ONLINE READING TUTOR

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Project Overview

Identifying dyslexia at an early age is vitally important to a child's lifelong experience with education. Online Reading Tutor aimed to identify these students in North America and help them re-train their brain with a new app-based training program.

The goal was to create a learning experience that was not only effective, but engaging for children who struggle with reading.

This project was a collaboration of product, education and development teams over the course of 18 months. In the early stages, goals shifted and the MVP evolved as we learned more about our users, educational requirements, and the needs of dyslexics and reading delayed learners we were aiming to serve.

Along with the product design, I was also responsible for:
· User Research
· Journey Mapping and Persona Building
· Refreshing the company branding

· Social media marketing efforts
· Managing interns
· Website update
· Email campaigns
· 100+ illustrations
· In-app animations
· Promotional and instructional video creation

Problem Summary
An official diagnoses is a lengthy and expensive process that many families cannot afford to go through. Only about 5% of dyslexics ever receive an official diagnoses. On top of that, many learners who have dyslexia or a reading delay also have other diagnoses (often ADHD). This makes the learning process even more frustrating for them as well as their parents.

Online Reading Tutor had developed a screening app to gauge the users risk level of having dyslexia or a reading delay. This app was free to download and was used as a marketing and lead generation tool to filter users from the screener into the online one-on-one tutoring subscriptions they offer. Unfortunately, this model was not scalable and limited the number of learners that could be helped by Online Reading Tutor.

How might we create an engaging learning experience that is accessible to students across North America?

Goals

Characters
The research and refining that went into choosing the character style used in the app stages

Timers
Types of timers tested and why it was important to the users

Sign Up Flow
Various flows that evolved as the app requirements changed

Comprehension
Lesson styles with unique requirements

Learner Dashboard
The home for all our end users

Parent Dashboard
Relevant data gathered to keep the parent or guardian up to date

Solutions

Characters
The original Training App designs used a series of Orange Cat illustrations as a type of app mascot, but the team wasn't settled on this option moving forward and wanted something new. I spent some time trying out various illustration styles and implementing them into the iterations of the sign-up flows. However, there was debate on which style was best to continue with. After narrowing down the options, I decided to engage our current customers.

Current customers used a third party software that had some characters as well. In talks with parents and learners I found that they were tolerated rather than enjoyed. The dated nature of the software along with what was described as "irritating voices" left much to be desired with the characters. For our MVP, we wouldn't have the opportunity to leverage voiced and animated characters so I focused on the style and overall look of the illustrations when doing my user research.

Many families don't have the time to dedicate to frequent user interviews, so I created an online survey where I paired the different illustrations in a series of 'this or that' preference questions. There were two sets of human illustrations and two sets of non-humans.

The pairings were as follows:
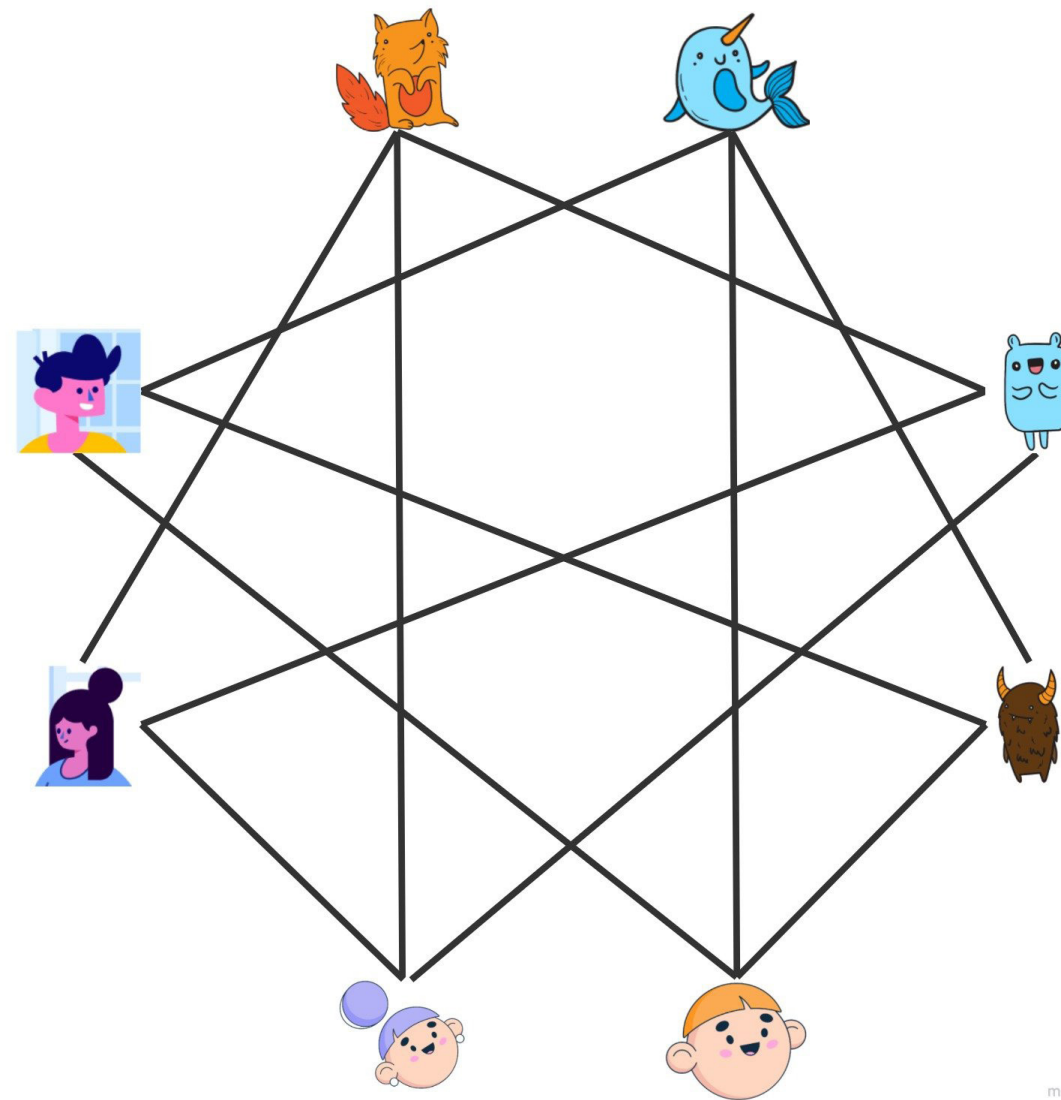
Characters paired for comparison in the This or That survey

With the learners making the selections, I wanted the pairings to work around potential gender bias. Female characters were only compared to each other, as were the male characters so I could see the style preference rather than trying to decipher if they chose Male 1 over Female 2 simply because they identified better with it. Each type of illustration (Pink Human, Round Human, Animal and Monster) were compared to each other throughout the questionnaire, with each gender being compared to the same option in both the animal and monster categories.

I charted the preferences and reviewed the final tally for each, with special attention paid to which high-tally options were also selected as the learners' overall favourite.

This test was carried out in two batches, once for the younger group of learners and once for the older group. The younger group was our target market for our MVP and so they were tested first. The furry monster and furry animal took top spots, thus the monster illustrations you can see in later iterations of the app were used.

When looking past the MVP to future versions of

the app, I decided to run the test once more on the older group to see if we should alter the illustration style as the user age increased.

Results from the older group of learners

In this test, the scores were very close, with all the monster and animal pairings scoring within 4 points of each other. With such a close call and such a small survey group, it was decided that the illustrations would remain the same for now and the issue could be revisited after the MVP was launched and we had a larger base to survey.
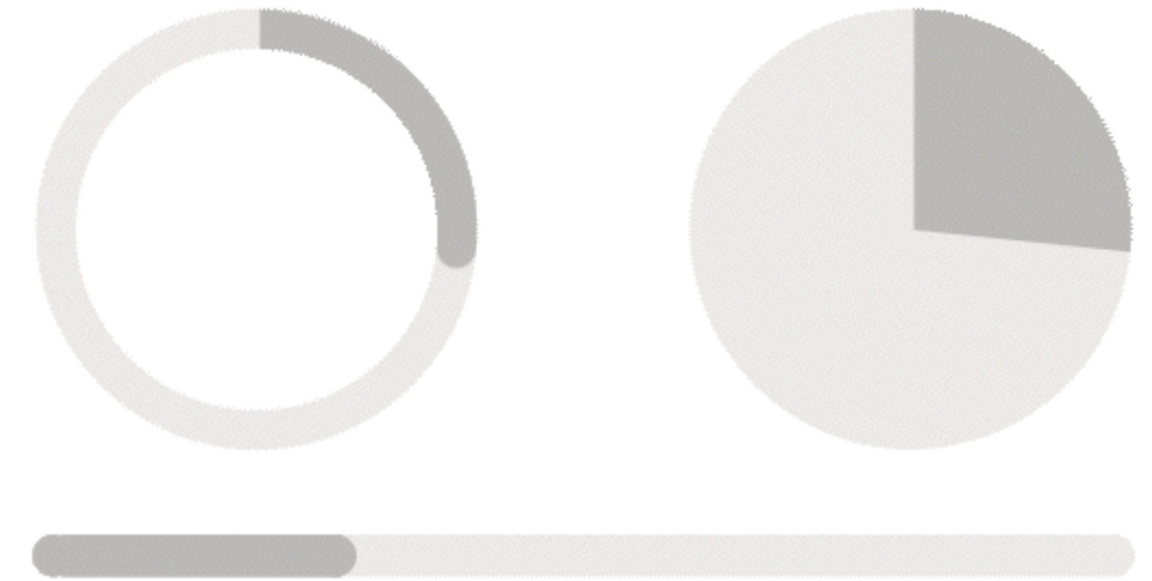
Timers

The old software learners were using had lesson structures that operated similarly to our MVP goal. The lesson concept was explained, then learners were tasked with answering questions within a specific timeframe. If they didn't answer within that time frame, the question was marked as incorrect. However there was one huge problem with this: none of the learners were told how much time they had to answer. The software kept track in the backend, but it was never communicated on the front end, which led to a lot of frustration with our learners and parents.

The Orange Cat designs had a timer included in their layout, but it had yet to be tested and was facing a lot of pushback from the education team who believed that a timer of any kind would be too distracting for learners. Although, with the timer feature being specifically requested by parents and learners alike, we moved forward with the concept regardless of the concerns, aiming for an option that would not be a visual distraction.

I took this opportunity to create more variations on the look and placement of the timer and implement them into our updated designs so we

could test multiple versions at once. Variations were designed in green and grey, large and centre screen or small and tucked into the corner.

Some variations can be seen here:

Some of the timer options

I hosted a series of virtual user testing sessions where learners participated in multiple lessons. In each lesson the questions, timer length, and screen design were identical - except for the design and placement of the timer. After they completed each lesson, I'd get their feedback on how hard they felt the questions were, how fast they thought the timer went, and how rushed they felt.

Although each timer was the exact same length,

the learners felt that a straight line timer moved more quickly than a round timer. They also preferred a timer that was right next to the lesson content, rather than off to the side or tucked in a corner. This led us to select the large round timer which sat just above the lesson content. As lesson styles were added, layouts changed and I was limited by mobile screen dimensions so I had to revert to the users second favourite, the line timer within the lesson content.
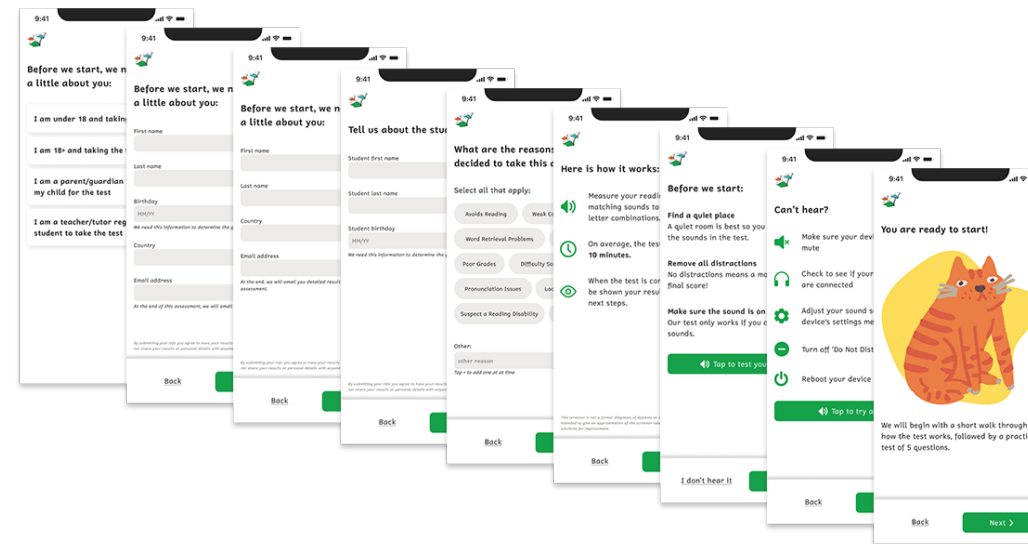
Sign Up Flow
The sign up flows went through many iterations throughout this project as the goals and user flows changed over time. In the beginning we had an existing free Dyslexia Screener app that was used as a marketing and lead generation tool. A second app was added that would be a subscription based follow up for converted leads gathered from the free Dyslexia Screener.

This is where the redesign began. Between screening and subscribing, there was a free consultation where our founder would discuss the results with the parent/guardian and dive into any questions and concerns they had. To improve these consultations and boost conversions, the team

wanted to gather up more specific information about the learner as part of the sign up process for the free Dyslexia Screener. Sign up iterations 1-3 were created in this process.

Iteration 1
The first iteration had a funneled sign up flow that directed users to different paths depending on their age and/or relation to the learner. Each funnel gathered basic user info and learner-specific areas of struggle before moving on to a detailed 'how it works' section to prepare them for the screening questions.

Sign up flow: Iteration 1

Iteration 2
As iteration 1 gathered up non-essential user data, making the process longer than it needed to be

so form fields were reduced. The instructions were also fairly lengthy for those who have dyslexia, so they were replaced with briefer instructions paired with illustrations to give context clues to struggling readers.
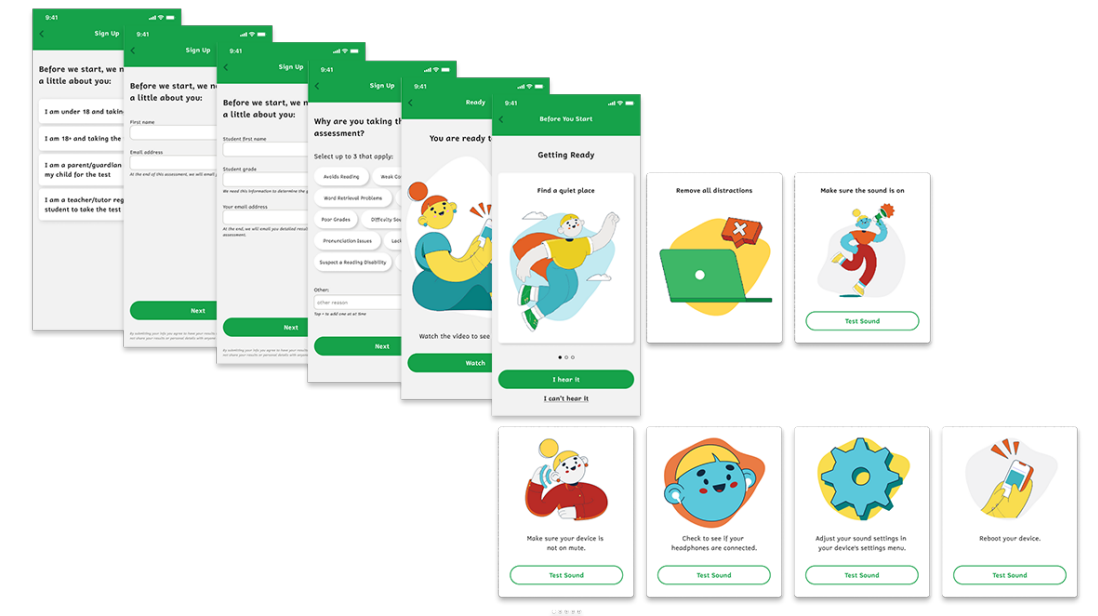
Sign up flow: Iteration 2

Iteration 3
To further shorten the process, we reduced it to 2 funnel options, with the learner-specific areas of struggle incorporated into the user information pages. The instruction section was replaced with a video version that would work for users of any reading level and was embedded into the screening assessment page so it could be revisited if needed.

After some time, the two apps were combined into one. A subscription-based Dyslexia Training app with a free screening feature. This meant that we not only required the account information from the first three iterations, but also had to add the ability for multiple learners, secure verification, subscription plan, and payment details section to the registration. Sign up iterations 4-6 were designed to accommodate this change.

Sign up flow: Iteration 3
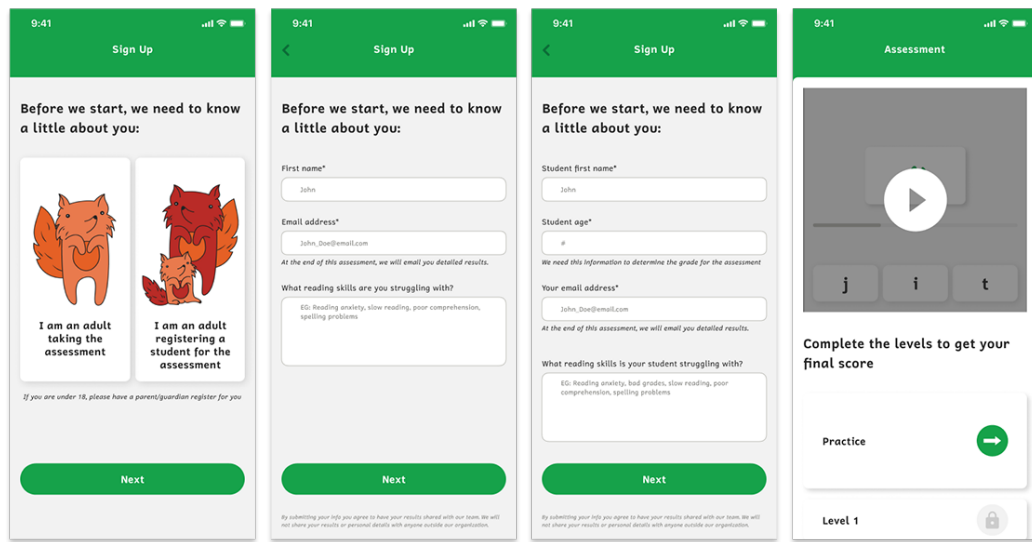
Iteration 4
The first iteration of the combined flow took the existing steps and separated them. First, the account holder could complete their registration and optional subscription process. After that was complete, they were able to begin adding learners who would then have access to the free screener. If they decided to skip the initial subscription opportunity, they could return to it later on.
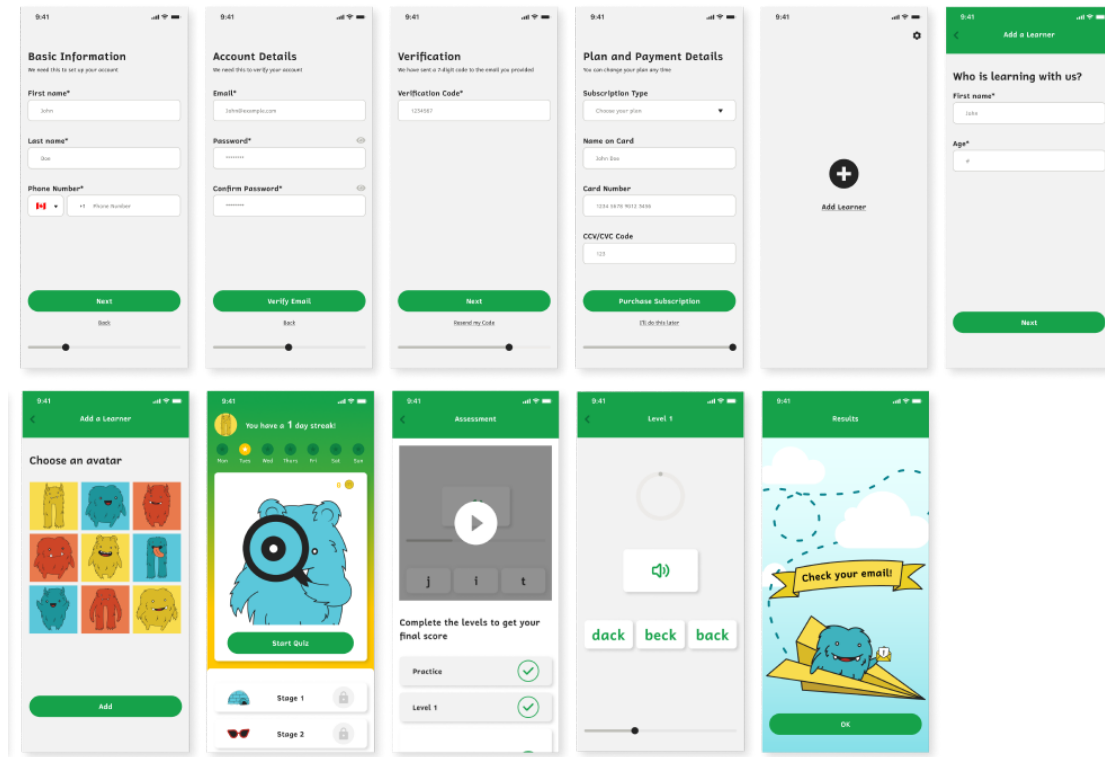
Sign up flow: Iteration 4

Iteration 5
Having the full account registration required so early in the process of iteration 4 posed the risk of users abandoning the session. In iteration 5, the flow was flipped to have only learner information and account holder email required to get to the free screener. After the screener was completed, the results were sent off to the account holder email and the prompt to subscribe was presented. At that point, account holders could choose whether to go through the additional registration flow of account creation, verification and payment details.
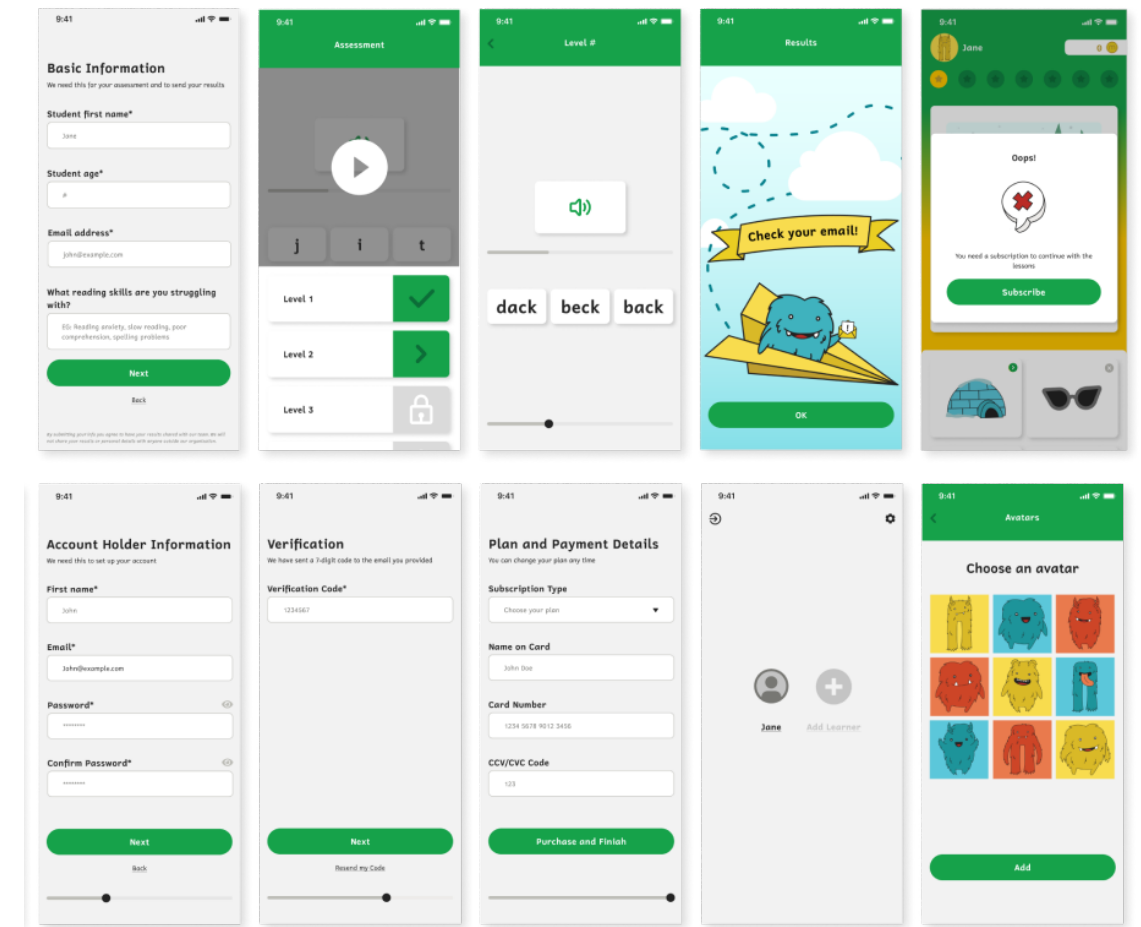
Sign up flow: Iteration 5

Iteration 6
There were a few problems with the previous iteration:
• The flow only allowed for one learner to access the free screener

- The device would be passed back and forth from account holder to learner too many times in the flow
- There were no example lessons other than the single type shown in the screener, which would make the decision to subscribe difficult

Sign up flow: Iteration 6

To solve these problems, the order of screens was rearranged and expanded. Account creation and verification was the first step that would lead users to the new Add a Learner screen. There they could add multiple learners who would each have access to the scree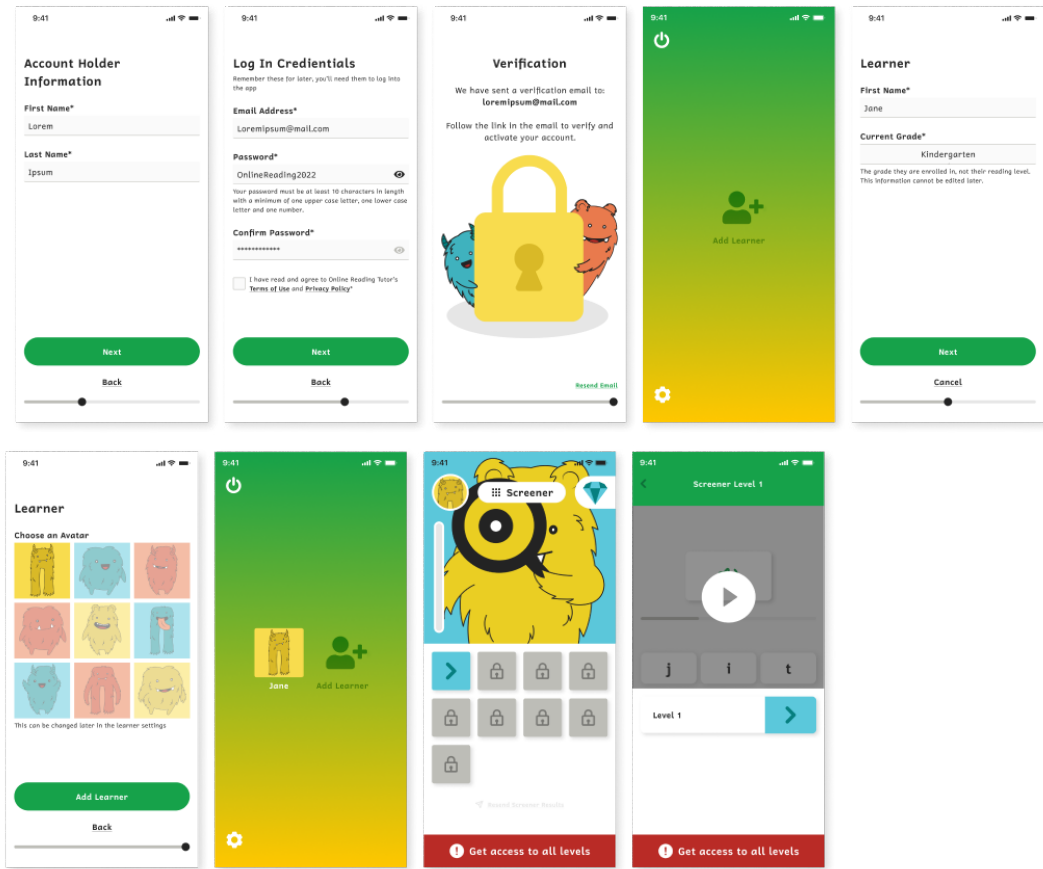ning stage as well as a handful of free lessons. The prompt to subscribe was fixed to the bottom of the screen but did not become a required step until all the free lessons were completed.

This way once the account holder was finished with the set up, the learner(s) could take possession until they were finished. It was highly unlikely that the free lessons would be completed in one sitting, so the number of times that the account holder and learner would be trading the device back and forth was reduced dramatically.

Comprehension

The Dyslexia Training app had multiple lesson types, but the various matching and word building lessons largely followed the same patterns in regards to screen layouts. Comprehension lessons were the exception to our usual styles, they required a written passage with corresponding illustration, a series of questions related to the passage, and the option to toggle back and forth between passage and question so the learner could use it for reference. Additionally, after each incorrect response the learner needed to be prompted to revisit the passage. This prompt would be paired with a highlighted section that would progressively narrow down the correct part of the passage that the question was referencing.
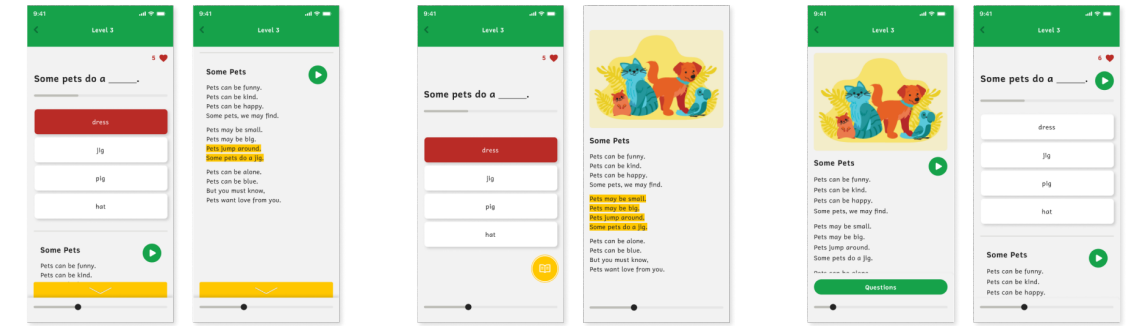
(L-R) Option 1: tap to scroll, Option 2: tap and hold, Option 3: audio prompt

A few visual options for the passage reference prompt were explored. Option 1 had a yellow bar with an arrow that would appear after the learner answered incorrectly. Tapping the bar would auto scroll the learner down the page to where the passage waited with its newly highlighted section.

Option 2 had a yellow book icon appear. When the user tapped and held the icon, the passage and highlight would appear on screen, and when it was released they would be back at the question.

While both options could be suitable for older learners, option 2's interaction was deemed too complicated for the younger learners in our

target audience and both options lacked explicit instruction. The final iteration we selected to move forward with was an audio prompt. When a learner answers a question incorrectly, one of a series of audio prompts is randomly selected and played to remind them to scroll down and look for clues in the passage.
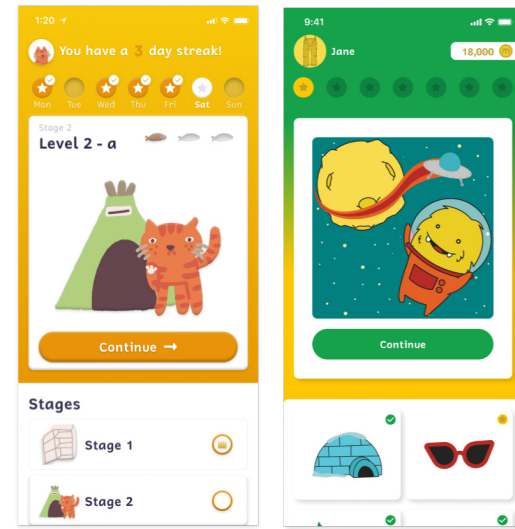
Learner Dashboard

Original and Iteration 1
The original Orange Cat version had a fairly simple set up that was translated over to the updated design style. With the switch from Orange Cat to Monster illustrations, the fish scoring system no longer made sense and was updated to coins. The user image was also changed to zshow the learner name and chosen avatar.

The app was set up in tiers, a Grade level included a set number of Stages, which in turn held Lessons, which was broken up into a Warm Up session followed by multiple lesson parts (depending on the lesson type). In the Orange Cat version all these parts were numbered and labelled, making the user read titles constantly.

Much of the text that was included in the original designs was removed, as our users would be dyslexic or reading delayed. Keeping the reading to a minimum outside the lessons was ideal for reducing frustration and pain points. These written labels were instead replaced with icons and images that corresponded to their respective Stages. Each stage had an illustration to give the users a more defined visual identifier.

Learner Dashboard Original (L) and iteration 1 (R)

Iteration 2
This iteration worked to solve two problems:

There were too many screens to pass through to get to the lesson screen. Users had to navigate to the dashboard, then the stage, the lesson, and finally the lesson part.

Learners and parents wanted a better idea of where they were in terms of progress. How far had they gotten through the stage?

In order to reduce the screen number, the dashboard and current stage were merged into one. When opening the app, learners would land on their current stage and be able to see all the llessons listed below the identifying illustration. To see the previous stages they could swipe right, and to see the future stages, they could swipe left.

To gauge progress, progress bars were added. There were two indicators of progress, a green checkmark meant they had passed a lesson and a gold star meant they had gotten a perfect score. To track both, several iterations of the progress bar were designed. Some with two bars and some with a single merged bar, some with icons and some without. For this iteration, the single bar with icons was chosen as it took up less screen space than the dual bars but also further identified each colour with the addition of the correlating icons.

I could have simply tracked the passing scores since that was the determining factor as to whether they could progress to the next stage or not. However,

factoring in that many of our learners were very competitive and repetition is one of the key factors in how well they retained their new reading skills I opted to present them with their perfect scores as well. The idea being that if they see they don't have an absolute perfect score across the board, their competitiveness would work as a motivator for them to go back and repeat passed lessons in an attempt to get perfect.

Another change we made was the removal of the 7 day streak. This wasn't necessary for our MVP and could be pushed back to a later version.
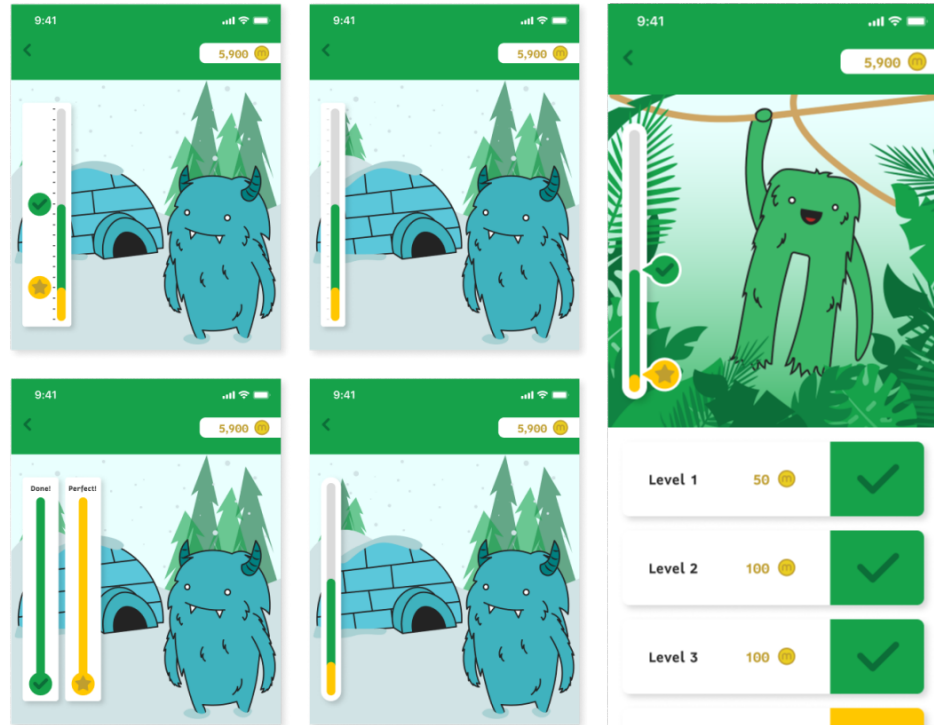

Learner Dashboard and progress bar options

Iteration 3
In iteration three, many changes were made to accommodate dev requirements and user flows.

In regards to dev, the ability for users to swipe left and right to see other stages was going to be a challenge for initial load times and would likely slow down the app significantly. This meant introducing a menu of sorts that the learners could go into to view the stages. The grid menu was introduced as a solution here but would not be designed until iteration 4.

The dashboard was also very long on some stages depending on the number of lessons. Since each lesson card was also individually tracking coins in the previous iteration, that was a lot of unnecessary data. It was also a lot of unnecessary text for our learners to be looking at. The lesson cards were replaced with icons to indicate the status of each lesson; Locked, In progress, Complete, or Perfect. There could only ever be one In Progress lesson, so users would simply need to find and tap the only blue box on screen, which was always followed by a series of Locked grey boxes making it easier to find. These changes reduced text, page length and loading time for the stage.
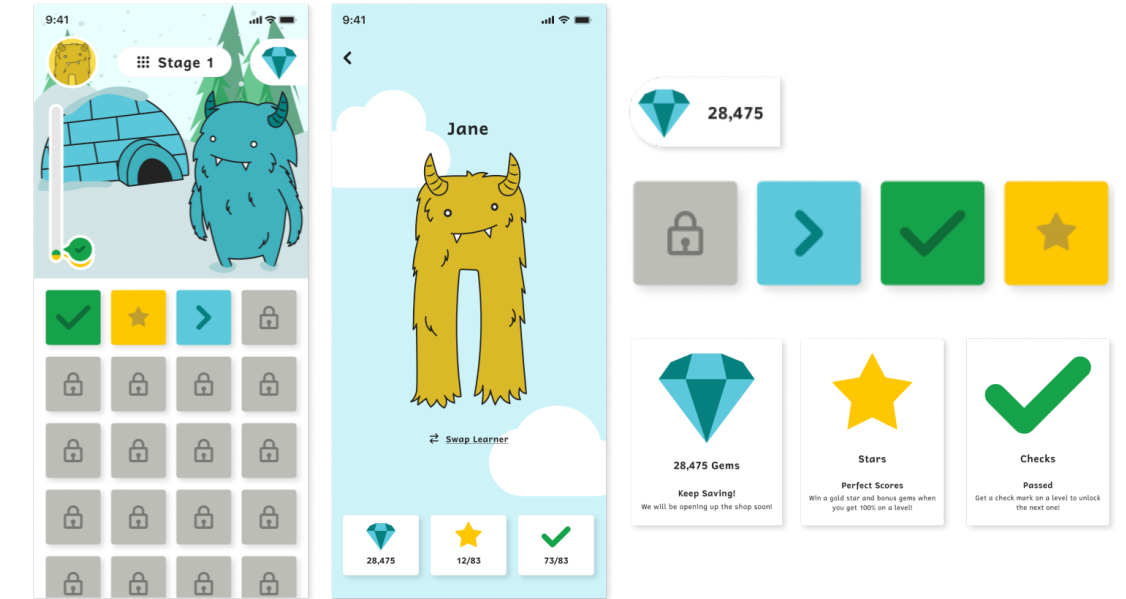
Learner Dashboard and Learner Account Screen with additional assets

Since the coins were yellow and the gold stars were yellow, there were concerns that learners would have a hard time differentiating between the two. To reserve yellow for the gold stars, the coins were updated to gems to give them a more unique look. Learners could tap the gem icon to see an expanded pop-out with their total gem count.

The last change to this iteration was the addition of the learner's account screen. Learners could tap their avatar to open the full view. For the MVP, they could switch accounts to another learner and see their total gems, perfect scores, and passed lessons. In the future state, the avatar shop would be added where learners could spend their gems. Plans to

add achievements and trophies to this section were also discussed as an additional motivator for learners to engage with the app.

Iteration 4
Iteration 4 had fewer updates - the progress bar had its icons removed in an attempt to declutter the header image area and the grid menu was implemented. The grid menu was styled to reflect the corresponding stage screen, keeping the illustration as the main identifier with the progress bar to the side so they could see at a glance which lessons they still could return to for perfect scores. Locked stages were faded and made inactive - learners could see how many stages they had left, but could not go into them to see the lessons.
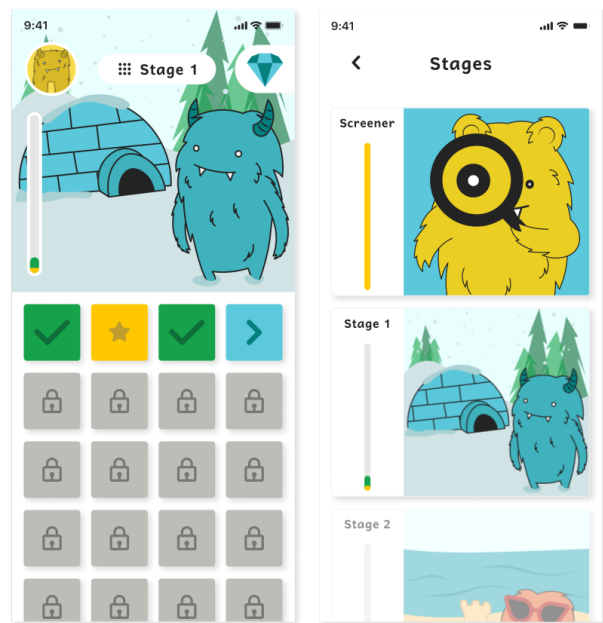
Learner Dashboard and Grid Menu

Parent Dashboard
Before creating the parent dashboard, I conducted a series of interviews with our current parents where we would have a discussion about:
· The tutor's current methods of keeping parents up to date
· What they look for in their learner's report cards
· What their last parent-teacher conference was like
· What they pay attention to at home to see how their learner is progressing

I also included extra time so that we could talk about any other aspects of progress tracking and reports that they had thoughts about. Luckily, when interviewing parents/guardians about their learners, there is no shortage of opinion so I was left with lots of data to apply to this aspect of the app. After the interviews were complete, I did an affinity mapping exercise with all my notes and focused on the common themes of progress tracking, usage and self-benchmarking.

Progress tracking was a shared need between parents/guardians and the learners, they all wanted to know how far they had gotten and how far was left to go.

Tracking usage was important as the ORT method was based on daily sessions of 20-30 minutes, rather than less frequent and longer sessions seen with traditional tutoring. The frequency of the training had a direct impact on the retention of these newly developing reading skills in our learners. To gauge usage, a baseline goal of 180 minutes/week was set (30 minutes for 6 days).

Self-benchmarking was a more complicated concept to distill. In our screening assessment, learners could receive accuracy, fluency and overall scores as well as individual scores on up to nine different trials. In our training, learners could encounter up to ten different lesson types. With such a variety of data points to pull from, the source data had to be refined early on. This led to three iterations.

Iteration 1
This took a very bare bones approach to data communication. The stage's progress was identified similarly to on the learner side, with stars and checks being counted on their respective illustrations. Usage was divided into three sections showing total training time for the week, levels completed and days of the week spent training.

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All of these were displayed through a progress bar to give an at-a-glance idea to the parent. The self-benchmarking was displayed in the same fashion, giving the user the opportunity to quickly identify how their learner was doing via progress bars and trophies. This didn't offer enough relevant detail to the users.
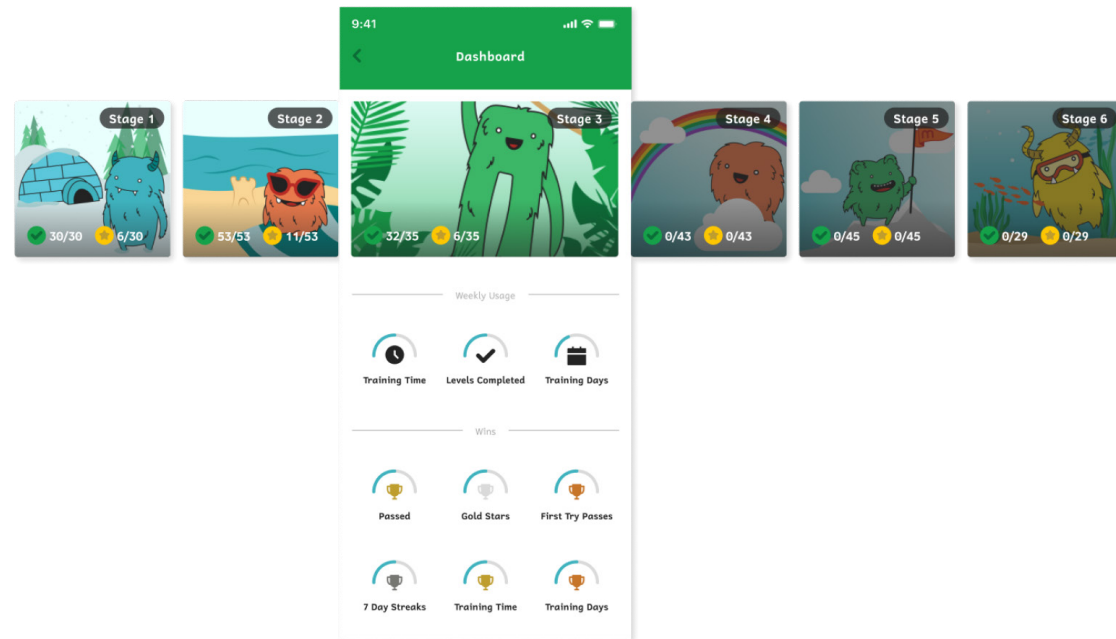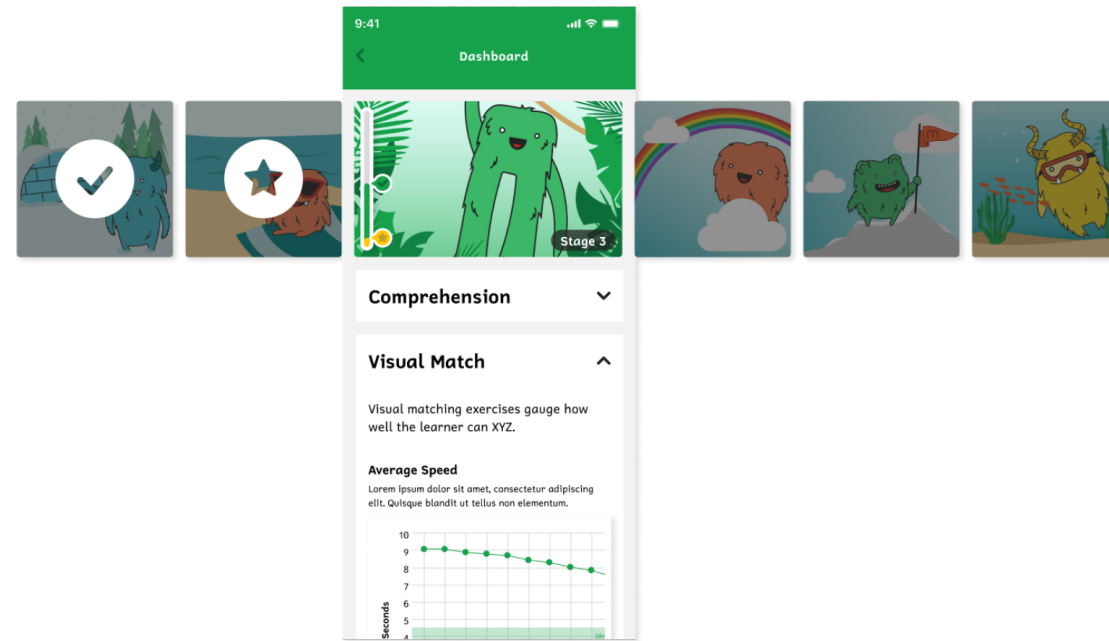

Parent Dashboard: Iteration 1

Iteration 2

This iteration went far in the opposite direction when it came to self-benchmarking. Each lesson type was given an accordion which told the user what the lesson was, its purpose, and charts tracking the learners' average speed and accuracy. This quickly became an overwhelming amount

of data - especially since it's common for dyslexic learners to have dyslexic parents.
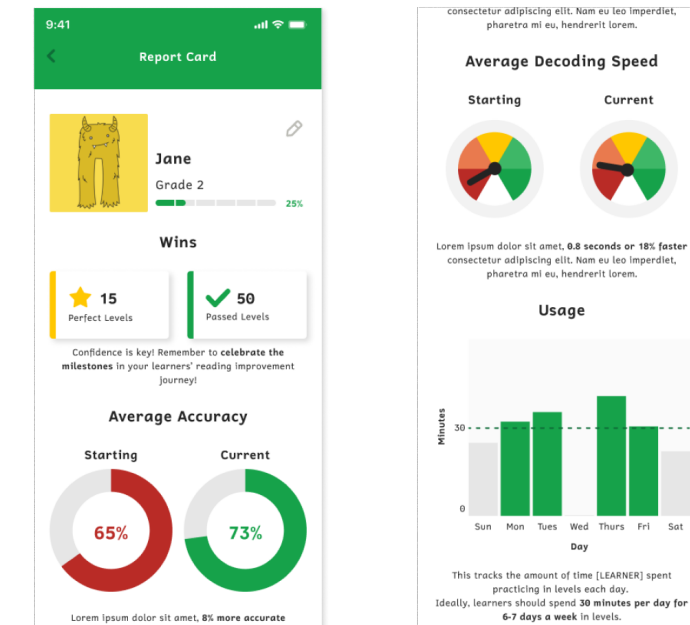

Parent Dashboard: Iteration 2

Iteration 3

This hit a happy medium between the previous two. The progress showed how far the learner was in the grade level as well as a wins section so users could see milestones their learner had hit in perfect scores and passed lessons. Self-benchmarking was visually displayed with their initial scores in accuracy and decoding speed right next to their current levels. This made it easier to communicate the learners progress textually and visually. Finally usage was reduced to a single bar chart with the goal benchmark clearly labeled so users knew what

to aim for each week. The final product was highly visual and did not overwhelm users with too much information to sift through.

Parent Dashboard: Iteration 3

By making the process simple and engaging, Online Reading Tutor can empower dyslexic learners to read just as well as their peers.