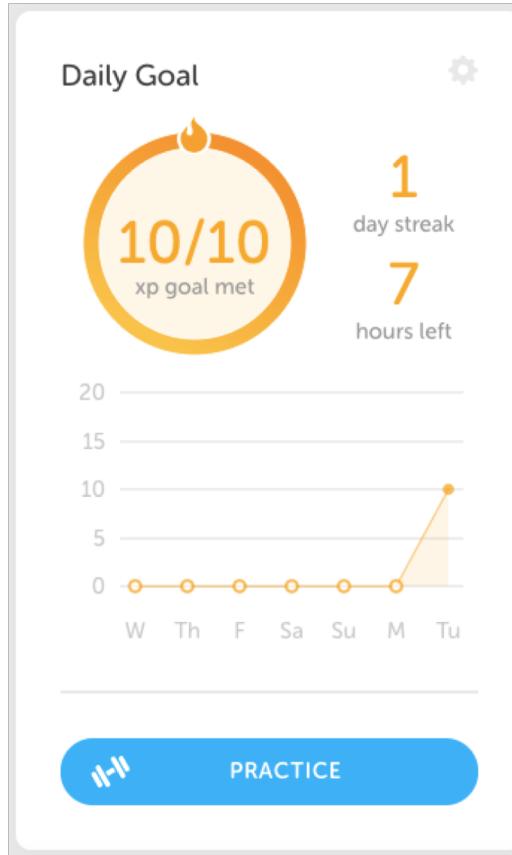
The video player includes:

- Course Header:** DataCamp, Hello Python!, Course Outline, 50 XP.
- Lesson Title:** What you will learn.
- Instructor Preview:** A video thumbnail of Filip Schouwenaars, Instructor, DataCamp.
- Bottom Buttons:** Got it! button.

# PROGRESS REPORTS



Duolingo Weekly Progress



1 Python Basics

A screenshot of the DataCamp mobile app showing the first lesson of a Python Basics course. It displays an 8% completion bar, 50 XP earned, and a brief description of the lesson content.

An introduction to the basic concepts of Python. Learn how to use Python both interactively and through a script. Create your first variables and acquaint yourself with Python's basic data types.

Hello Python!

8% ✓ 50 XP

## DataCamp Course Progress

Many educational sites display user's learning progress as a way to incentivize constant learning.

# REQUIREMENTS & SOLUTION SPACES

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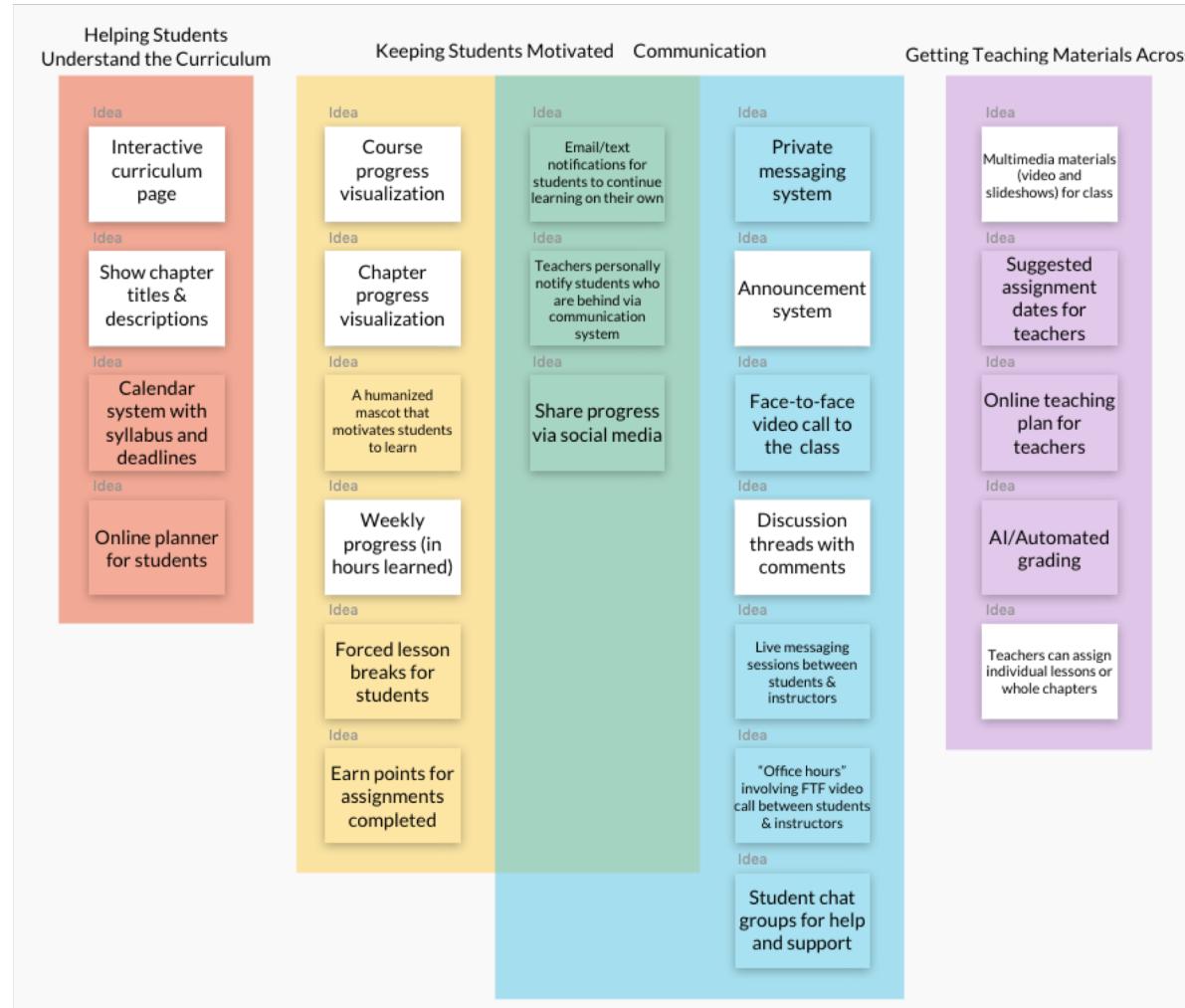
Considering the existing platforms and the goals of our two user groups, I brainstormed the requirements of the platform and looked at the solution spaces.

# REQUIREMENTS

STUDENTS	INSTRUCTORS
<ul style="list-style-type: none"><li>Students should be able to view the course curriculum and the content that they are learning.</li></ul>	<ul style="list-style-type: none"><li>Instructors should be able to assign students certain chapters and sections.</li></ul>
<ul style="list-style-type: none"><li>Students should feel motivated to learn by being able to keep track of their learning process.</li></ul>	<ul style="list-style-type: none"><li>Instructors should be able to communicate with students in some way.</li></ul>

The learning platform can become complex and involve many features. For the purpose of this project, I will narrow the scope to the basic functions.

# SOLUTION SPACES



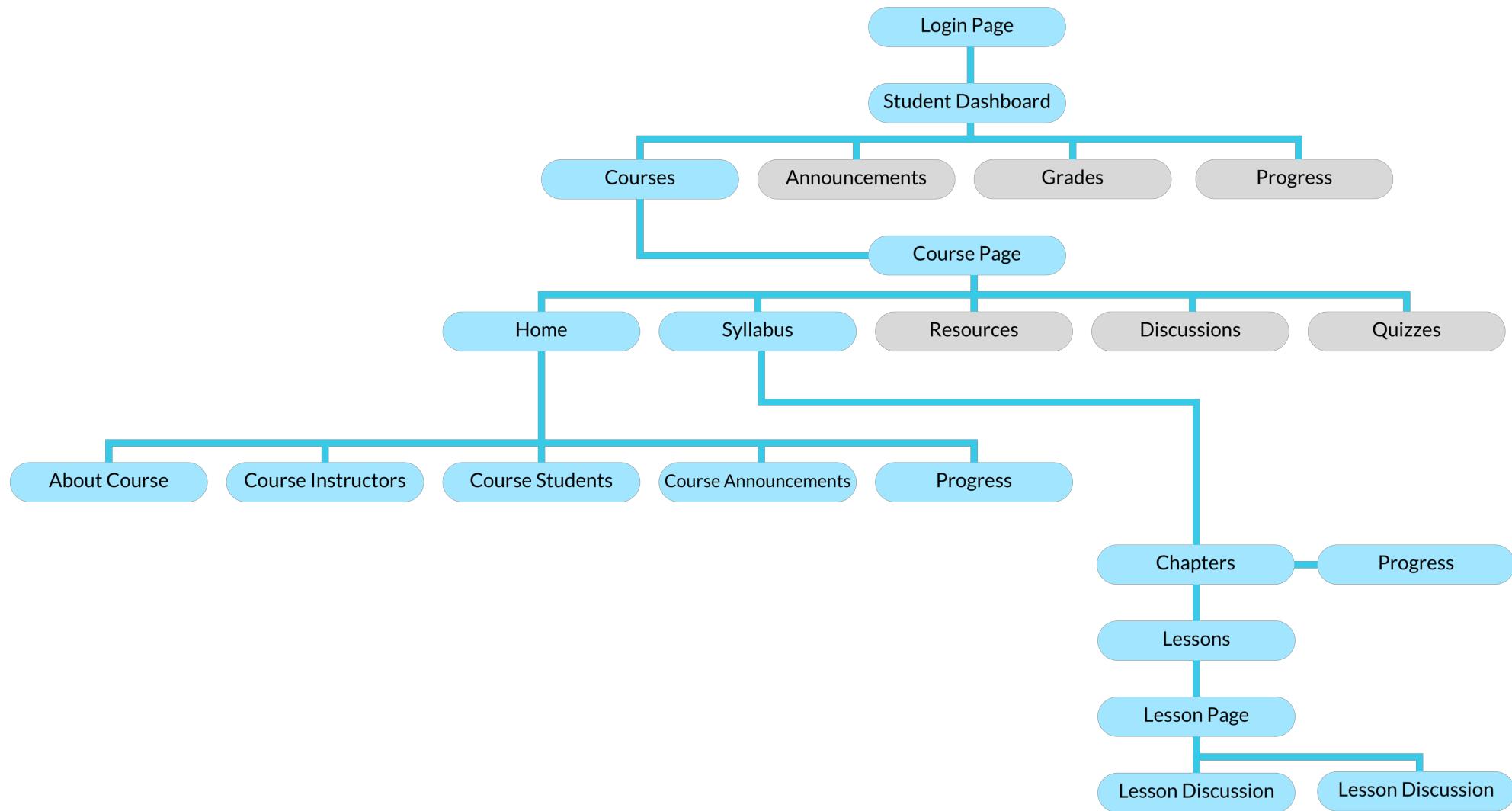
After brainstorming various ideas, I organized them into solution spaces. Based on implementation feasibility and effectiveness to the user groups, I decided to include the ideas highlighted in white.

# CONTENT & ORGANIZATION

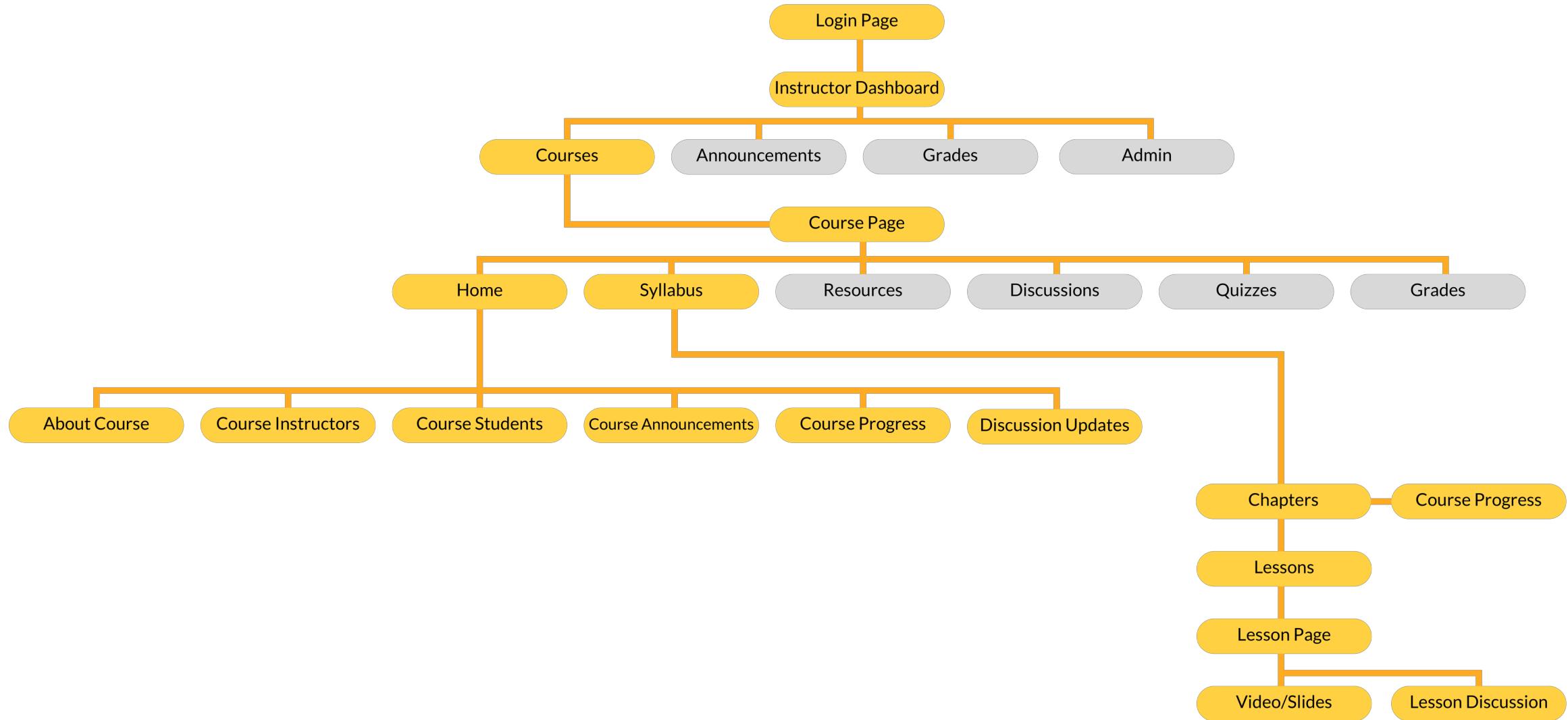
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I looked at the basic content that would be needed to create a functional online platform and organized the content into hierachal diagrams.

# HIERARCHY DIAGRAM: STUDENT



# HIERARCHY DIAGRAM: INSTRUCTOR

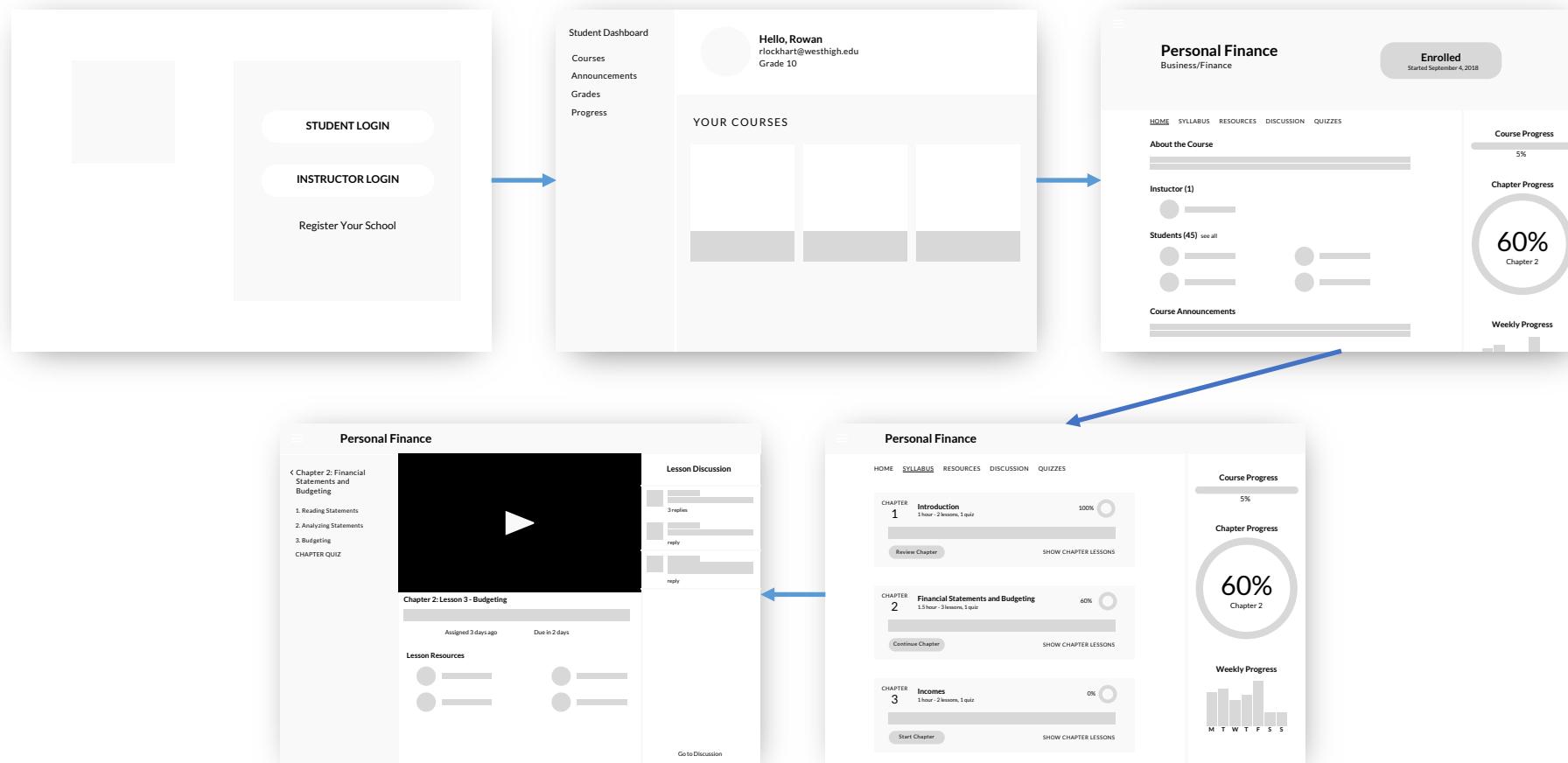


# IDEATION

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I started with sketches and wireframes. I considered the colors and styles that would go well with the brand, as well as other aspects to create a high-fidelity mockup.

# WIFEFRAMES



# UI & BRANDING



UI KIT



LOGO (BLACK)



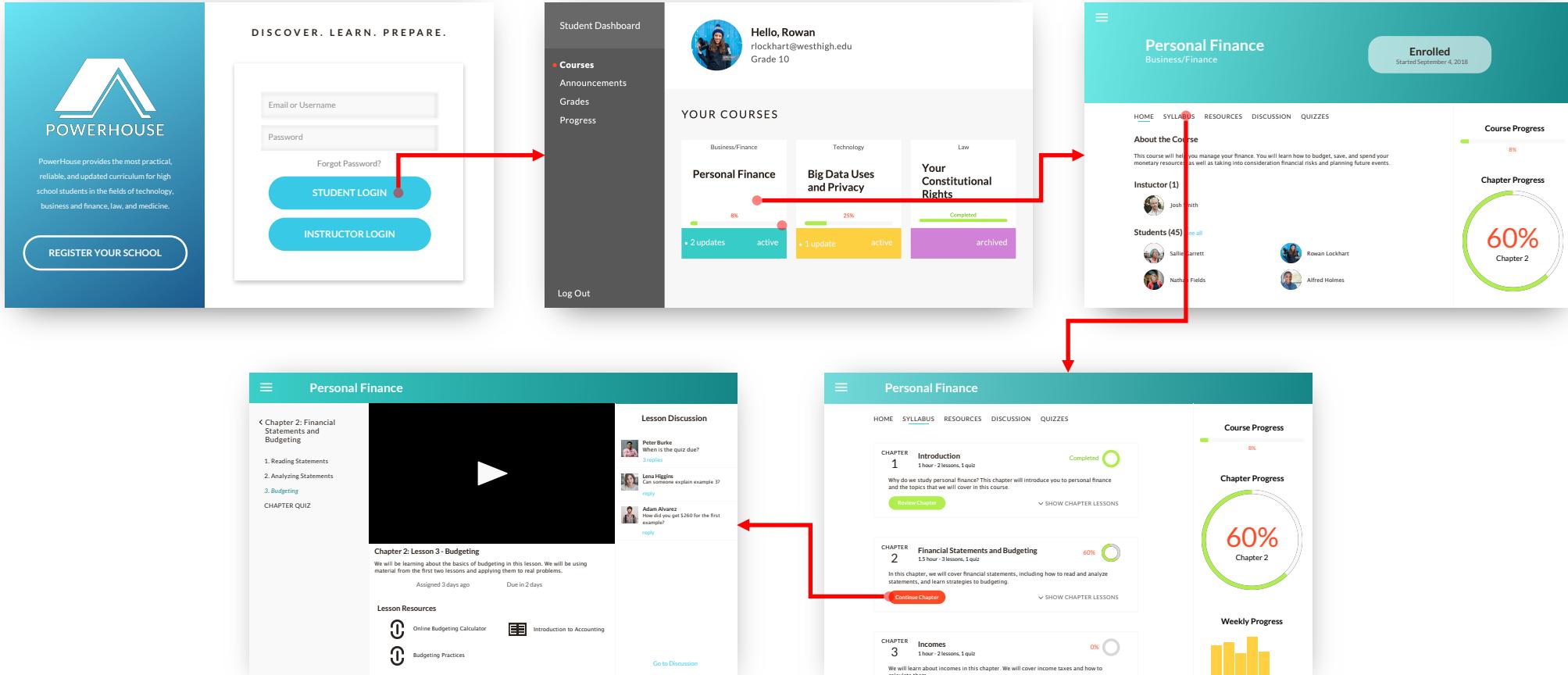
LOGO (WHITE)

# PROTOTYPES

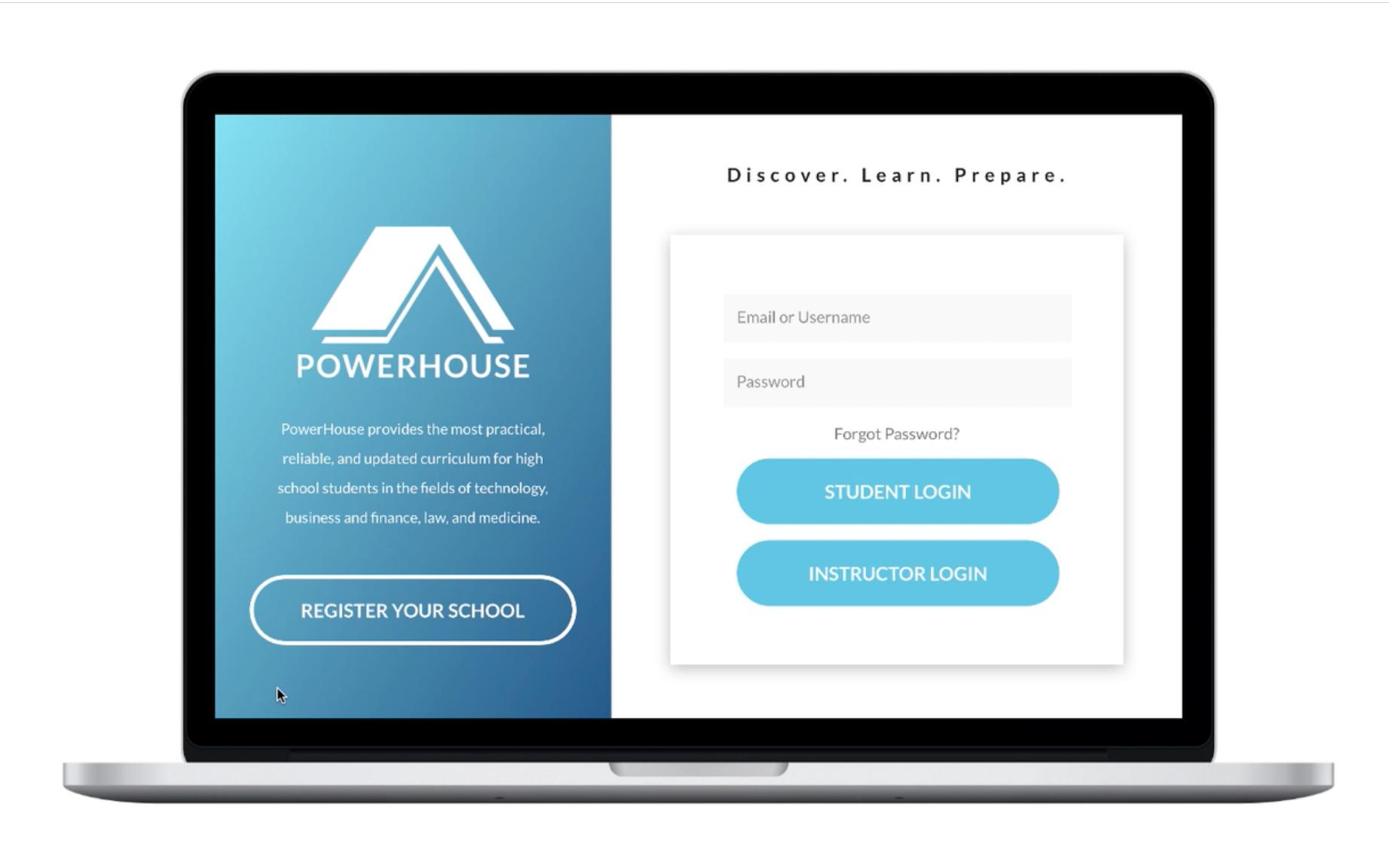
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I created the finishing product using Origami.

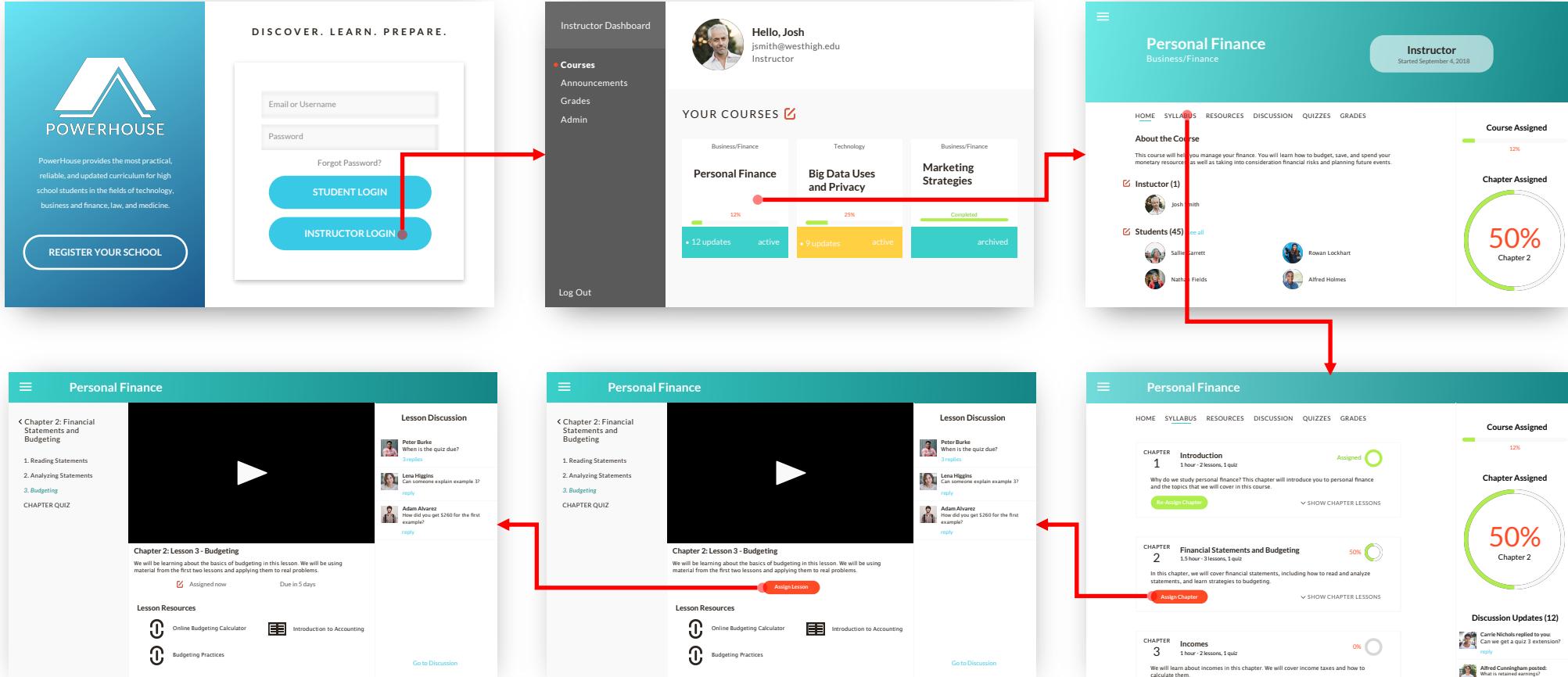
# STUDENT VIEW USER FLOW



# STUDENT VIEW PROTOTYPE



# INSTRUCTOR VIEW USER FLOW



# INSTRUCTOR VIEW PROTOTYPE

