



Electronic Decoding Diagnostic Inventory (EDDI)



TEXAS Education
The University of Texas at Austin
College of Education

Client Kickoff

We are developing an application that will provide in-depth diagnostic data on individual students' reading and decoding skills, including the ability to interpret letter sounds, word types, and spelling patterns.



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Department of Special Education

Objective : Conduct 1 x1 interviews to understand how teachers are currently evaluating students' word-level reading difficulties and gain feedback on current and possible features for the proposed application.

Purpose : Gather insights from teachers who have worked with students who experience difficulties reading words (i.e., decoding).

Interviews

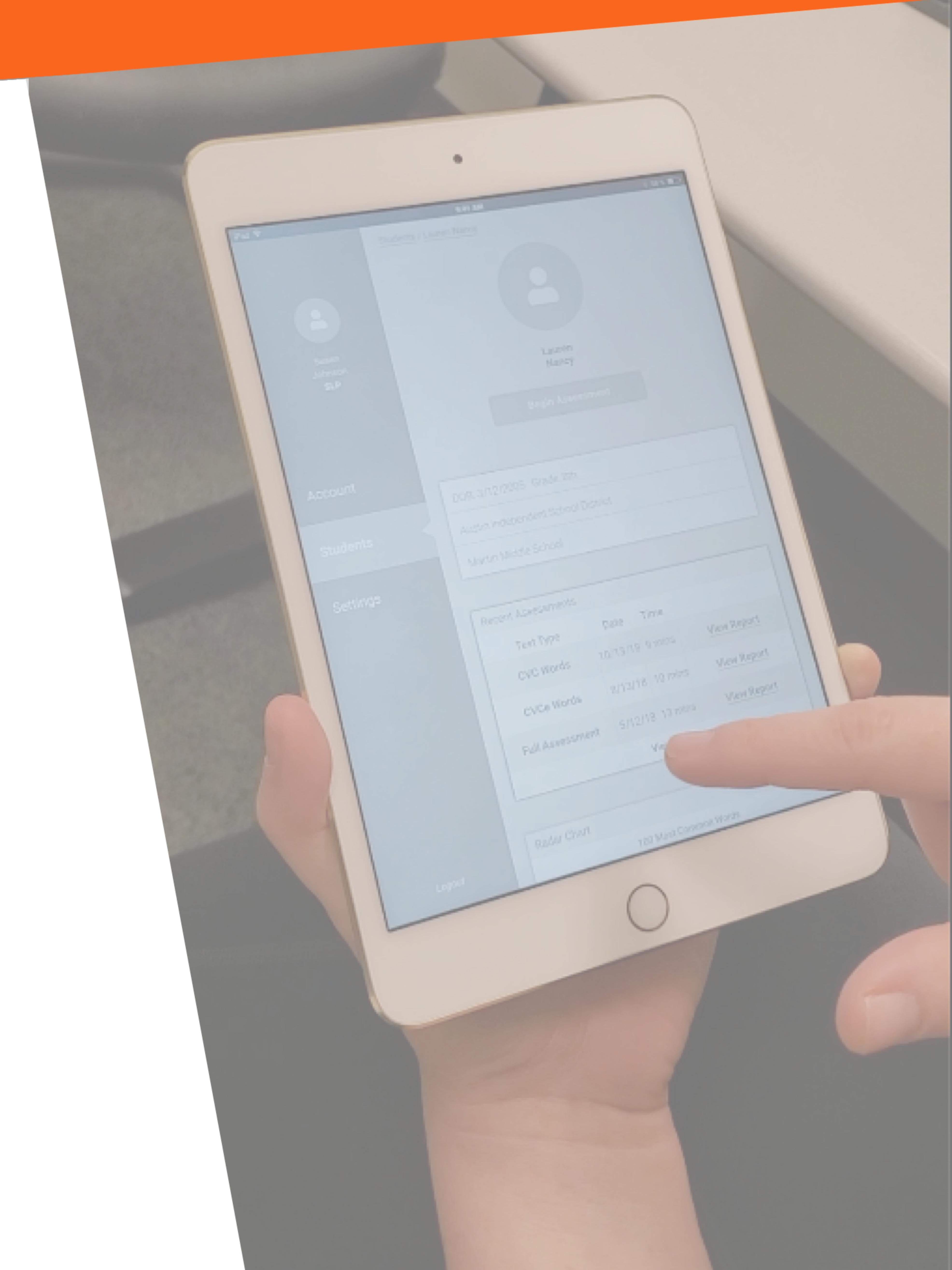
Time: **1 week**

Place : George I. Sanchez Building (SZB)

Participants : **5 people**

As part of the process for developing this new tool, the first step was to understand the current practices, goals, pain-points, and unmet needs of the application's potential users.

Each interview included **two parts**. The first part investigated how teachers currently evaluate students' word-level reading skills and design instruction curriculum. The second part explored an early concept prototype for the participants to give feedback on.



Participants



5 yrs experience
Public school
mostly K2-5 students
Tutor, Special Education Teacher



8 yrs experience
Public school
K2 students or equivalent reading level
Interventionist, Teacher



6 yrs experience
Elementary school
Students with Individualized Education Program (IEP)
Special Education Teacher,
Student Teacher, Primary Investigator,
Interventionist & Tutor



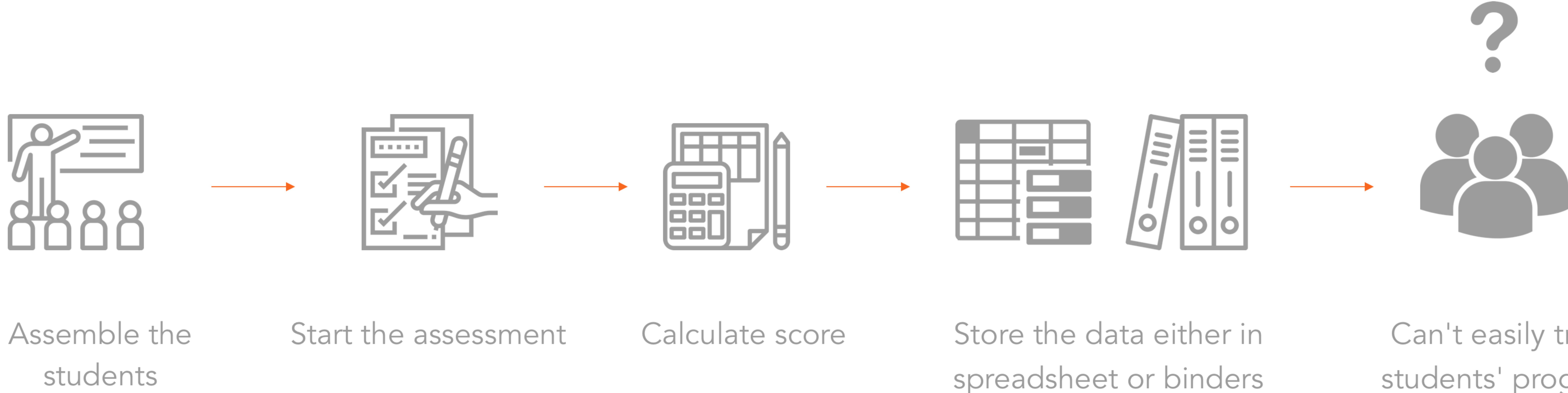
5 yrs experience
Middle (4 yrs) and High (1 yr) school
Students with IEP
Special Education Teacher



10 yrs experience
Middle school
Students with IEP
Special Education Coordinator,
Inclusion teacher, Special Education
Resource Teacher, Reading Specialist

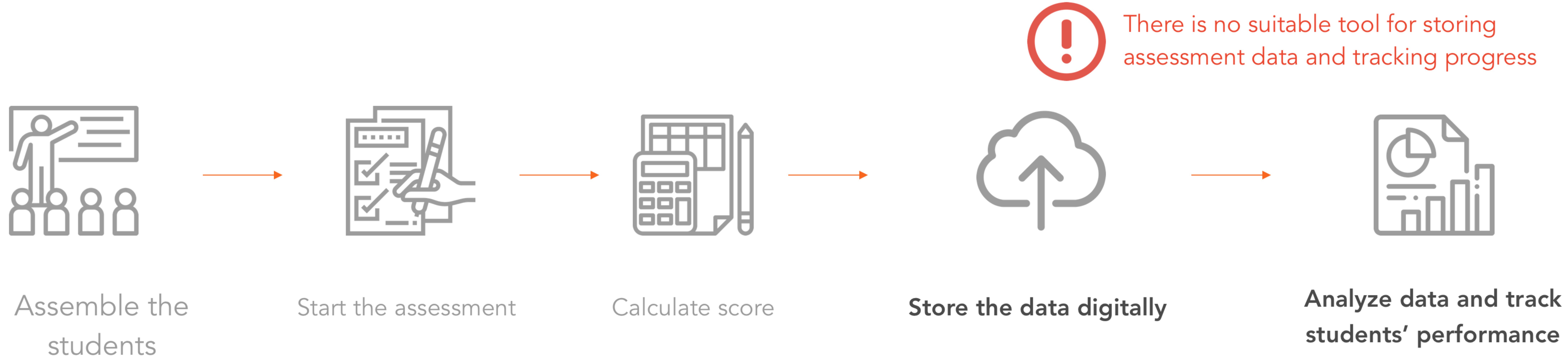
User Journey Map

Current



User Journey Map

Solution



Key Takeaways

"None of it was **digital**, which would've been helpful if it was because we had to go and enter **everything in Excel spreadsheets.**"

"I like AIMSweb, that it had **graphs available**. I think that having information visually is helpful. For some students, it wasn't showing up that they were the **changing**, for some students they were, it provided a really helpful source of information for me."

"(Assessment History) It's all in different places"

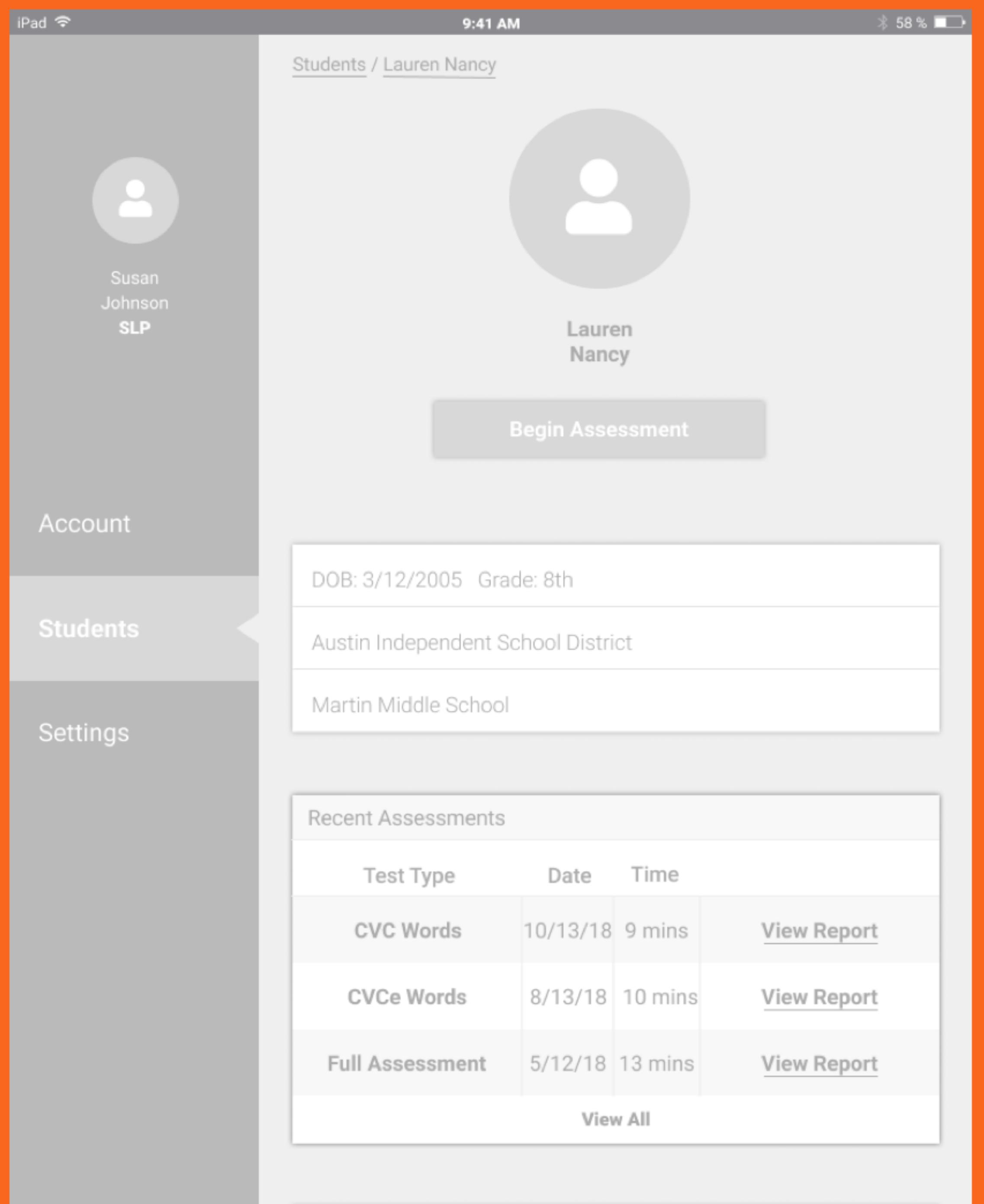
"The **data** was something I always felt had my back in case something went wrong."

"I would've really appreciated a **digital** tool, to be honest."
- interviewee had to manually code 500 kids in a school



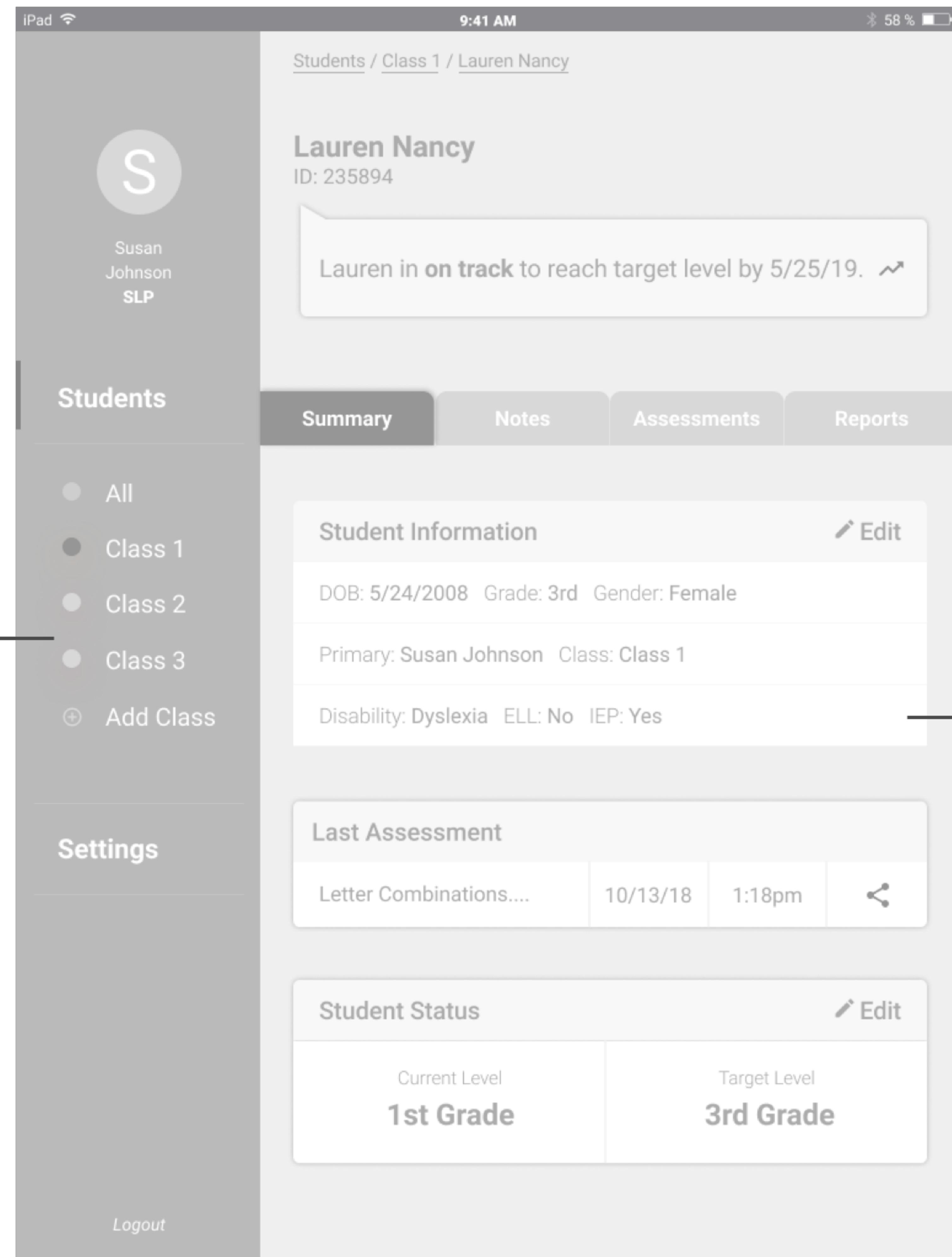
ReDesign

Before



Problem: Student profile does not provide sufficient information about student's difficulties

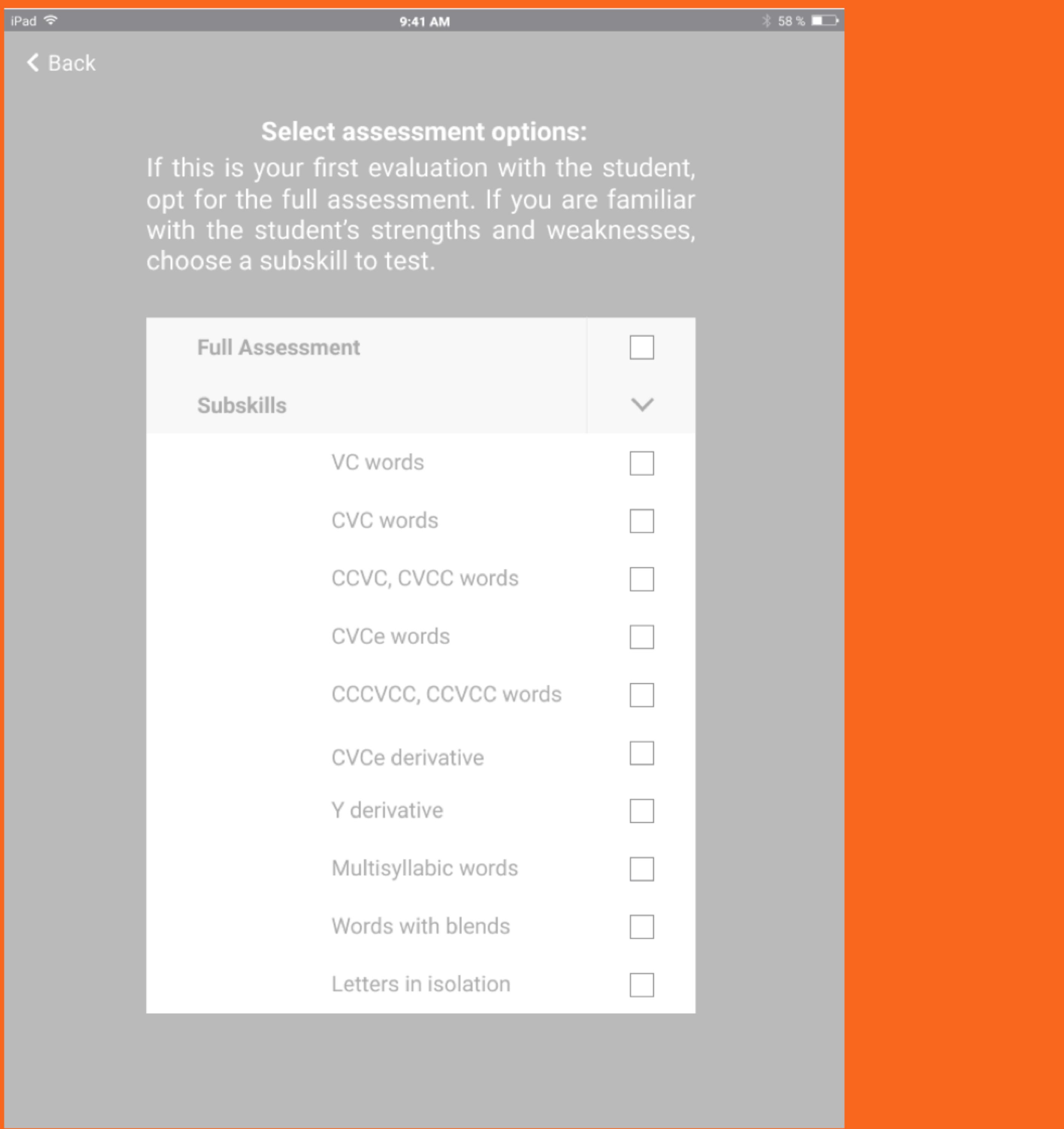
After



Sorting by classes could help teacher organize students by different grades and classes

Knowing whether the student has an IEP or disability could help teachers better understand students' situations

Before



Problem: Some teachers do not use standardized tests to assess their students

After

A screenshot of a modernized assessment interface. The top navigation bar includes "Summary", "Notes", "Assessments" (which is highlighted in dark grey), and "Reports". On the left, a sidebar has "Students" at the top, followed by radio buttons for "All", "Class 1", "Class 2", "Class 3", and a "+ Add Class" button. Below this is a "Settings" section and a "Logout" link at the bottom. The main content area features a search bar with a magnifying glass icon. It is divided into two sections: "System Word Lists" and "Custom Word Lists".

System Word Lists

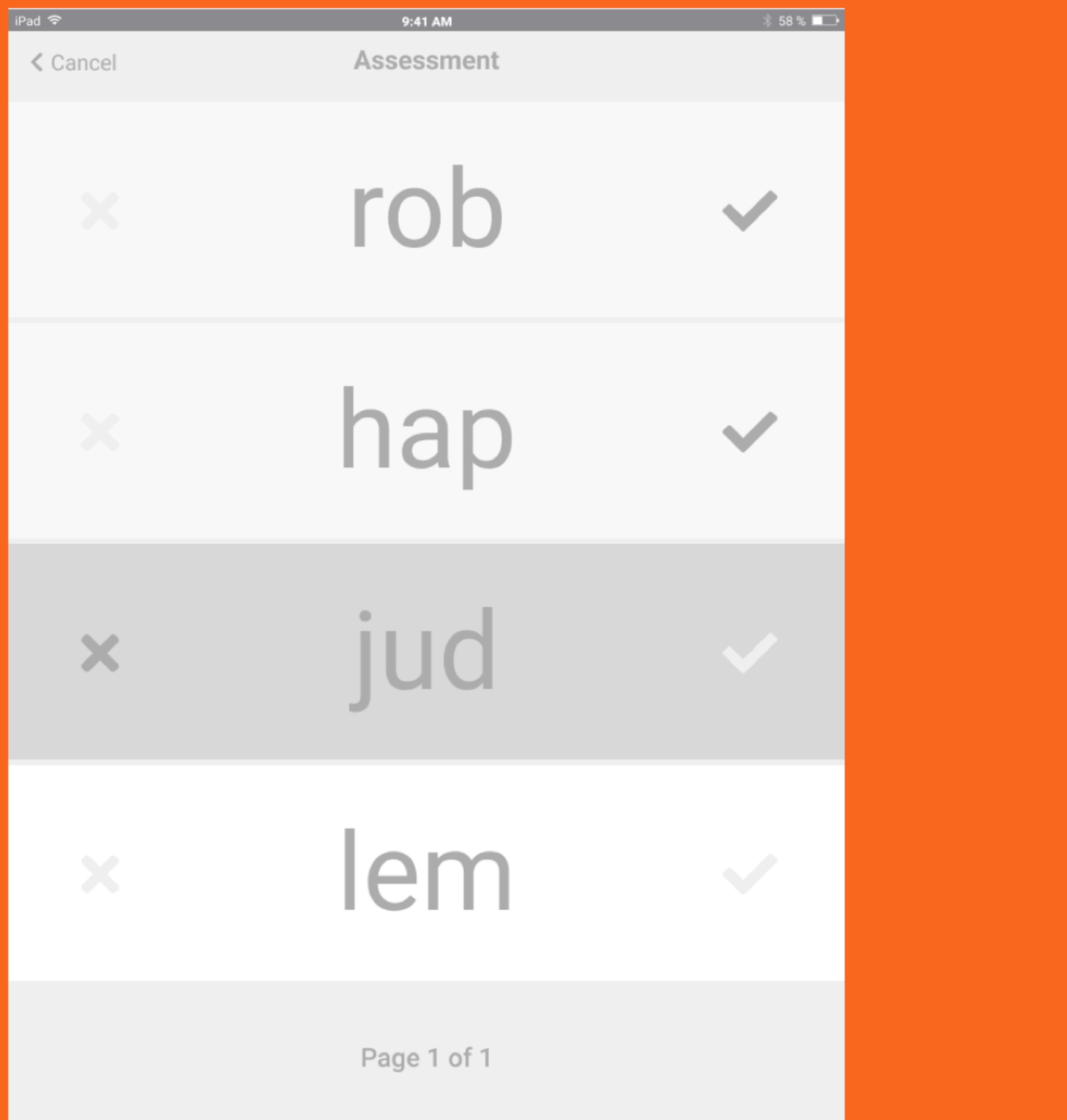
- Diagnostic Assessment (All Skills) Begin
- Letters in Isolation Begin
- Basic Spelling Patterns Begin
- CVCe Derivative Words Begin
- Y Derivative Words Begin
- Letter Combinations (Digraphs) Begin
- Multisyllabic Words Begin
- Words with Blends Begin
- 100 Most Common Words Begin

Custom Word Lists

- Words with b & d ⋮ Begin
- Words with ea ⋮ Begin

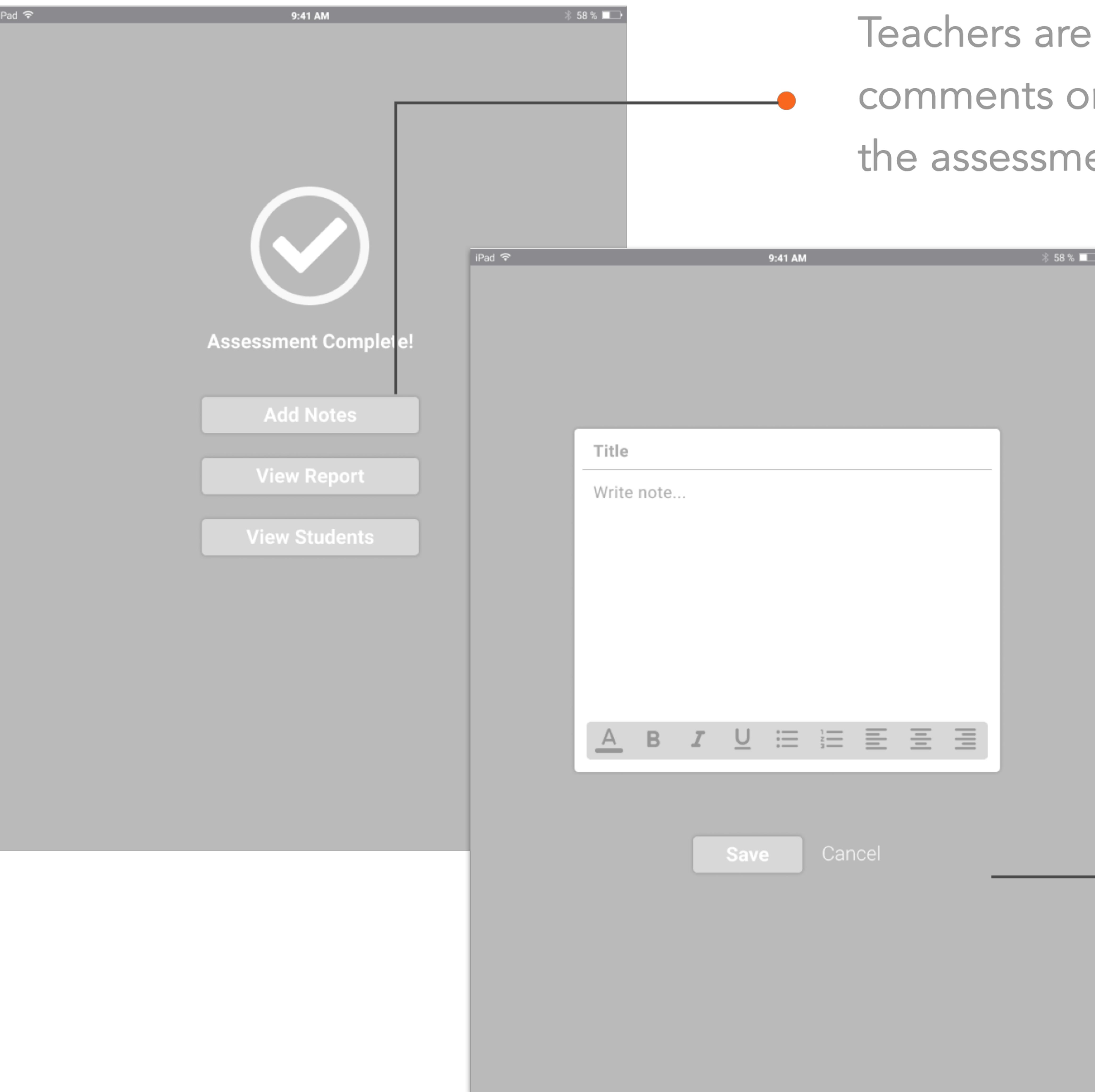
Add function to customize assessments, allowing teachers more flexibility to adjust their teaching strategy

Before



Problem: Teachers could not take note on students' mistakes during the assessment

After



Teachers are able to make comments or a quick note after the assessment

Instead of showing only the score, it enables teachers to detail points of confusion for the student

Before

The screenshot shows a mobile application interface. On the left, a vertical navigation bar has three items: 'Account' (selected), 'Students' (highlighted with a blue arrow), and 'Settings'. The main content area displays student information for 'Lauren Nancy': profile picture, name, and a 'Begin Assessment' button. Below this is a section for 'Recent Assessments' showing three entries: 'CVC Words' (10/13/18, 9 mins), 'CVCe Words' (8/13/18, 10 mins), and 'Full Assessment' (5/12/18, 13 mins). At the bottom is a 'View All' button.

Problem: There is no unified storage system to keep all the data and share the results

After

The screenshot shows the updated mobile application interface. The vertical navigation bar now includes 'Students' (selected, highlighted with a blue arrow) and 'Assessments'. The main content area shows student information for 'Lauren Nancy' (ID: 235894) with a message: 'Lauren in on track to reach target level by 5/25/19.' Below this is a tab bar with 'Summary', 'Notes', 'Assessments' (selected), and 'Reports'. The 'Reports' section displays a table of assessments with columns for 'Assessment Type', 'Date', 'Time', and a 'Share' icon. A red callout points to the 'Share' icon in the 'Reports' table. Another red callout points to the time stamp '10:18pm' in the same table.

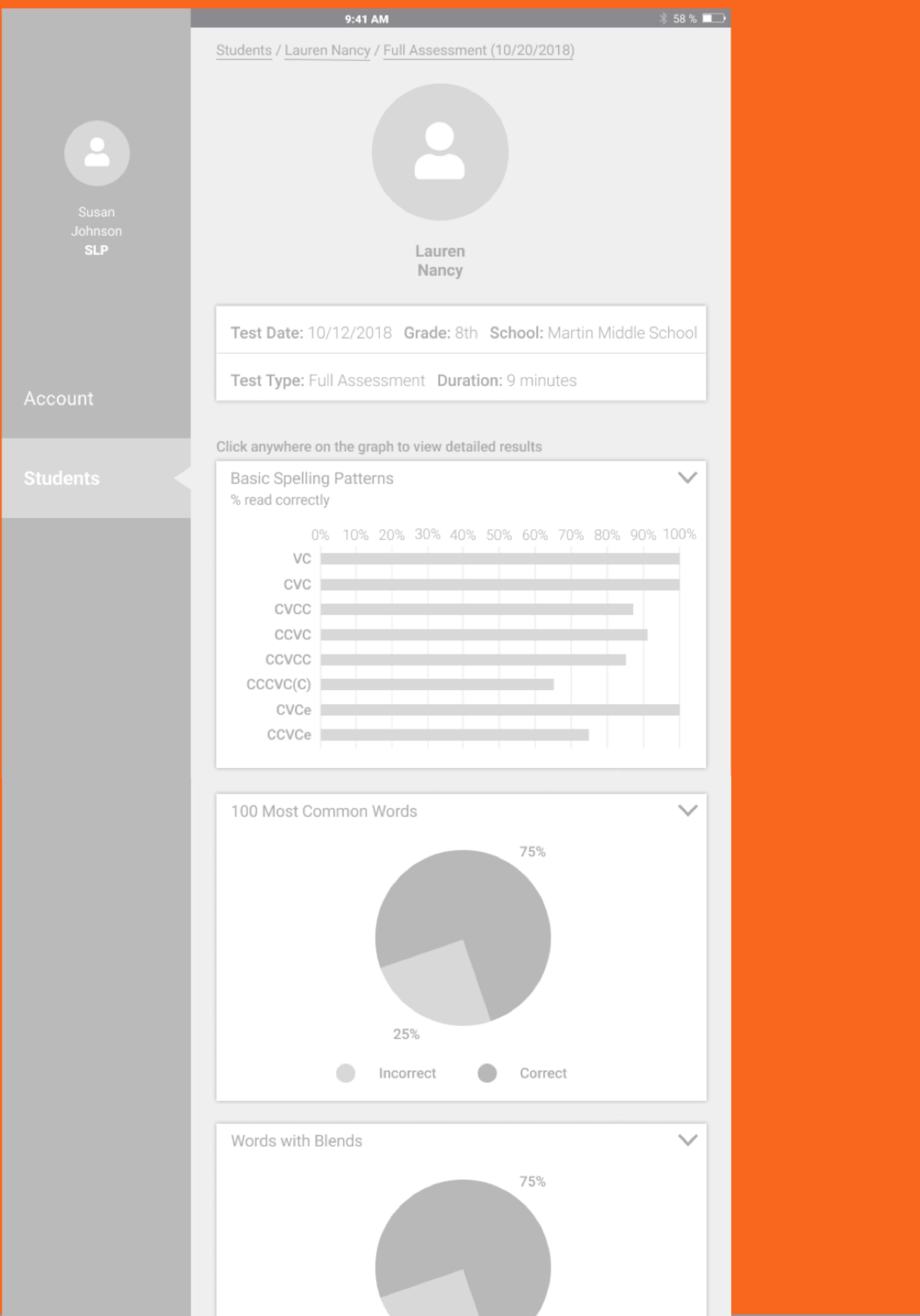
Assessment Type	Date	Time	Share
Letter Combinations....	10/13/18	1:18pm	
Basic Spelling Patterns	9/24/18	11:30am	
Diagnostic Assessment	9/1/18	10:01am	

Sharing function would allow teachers to show the results to parents and principal

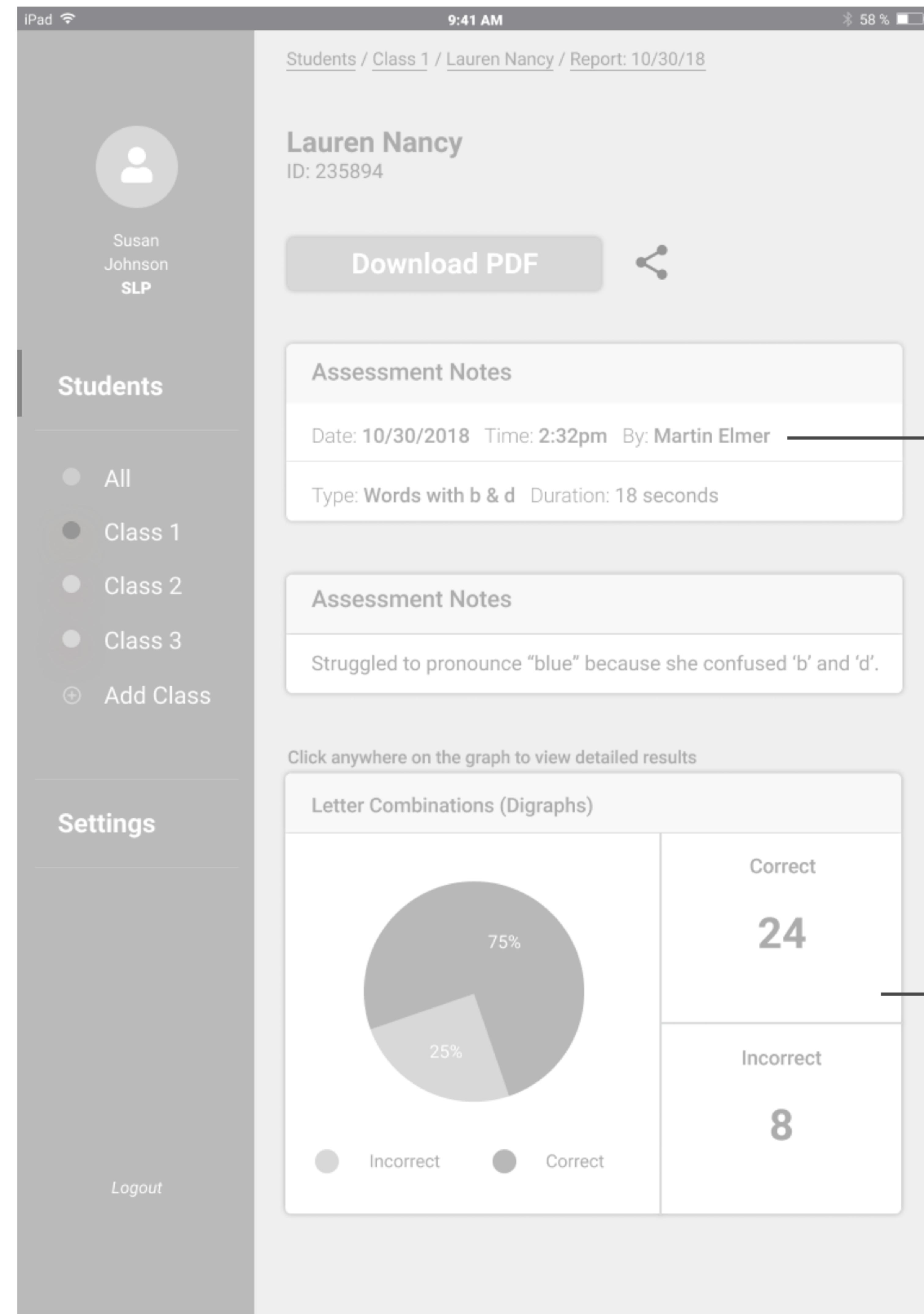
Time stamp helps teacher identify when is the best time to assess each student

Before

Problem: Information is not intuitive enough for teachers to know what's going on



After



Assessment can be administered by a different person throughout the semester

Pie chart and number correct/incorrect gives teachers a quick overview of how the student performed

Before

The screenshot shows the application's main screen. On the left, a vertical navigation bar has three items: "Account" (selected), "Students" (highlighted with a blue arrow), and "Settings". The main content area displays a student profile for "Lauren Nancy" (ID: 235894). Below the profile is a table titled "Words with Letter Combinations (Digraphs)" showing incorrect and correct counts for various letter pairs. A progress chart at the bottom tracks letter combinations from January to May. The top status bar shows the time as 9:41 AM and battery level at 58%.

Problem: Teachers have a hard time evaluating the student's progress

After

The screenshot shows the updated application interface. The vertical navigation bar now includes "Students" (selected) and "Settings". The main content area for "Lauren Nancy" (ID: 235894) includes a "Students" section with class filters (All, Class 1, Class 2, Class 3, Add Class). The "Letter Combinations (Digraphs)" table and progress chart remain the same. A new "Progress: Letter Combinations (Digraphs)" chart at the bottom right adds a dashed line for "Progress to Goal" and a star marker for the goal, making it easier to track student performance over time. The top status bar shows the time as 9:41 AM and battery level at 58%.

Adding goals and line of best fit could help teachers better track the student's performance

Limitations



- Determine target users to better design testing materials. Some students are assessed by reading short essays or paragraphs, instead of individual words only.
- The application only assesses reading correctness. Some students are able to decode words, but have trouble understanding the meaning of sentences or paragraphs.
- Students are commonly assessed for reading fluency. This could be a potential feature to add to the application.