

eduCulture

Medium-Fi Prototype #1

Team Coterm

Anjini Karthik, Kayla Magid, Misbah
Surani, and Kimberly Te



Overview

INTRODUCTION

Team, problem & solution, mission & value

1

3

MEDIUM-FI PROTOTYPE

Design system, major changes, and task flows

TASKS

Tasks, changes from lo-fi prototype

2

4

PROTOTYPING

Prototyping tools, limitations/tradeoffs, and next steps

Overview

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MEDIUM-FI
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TASKS

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PROTOTYPING

Overview



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2

4

PROTOTYPING

Team



**Kayla
Magid**
MSCS '21



**Misbah
Surani**
MSCS '21



**Kimberly
Te**
MSCS '21



**Anjini
Karthik**
MSCS '21

Problem & Solution



PROBLEM

- Non-ESL middle teachers are ill-equipped to support the learning needs of ESL students.



SOLUTION

- AI-powered teacher platform that provides insight on student progress and gives suggestions on teacher lessons based on **academic** content, **cultural** understanding, and **language** abilities of their students.

Mission & Value



MISSION

- To empower non-ESL middle school teachers with academic and cultural resources, so that they can support ESL students to their fullest potential.



VALUE

- Understand ESL student needs **beyond academics** with **culture** and **language**.

Overview

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MEDIUM-FI
PROTOTYPE



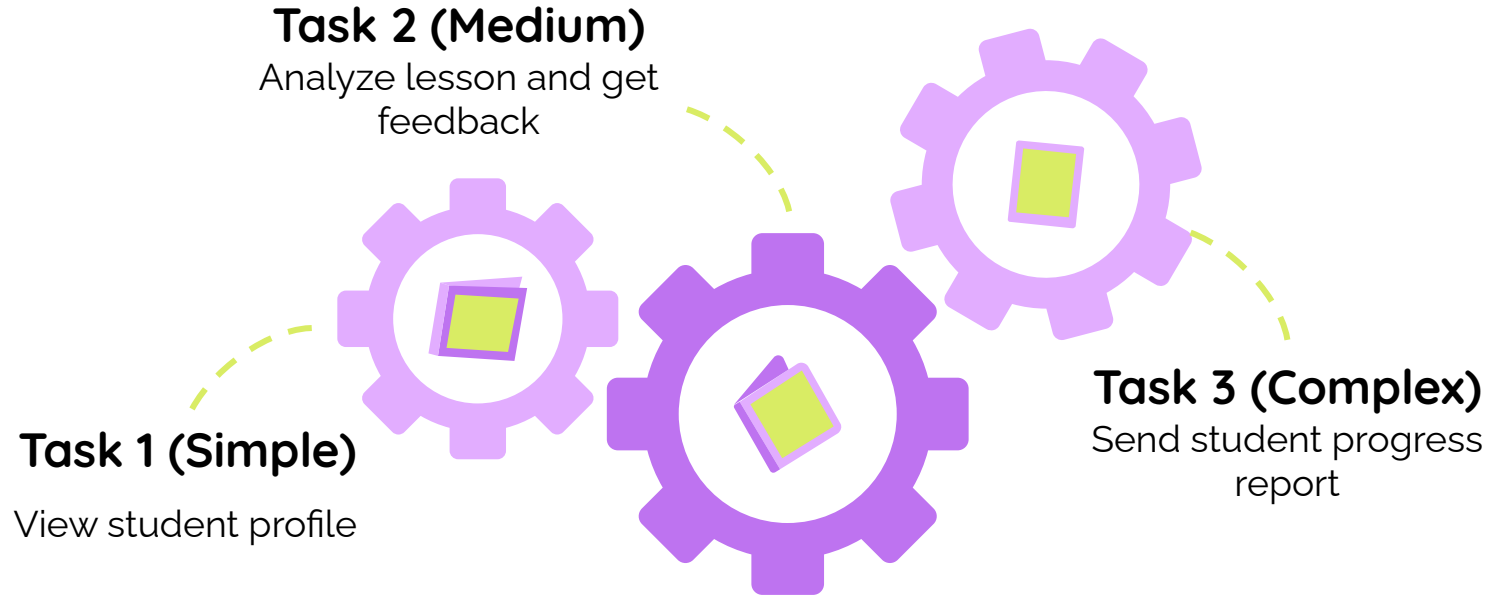
TASKS

2

4

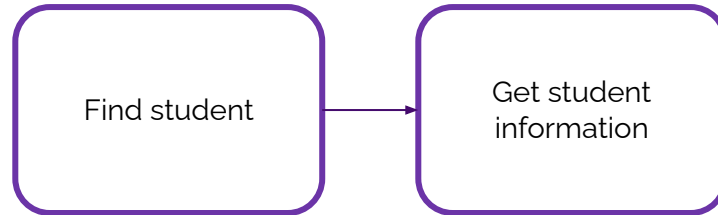
PROTOTYPING

Tasks



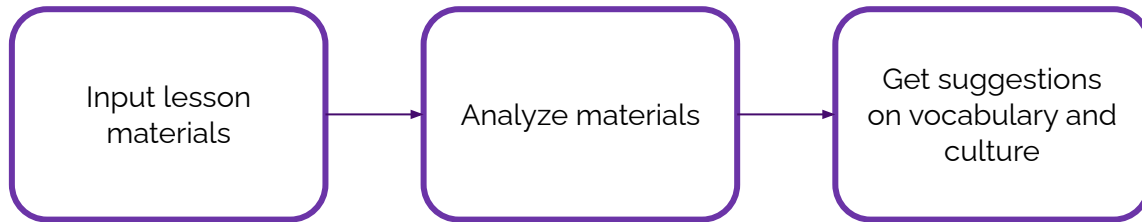
Task 1 (Simple)

- **Task:** View student profile.
- **Profile:** home language, cultural norms, contact information, teachers, and class schedule schedule



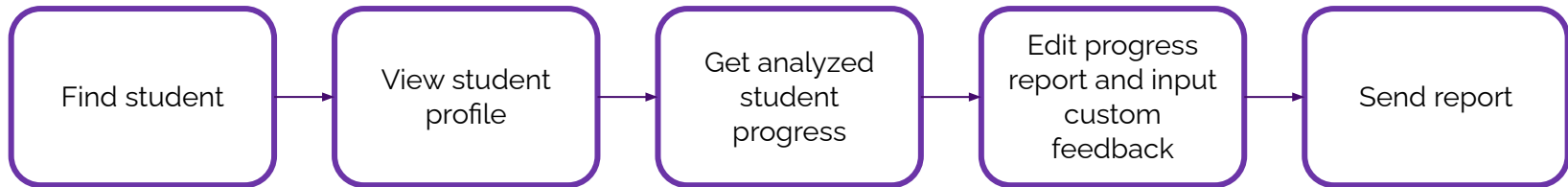
Task 2 (Medium)

- **Task:** Analyze teacher's lesson materials and get suggestions on difficult vocabulary terms and cultural connections.
- **Updates:** Merged medium tasks for analysis of lesson material



Task 3 (Complex)

- **Task:** Send progress report to a student and additional contacts (parents and teachers).
- **Updates:** Switched to cumulative progress report over feedback report per assignment



Overview

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TASKS

2

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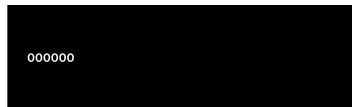
PROTOTYPING

Design Considerations

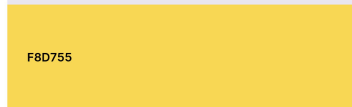
- **Users:** Non-ESL middle school teachers
- Technical proficiency
- Ease-of-use and ease-of-access
- Clarity and focus on content

Design System

Color



FFFFFF



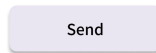
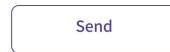
Typography

Noto Sans JP

Noto Sans JP

Noto Sans JP

Buttons



Send



Send

Icons



Major Design Changes

Access to progress reports in
student profile

Student Section



Simplified upload process of
lesson materials

Upload

Merged vocabulary and cultural
connection suggestions

Analyze Section

Task 1 (Simple)

[View student profile](#)



Task 1

View student profile

Select class

The screenshot shows the 'eduCulture' interface. At the top, there are links for 'Analyze', 'Students', and a user profile icon 'CT'. The main section is titled 'My Students'. It is divided into two sections: 'Period 1' and 'Period 2'. Each section contains a row of five student cards, each with a circular initials icon, the student's name, and their grade. A purple arrow points to the 'Period 1' header. A dashed line from the text 'Select class' points to the 'Period 1' header. A large grey arrow points to the right of the 'Period 1' row, and a smaller grey arrow points to the right of the 'Period 2' row.

Period 1	
 Anjini Karthik Grade 7	 Kayla Magid Grade 7
 Misbah Surani Grade 7	 Kimberly Te Grade 7
 Matthew Tan Grade 7	

Period 2	
 Jerry Cain Grade 8	 Chris Gregg Grade 8
 Cynthia Lee Grade 8	 Chris Piech Grade 8
 Keith Schwarz Grade 8	





















Task 1

View student profile

eduCulture

Analyze Students CT

Period 1

 Anjini Karthik Grade 7	 Kayla Magid Grade 7	 Misbah Surani Grade 7	 Kimberly Te Grade 7	 Matthew T... Grade 7
 Test Student Grade 7	 Test Student Grade 7	 Test Student Grade 7	 Test Student Grade 7	 Test Student Grade 7
 Test Student Grade 7	 Test Student Grade 7	 Test Student Grade 7	 Test Student Grade 7	 Test Student Grade 7
 Test Student Grade 7	 Test Student Grade 7	 Test Student Grade 7	 Test Student Grade 7	 Test Student Grade 7

Select student

Task 1

View student profile

About Section

The screenshot shows the 'eduCulture' interface. At the top, there are links for 'Analyze' and 'Students', and a user profile icon labeled 'CT'. The main content area displays the profile of 'Matthew Tan', a Grade 7 student. On the left, a vertical menu includes 'About', 'Grades/Progress', and 'Contacts'. A purple arrow points to the 'About' option. The profile details include: a circular avatar with 'MT', 'Hometown' (Manila, Philippines), 'First Language' (English), 'English Proficiency' (Very Proficient), and 'Cultural Norms' (Introductory greetings are formal, usually starting with the eldest or most important person first).

eduCulture

Analyze Students CT

MT

Matthew Tan
Grade 7

About
Grades/Progress
Contacts

Hometown
Manila, Philippines

First Language
English

English Proficiency
Very Proficient

Cultural Norms
Introductory greetings are formal, usually starting with the eldest or most important person first.

Task 1

View student profile

Contacts

eduCulture

AnalyzeStudentsCT

MT

Matthew Tan
Grade 7

AboutGrades/Progress**Contacts**

Parent(s)/Guardian(s)

Mrs. Tan (Mother)

(888) 775-0015

mrstan@gmail.com

Teachers

Ms. Apple

Mr. Pear

Mrs. Berry

Ms. Tealeaf

Ms. Cherry

Mr. Plum

ESL Teacher

Academic Skills Advisor

Guidance Counselor

English Teacher

Math Teacher

History Teacher

apple@school.edu

pear@school.edu

berry@school.edu

tealeaf@school.edu

cherry@school.edu

plum@school.edu



Task 2 (Medium)

Analyze teacher's lesson materials and get suggestions on difficult vocabulary terms and cultural connections

Task 2

Analyze lesson and get feedback

Select file to
analyze

eduCulture

Analyze [Students](#) CT

Content Analyzer

Upload File

Choose from previous uploads:

ppt

volcanoes

Grade 7

doc

HW1_Matthew

Grade 7

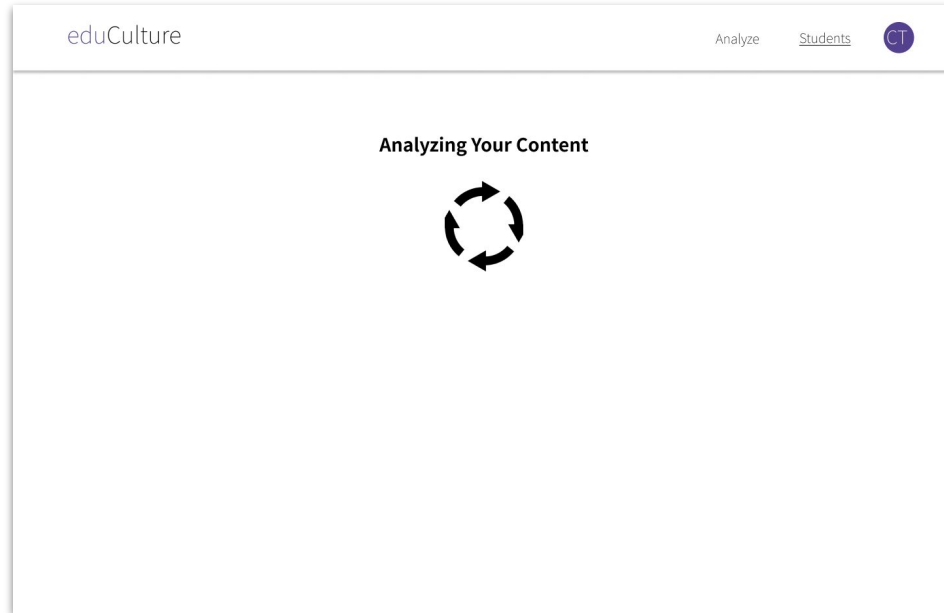
pdf

Lecture 10.26

Grade 7

Task 2

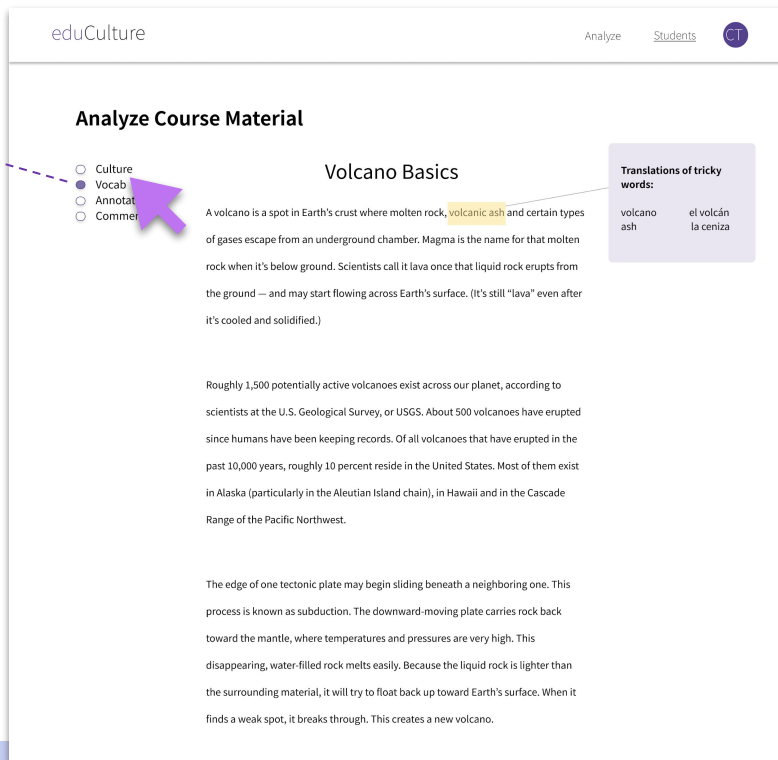
Analyze lesson and get feedback




Task 2

Analyze lesson and get feedback

View difficult
vocabulary
terms



eduCulture

Analyze [Students](#) 

Analyze Course Material

- ☐ Culture
- ☒ Vocab
- ☐ Annotat
- ☐ Commer

Volcano Basics

A volcano is a spot in Earth's crust where molten rock, **volcanic ash** and certain types of gases escape from an underground chamber. Magma is the name for that molten rock when it's below ground. Scientists call it lava once that liquid rock erupts from the ground — and may start flowing across Earth's surface. (It's still "lava" even after it's cooled and solidified.)

Roughly 1,500 potentially active volcanoes exist across our planet, according to scientists at the U.S. Geological Survey, or USGS. About 500 volcanoes have erupted since humans have been keeping records. Of all volcanoes that have erupted in the past 10,000 years, roughly 10 percent reside in the United States. Most of them exist in Alaska (particularly in the Aleutian Island chain), in Hawaii and in the Cascade Range of the Pacific Northwest.

The edge of one tectonic plate may begin sliding beneath a neighboring one. This process is known as subduction. The downward-moving plate carries rock back toward the mantle, where temperatures and pressures are very high. This disappearing, water-filled rock melts easily. Because the liquid rock is lighter than the surrounding material, it will try to float back up toward Earth's surface. When it finds a weak spot, it breaks through. This creates a new volcano.

Translations of tricky words:

volcano	el volcán
ash	la ceniza

Task 2

Analyze lesson and get feedback

Select cultural connections to view

eduCulture

AnalyzeStudentsCT

Analyze Course Material

Culture

Vocab

Annotation

Comments

Volcano Basics

A volcano is a spot in Earth's crust where molten rock, **volcanic ash** and certain types of gases escape from an underground chamber. Magma is the name for that molten rock when it's below ground. Scientists call it lava once that liquid rock erupts from the ground — and may start flowing across Earth's surface. (It's still "lava" even after it's cooled and solidified.)


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Translations of tricky words:

volcano	el volcán
ash	la ceniza

Related to: Oregon



Related to: Peru

- <https://www.volcanodiscovery.com/peru.html>
- https://en.wikipedia.org/wiki/Nazca_Plate



Task 3 (Complex)

Send progress report to students
and additional contacts (parents
and teachers)

Task 3

Send student progress report

Enter through
student profile

eduCulture

Analyze Students CT

MT

Matthew Tan
Grade 7

About
Grades/Progress
Contacts

Hometown
Manila, Philippines

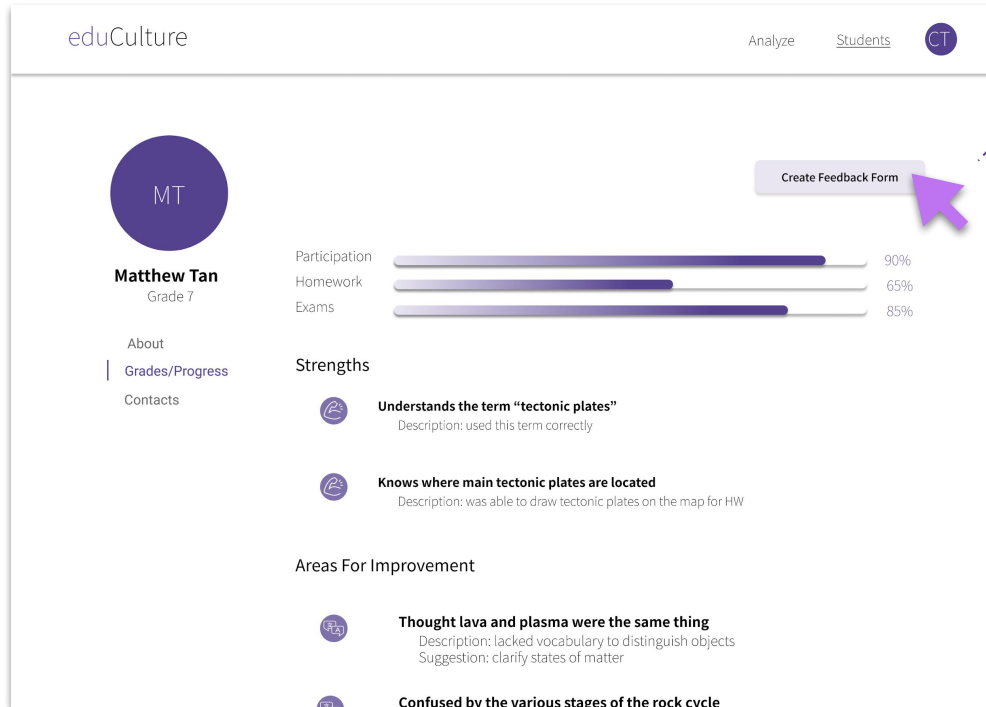
First Language
English

English Proficiency
Very Proficient

Cultural Norms
Introductory greetings are formal, usually starting with the eldest or most important person first.

Task 3

Send student progress report



Create
progress
report

Task 3

Send student progress report

eduCulture

Analyze

[Students](#)

CT

MT

Matthew Tan
Grade 7


About


Grades/Progress


Contacts


+ Add custom student feedback

Strengths


**Understands the term tectonic plates**
Description: used this term correctly





**Knows where main tectonic plates are located**
Description: was able to draw tectonic plates on the map for HW




Areas For Improvement

**Thought lava and plasma were the same thing**
Description: lacked vocabulary to distinguish objects
Suggestion: clarify states of matter



**Confused by the various stages of the rock cycle**
Description: lacked vocabulary to understand the stages
Suggestion: use more visuals to show what the rocks look like at each part



Task 3

Send student progress report

eduCulture

Analyze Students CT

MT

Matthew Tan
Grade 7

About

Grades/Progress

Contacts

Matthew is doing great overall! These are some areas that he can work on more:

Strengths

Understands the term tectonic plates

Description: used this term correctly

Knows where main tectonic plates are located

Description: was able to draw tectonic plates on the map for HW

Areas For Improvement

Thought lava and plasma were the same thing

Description: lacked vocabulary to distinguish objects

Suggestion: clarify states of matter

Confused by the various stages of the rock cycle

Description: lacked vocabulary to understand the stages

Suggestion: use more visuals to show what the rocks look like at each part

Send

Input custom text and edit form

Send complete report

Task 3

Send student progress report

eduCulture

Analyze Students CT

MT

Matthew Tan
Grade 7

About
| **Grades/Progress**
Contacts

Send To

Student
☐ phone number
☐ email

Teachers
☐ Teacher 1's email
☐ Teacher 2's email

Parent
☐ phone number
☐ email

Send

Select
contacts and
send options

Task 3

Send student progress report

eduCulture

Analyze Students CT

MT

Matthew Tan
Grade 7

About
| Grades/Progress
Contacts

Send To

Student

☐ phone number
☐ email

Teachers

☒ Teacher 1's email
☐ Teacher 2's email

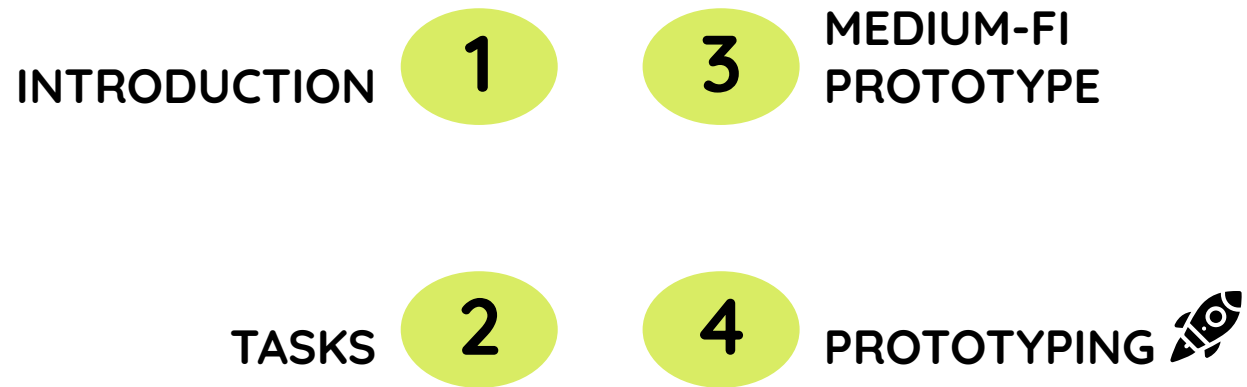
Parent

☐ phone number
☒ email

Send

Send progress
report!

Overview



Prototyping Tools

- **Tools:** Figma
- **Tool limitations**
 - Display options
 - Repetitive interaction connections

Limitations & Tradeoffs

- **Assumptions**
 - Teacher completed sign-up process
 - All student data pre-loaded
- **Limited functions**
 - Interaction limited to task use cases
 - No "Edit" option for student profiles
 - No file storage management system
- **Wizard of Oz**
 - Analysis of lessons
 - Progress report generation

Next Steps

- **Future tasks**

- Enable teacher sign-up process
- Upload student data
- Manage file storage system

- **Improvements**

- Color and layout
- Homepage
- Toolbar
- Toggle display options
- “Edit” options



Thank you!
Questions?

