User Stories

● As a user (instructor), I want to have access to a visual representation of the progress of the child so that I know how the child progressed throughout the use of the application.

Feature: 4.11 - Statistics

**Requirements:**

**System Requirements:**

* The system shall be able to handle loading graphics that may be dynamic in nature.

**Functional:**

* The system shall display the collected statistics so that instructors can see how the child has progressed in an intuitive way.

**NonFunctional:**

Security:

* The data displayed shall protect local data through encryption.

Performance:

* The system will display data for clients upon request within 5 seconds, 95% of the time.
* The system shall load and display the statistics window within 3 seconds 95% of the time.
* The system shall connect and read a database within 2 seconds 96% of the time.

● As a user (instructor), I want to have access to what the child is struggling on in the application so that I know what to work on with the child in person.

Feature: 4.11 - Statistics

**Requirements:**

**Functional:**

* The system shall display client’s progress for each task to indicate how the client is doing for the current task.
* The system shall allow the user to type in a password to access an account in the application.

**NonFunctional:**

Privacy:

* The system shall not track geographic location.
* The system shall be password protected so that collected data is safeguarded from third parties.

Performance:

* The system shall display the current progress before the task is started within 5 seconds of loading the game, 95% of the time.

● As a user (child), I want the game to seem fun and colorful so that I keep playing to learn my shapes and colors, while not seeming overly frustrating while learning.

Feature: 4.4-4.6

**Requirements:**

**System Requirements:**

* The system shall use iOS graphics and features to display colors and sounds as the client progresses through the tasks.

**Functional:**

* The matching section shall be easy to use so that children do not become overly frustrated while learning.
* The identification section shall be easy to use so that children do not become overly frustrated while learning.
* The Wh- Cards section shall be easy to use so that children do not become overly frustrated while learning.

**NonFunctional:**

Safety:

* The system shall utilize safe color schemes so that users have a 5% chance of side-effects while completing tasks, 99% of the time.

Performance:

* The system shall handle graphics created in good quality 95% of the time.
* The system shall load the game within 3 seconds, 95% of the time.

● As a user (instructor) I want the app to probe the child to get an understanding of what they know so that the app can better teach the child things that they have not learned, as well as not teach them things they have already mastered

Feature: Account Registration

**Requirements:**

**Functional:**

* The system shall include basic diagnostics for each user to gauge where the user is at in their learning.
* The system shall display recommended starting points for each user so that they can pick up learning from where they left off.

● As a user (child), I want to feel reaffirmed even when I get things wrong, so that I feel motivated to continue learning.

Feature: Gameplay

**Requirements:**

**Functional:**

* The system shall allow children a second try with added hints if they get something wrong.

**Non-Functional:**

Performance:

* The system shall accurately track how well a child is doing based on how much they get right or wrong 95% of the time.
* The system shall handle rigorous calculations about how the user is doing at peak performance 90% of the time.

● As a user (parent), I want to be aware of what my child is working on so that I can positively reinforce them while at home.

Feature: 4.2 - Statistics

**Requirements:**

**Non-Functional:**

Performance:

* The system shall communicate with a local database to compare the hash of a given password to the stored hash within 3 seconds, 95% of the time.

● As a user (instructor), I want the game to be locked in when I hand it to the child, so they cannot access any settings or sensitive information in the app

Feature: Game Selection

**Requirements:**

**External Interface:**

UI:

* The system shall prompt the user to enter in their password upon selection of any UI object outside the task screen while a task is in progress.

**Functional:**



**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

App. Domain Req (Business Rules):

● As a user (child), I want the game to recognize when I am struggling and revert back to something, I was more successful at so that I stay engaged and do not get frustrated.

Feature: Gameplay

**Requirements:**

**Functional:**

* The system shall revert back to an easier game task if the user gets a question wrong too many times.

**NonFunctional:**

System:

* The system shall recognize when a child is struggling on a game task 95% of the time/

● As a user (child), who has not yet learned to read using the application, I want the game to have many audio cues to make it as accessible to me as it is to anyone else.

Feature: 4.4 - 4.6 (Should be a requirement of the games to play audio/prompts)

**Requirements:**

**External Interface:**

Hardware:

* The system shall be able to handle audio cues generated by the game when necessary.

**Functional:**

* The system shall recognize and play any audio cues formed by the game when prompted.

● As a user (parent), I need the ability to continue teaching my children what they learned in school without the use of real world objects, because real world objects are expensive.

Feature: Gameplay

**Requirements:**

**External Interface:**

UI:

* The system shall display images in later game settings so that users can become accustomed to their surroundings.

Hardware:

* The system shall use built-in cameras to store pictures of real world objects so that they can be used in gameplay.

**NonFunctional:**

Privacy:

* The system shall ask if it will be allowed to use the user’s camera to take pictures.
* The system shall ask if it will be allowed to use storage on the device to store/access user photos.

Performance:

* The system shall load images from the device storage within 5 seconds, 95% of the time.

● As a user (parent), I want a method that will help my child learn in a proven and regulated way, so that I don’t need to spend so much time teaching them.

Feature: Identification, Matching, Wh- cards

**Requirements:**

**External Interface:**

UI:

Hardware:

Software:

Communication:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

App. Domain Req (Business Rules):

● As a user (instructor), I need an app that can help me automate the learning process of shapes and colors to reach more students.

Feature: Game selection

**Requirements:**

**External Interface:**

Software:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

App. Domain Req (Business Rules):

● As a user (parent), I want my child to learn shapes so that they easily recognize and understand shapes.

Feature: Matching, Identification

**Requirements:**

**External Interface:**

Software:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

App. Domain Req (Business Rules):

● As a user (child), I want the app games to give me immediate feedback, so I can correct my mistakes early.

Feature: 4.4 - 4.6 (Games should prompt mistakes and congratulate upon completion)

**Requirements:**

**External Interface:**

Software:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

App. Domain Req (Business Rules):

● As a user (child), I want to be able to redo tasks so I can improve my learning.

Feature: Matching, Identification, Wh-Cards

**Requirements:**

**External Interface:**

Software:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

App. Domain Req (Business Rules):

● As a user (child), I want to be able to adjust sensory information (such as brightness or volume), so that I don't get agitated.

Feature: Settings

**Requirements:**

**External Interface:**

Software:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

* The system shall load and display the settings window within 3 seconds 95% of the time.
* The system shall connect and update a settings database within 5 seconds of settings being updated 97% of the time.

App. Domain Req (Business Rules):

● As a user (instructor), I need to be able to access the data collected from the application because of updating and tracking goals and trials for the client.

Feature: Statistics

**Requirements:**

**External Interface:**

Software:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

App. Domain Req (Business Rules):

● As a user (instructor), I need to be able to log into my client’s (child’s) saved profile because of allowing the application to use the data to continue working on goals and skills already mastered.

Feature: Account Login / Statistics

**Requirements:**

**External Interface:**

Software:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

* The system shall communicate with a local database to compare the hash of a given password to the stored hash within 3 seconds 95% of the time.

App. Domain Req (Business Rules):

● As a user (parent), I need to be able to access my child’s data because of being able to access up to date information on how my child is performing in school and at home.

Feature: Statistics

**Requirements:**

**External Interface:**

Software:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

App. Domain Req (Business Rules):

● As a user (instructor), I want the interface of Teaching Tasks to be suitable for all of my clients (children) so that they will be able to properly use and learn from Teaching Tasks.

Feature: User Interface

**Requirements:**

**External Interface:**

Software:

Communication:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

App. Domain Req (Business Rules):

● As a user (instructor), I want Teaching Tasks to follow the proper (ABA and DTI) guidelines when educating my clients so that I know my client will be able to learn and not get frustrated and not want to continue.

Feature: Games (Req to follow aba/dit/guidelines)

**Requirements:**

**External Interface:**

Software:

Communication:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

App. Domain Req (Business Rules):

● As a user (instructor), I want there to be positive reinforcement so that my clients (children) know when they have done something right.

Feature: Gameplay

**Requirements:**

**External Interface:**

Software:

Communication:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

App. Domain Req (Business Rules):

● As a user (instructor), I want to add initial diagnostic information so that my clients (children) can pick up where they left off from my teaching.

Feature: Account Registration / Statistics

**Requirements:**

**External Interface:**

Software:

Communication:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

* The system shall perform a secure hash function on the given password before it is saved 99% of the time.

Safety:

Performance:

* The system shall communicate with a local database to save account information within 3 seconds, 95% of the time.

App. Domain Req (Business Rules):

● As a user (instructor), I want Teaching Tasks to be updateable with new information based on what I teach the kids in school.

Feature: Statistics

**Requirements:**

**External Interface:**

Software:

Communication:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

App. Domain Req (Business Rules):

● As a user (parent), I want to have access to a variety of games that teach my child different skills like reading, writing, and math.

Feature: Game selection

**Requirements:**

**External Interface:**

Software:

Communication:

**User Req:**

**System Requirements:**

**Functional:**

**NonFunctional:**

User:

System:

Privacy:

Security:

Safety:

Performance:

* The system shall load and display the game selection screen within 3 seconds of an account being logged in 95% of the time.
* The system shall load the game screen after selection within 2 seconds 90% of the time.

App. Domain Req (Business Rules):