

# Maya's Mind Detailed Project Brief

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MUXD 5106.03

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# THE CHALLENGE

## WHAT IS AUTISM?

Autism Spectrum Disorder (ASD) is a bio-neurological **developmental disability** that impacts the normal development of the brain in the areas of **social interaction, communication skills, and cognitive function.**

## PREVALENCE



**75,000,000+** people globally have autism (1% of the world's population)

**1 in 100 children** globally are diagnosed with autism spectrum disorder

The global ASD therapeutics market size was valued at **USD 2.01 billion in 2023** and is projected to grow to USD 3.42 by 2030; a **CAGR of 7.9%**

## TREATMENT

- There is no cure for ASD, however early intervention has been proven to be extremely effective in long term results
- The gold standard of care is Applied Behavioral Analysis (ABA) Therapy
- The average cost of ABA Therapy is \$62k – 250k annually without insurance

# WHY TAKE THIS CHALLENGE?

## STAKEHOLDER BENEFITS

- Early intervention in autism will lead to more **people with autism getting gainful employment** which will then allow them to participate in the economy
- **Improved social skills, communication skills, independent living**, reduced maladaptive behaviors, and **better life satisfaction for children and their families**
- More **revenue opportunities** for private BCBA's
- More **revenue opportunities** for AI in the healthcare space
- Less load on teachers will help to **decrease teacher burnout**

## TARGETED OUTCOMES

- About 2.2% of the nation's population has autism. **Treatment for these individuals is crucial**
- **44% of Americans cannot afford quality healthcare**
- The ongoing teacher shortage means a lower teacher : student ratio, so **teachers have less time to dedicate towards the individual needs of each student**

## JUSTIFICATION OF NEED

- AI is a growing industry, utilizing it for the population with autism creates a large market opportunity
- **Board Certified Behavioral Analysts (BCBAs) and Applied Behavioral Analysis Therapists (ABAs) are scarce resources**, and using AI would help them reach more people in less time

# CUSTOMER PROBLEM STATEMENT

There exists a need for a **streamlined system to help families get access to timely and affordable autism treatment** and then combine that with support from the school system. ABA therapy is proven as the “Gold Standard” in autism care. Currently, access to ABA therapy includes long wait times due to resource constraints and is very expensive, thus making it inaccessible to lower-income families.

Additionally, even with ABA therapy, children are still struggling in school due to a disconnect between ABA care and school activities. Teachers need the information to support their students effectively and outside treatment needs to target behaviors and interventions in the school. **A solution that makes ABA care more accessible and works in conjunction with the school system will greatly improve outcomes for children with autism that will in turn benefit children, families, teachers, and other students as well.**

# **PROBLEM CONCEPTUALIZATION**

# USER STORIES

- **As a parent**, I need help figuring out what to do after my child is diagnosed with autism so that I can get them the help and support they need
- **As a parent**, I need access to care that is affordable, timely, and easy to implement so that I can sustainably support my child
- **As a parent**, I need to have transparency with everyone involved in caring for my child so that I am kept up to date with my child's progress
- **As a parent**, I need a way to keep all my child's information organized so that I can have one main source of truth and record keeping

- **As a teacher**, working with a student with autism, I need a way to easily view the child's information and remain in contact with their parents to effectively teach the student
- **As a teacher**, I need a way to quickly log behaviors of the child so that their progress can be monitored, and goals can be adjusted accordingly
- **As a teacher**, I need a way to communicate with parents that is manageable so that I can protect my time and be more present with all my students

- **As a BCBA**, I need a way to reach parents so that I can gain new clients
- **As a BCBA**, I need a way to monitor my client's progress and communicate with the parents so that I can properly oversee their care

# MACRO FORCES

## Demographic

- Population trends, such as changes in birth rates and the aging of the population, can influence the demand for autism care services
- A growing population of individuals with autism may require increased resources and support
- As autism rates increase, the demand for support also increases

## Economic

- Families with limited financial resources may face challenges accessing private therapies or may rely on publicly funded services with waitlists
- The extent of insurance coverage for autism treatment, including the types of therapies and services covered, can affect access. Variability in insurance policies and coverage requirements can be a barrier for some families

## Sociocultural

- Societal attitudes and awareness about autism can influence access to treatment. Stigma or lack of understanding may discourage individuals and families from seeking help
- Greater awareness and acceptance can lead to more inclusive and accommodating environments

# MACRO FORCES

## Technological

- Telehealth and remote services have the potential to increase access to autism treatment, especially in underserved areas.
- Increased research and innovation in AI can also provide valuable insights and improve quality and access to care

## Geographical

- Access to autism treatment can vary significantly depending on where individuals live. Rural areas may have fewer specialized providers and services, leading to disparities in access
- The globalization of information and communication can enable the exchange of best practices in autism care across borders, allowing for the dissemination of effective strategies and approaches

## Political

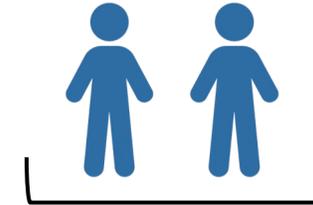
- Government policies, healthcare regulations, and legislation related to autism can have a substantial impact on access to treatment.
- The use of AI and technology may also need to follow certain privacy and data regulations

# **USER INTERVIEW INSIGHTS**

# PARTICIPANT OVERVIEW AND INSIGHTS



NINE PARENTS



TWO TEACHERS

- **8/9** parents were comfortable with using AI and technology in their children's care
- **7/9** parents sought out private care / therapy for their children due to insufficient public resources
- **7/9** parents lacked general awareness about autism before their child was diagnosed and believe that their child missed out on early intervention
- **7/7** of parents who were aware of ABA therapy expressed pain points in gaining access
- **100%** of participants believed that combining ABA efforts at home with behaviors at school would help children with autism succeed

- **2/2** teachers wanted to incorporate an easier behavior tracker into the classroom
- **2/2** teachers wanted an easier and more manageable way to communicate with parents
- **2/2** teachers expressed pain points in understanding what happens in their students' home lives that impacts them in school

# KEY TRENDS

Access to ABA therapy only works with an official diagnosis, so **early intervention can be limited**

Without insurance, ABA therapy can be up to **\$3000/week**

**Pediatricians often don't want to diagnose children early** to avoid labeling them so it delays when children can get intervention

There is a **lack of transparency** with what is going on in school

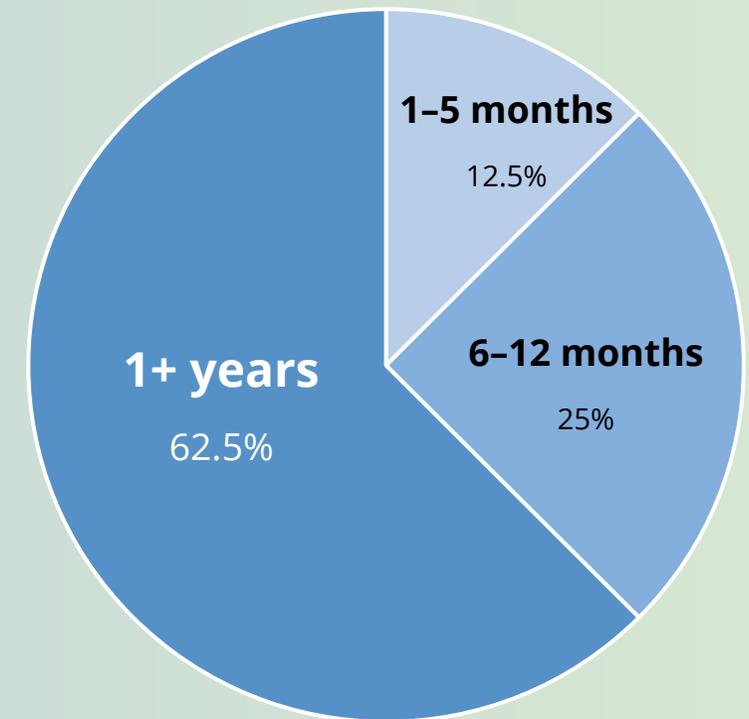
Teachers **struggle to communicate** with overbearing parents

Most parents did not know what autism was before the diagnosis and **felt very unprepared, unaware, and helpless**

**ABA treatment and school behaviors are disjointed** which leads to **a gap in care** and confusion for the child

Teachers often must **"guess and check"** what works with students because of limited insight into home life

## Time spent waiting for autism treatment



# JOURNEY MAP – PARENT EXPERIENCE

Steps

1. Pre-Diagnosis

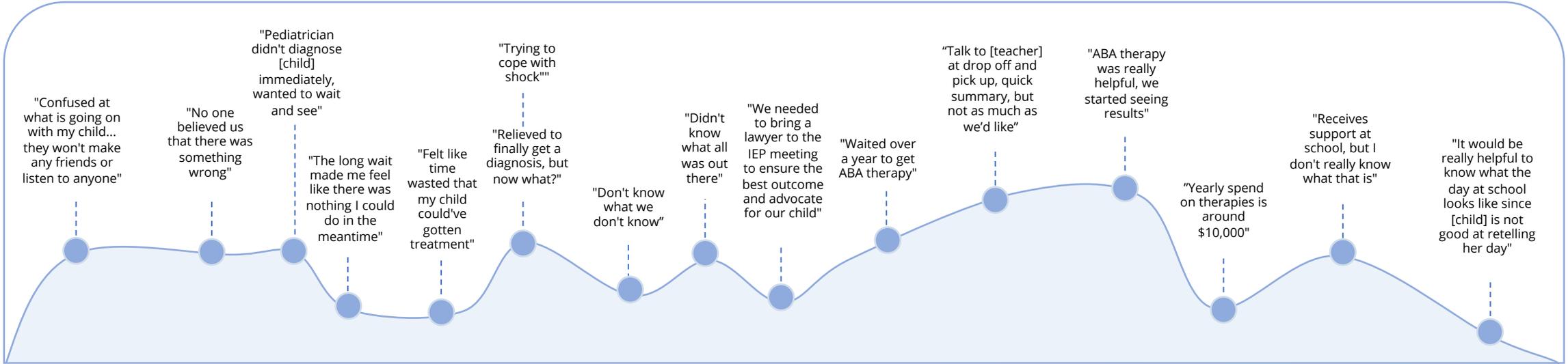
2. Diagnostic Process

3. Post-Diagnosis

4. Treatment

5. Ongoing Care

Emotions & Thoughts



Actions

- Developmental delays noticed

- Parent takes child to general pediatrician
- Patient is referred to a specialist
- Long wait time to get appointment with specialist
- Specialist believes child has autism but tells parents to wait and see before giving official diagnosis
- After waiting period, child finally gets Autism diagnosis

- Parents are unsure what to do next and overwhelmed with treatment options
- Parents notify school for classroom support
- Parents must jump through hoops to get insurance coverage for ABA Therapy
- Child gets on ABA Therapy waiting list

- Child begins to receive special accommodations in school e.g., classroom aide, special ed teacher
- Child finally starts ABA Therapy
- Insurance does not cover all the therapies required and it gets very expensive

- ABA is working at home, but not for the behaviors at school
- Parents are unsure of what is going on at school and have limited contact with teachers

Opportunities

- Educate parents on what to look for early
- Raise awareness of what autism is

- Use app to start ABA therapy earlier
- AI in conjunction with a BCBA consultant can help parents implement ABA therapy earlier and faster
- Using AI to make a therapy plan and note child's behavior can help provide the evidence needed to get doctors to believe parents

- Create a roadmap to help parents understand the "what's next" question
- Have a breadth of resources available on the app for parents to learn and get support

- Reducing the cost of paying for ABA therapists by letting parents take on the role of RBTs while working with a BCBA consultant

- Using the app to let teachers and therapists make comments on scheduled activities about how the activity went, if there was an incident, what behaviors worked and did not
- create a collaborative system that incorporates the entire care team (parents, teachers, and therapists) to target early intervention that is accessible

# PARENT PERSONA

## ABOUT

Wendy is a stay-at-home mother with a seven-year-old son who has recently been diagnosed with autism. Wendy and her husband also have an older daughter who is 12, the family operates on a single income, so they are very budget conscious. Wendy is committed to helping her son but feels overwhelmed and confused about what to do next. She heard of ABA therapy from a podcast and decided to try it with her son, but he was put on a 15-month waiting list. Wendy is anxious to get him help as she knows that early intervention is extremely important. She doesn't know what her son's future looks like as she doesn't know anyone else who has autism.



**NAME:** Wendy  
**AGE:** 39  
**OCCUPATION:** Stay-at-home-mother

## PAIN POINTS

- ABA therapy has a long wait time and is very expensive
- Getting the diagnosis was difficult as the pediatrician was reluctant to diagnose her son and label him
- Doesn't know what else to do since she doesn't know what options are out there
- Her son struggles to communicate so she doesn't know what his school day looks like and how he behaves there

## NEEDS/WANTS

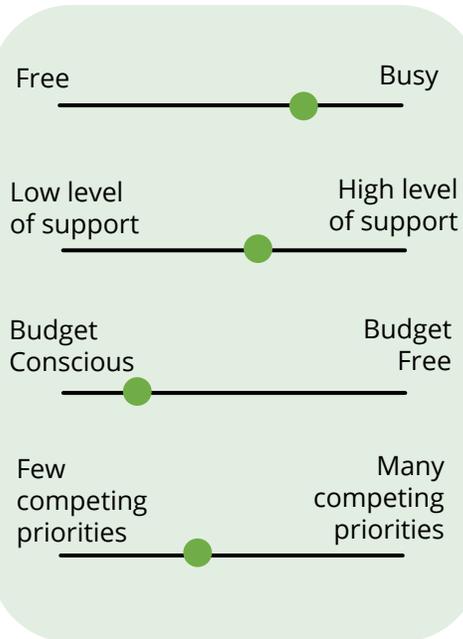
- A source of information to learn more about autism and get resources
- Affordable access to ABA therapy
- A way to stay organized with all the care her son will need
- A way to easily communicate with her son's schoolteacher to understand his behaviors throughout the school day

## GOALS

- Get early intervention and ABA therapy for her son
- Understand what options she has for her son

## MOTIVATIONS/FEARS

- Wants her son to learn to become independent
- Worried about her son when she isn't with him
- Wants her son to be able to communicate his needs and respond to things in a constructive manner



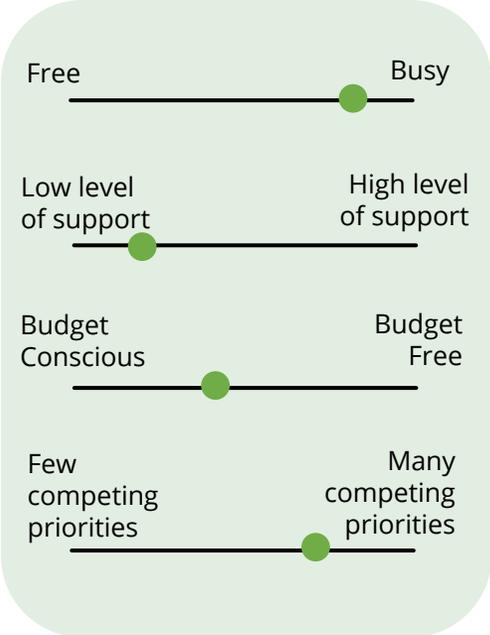
# TEACHER PERSONA

## ABOUT

Haley is a second-grade teacher at a lower income public school. She has 22 students who constantly need her attention. Haley has a couple students who have behavioral issues, one who has recently been diagnosed with autism and another who has an IEP. Her students' parents are understandably concerned about their children but can often be overbearing in their desires to be in constant communication with Haley. Haley has competing priorities with her 20 other students. She empathizes with her students' parents but can only allocate so much time to one student.



**NAME:** Haley  
**AGE:** 27  
**OCCUPATION:** 2nd Grade Teacher



## PAIN POINTS

- She can't dedicate too much time to just one student because she has 21 other kids who deserve her attention
- Is tired of having long and unproductive conversations with worried parents
- It is hard to keep track of all the accommodations her students may need

## NEEDS/WANTS

- A faster way of communicating to parents
- More information on what goes on at her autistic students' home to understand why they may be upset on a particular day
- A way to track what activities went well and didn't go well with her students who have autism

- To be able to help all her students and create a positive classroom environment
- To be able to communicate quickly and efficiently with students' parents
- To find ways of engaging her student with special needs to avoid disruptions in her class

## GOALS

## MOTIVATIONS/FEARS

- Does not want any student in her class to fail
- Wants to communicate with parents, but it needs to be manageable for her
- Nervous about keeping track of all individual needs her students have
- Wants to advocate for her students but needs support

# **THE SOLUTION**

# SOLUTION OVERVIEW

## Increasing access to ABA care

- Connect parents with private BCBA's for consultations through app
- Use AI to develop ABA plans which will then be reviewed by a BCBA for faster treatment
- Equip parents with the tools and techniques to implement an ABA plan at home

## Help teachers to help students

- Track the student's schedule at school and outside by viewing activities, incidents, and logging actions and behaviors that need more support
- Communicate quickly and efficiently with parents when issues arise to save time for all parties

## Continuous feedback and collaboration

- Use AI to capture information logged into the app and automatically update ABA plan to reflect problem areas and progress
- Ensure a connection between teachers, parents, and BCBA's to create a collaborative approach for helping the child

# IMPLICATIONS OF AI

## Data needed to inform AI

- ABA plans
- Creation metrics and information
- Various successes and pitfalls of previous ABA plans
- ABA goals and processes based on specific ASD needs and behaviors

## Addressing data privacy

- **3 main HIPAA requirements**
  1. Appropriate safeguarded mechanisms must be in place to protect the privacy of protected health information and must only be accessed by authorized parties.
  2. The confidentiality, integrity, and security of ePHI must be protected via administrative, physical, and technical defenses.
  3. Notification must be provided as the result of a breach of any unsecured ePHI.
- Currently, **HIPAA does not have specific language that targets artificial intelligence** (logrhythm.com)
- **Focus areas we will prioritize for data privacy**
  - Transparency and disclosure for parents to know how their child's information is being used
  - Managing and mitigating cyber risks
  - Data protection through security software
  - Anonymization and de-identification
- Maya's Mind will adhere to HIPAA standards when using AI and electronic data

# LEAN CANVAS

## Problem

- Access to autism treatments is expensive
- Information overload
- Unclear expectations after diagnosis
- Stressed and confused parents

## Existing Alternatives

- In person ABA therapy
- Birdhouse (schedule tracker)
- Spectrum AI

## Solution

- Empowering parents to control their child's care
- Using AI to create less expensive and more effective treatments

## Key Metrics

- Number of users
- Accuracy of AI

## Unique Value Proposition

- Utilizing AI to enhance autism treatment
- Helping parents figure out how best to care for their child with autism

## High Level Concept

- App that allows parents to connect with therapists who use AI develop a treatment plan that is monitored and adjusted based on child's progress

## Competitive Advantage

- Autism support is underfunded so an app this comprehensive does not exist yet

## Channels

- Private BCBA's
- Parent support groups
- Pediatricians

## Customer Segments

- Parents
- BCBA's (Stakeholder)
- Teachers (Stakeholder)

## Early Adopters

- Parents who are willing to try new strategies to help their child

## Cost Structure

- Outsourcing to develop the AI technology needed

## Revenue Streams

- Venture Capital funding

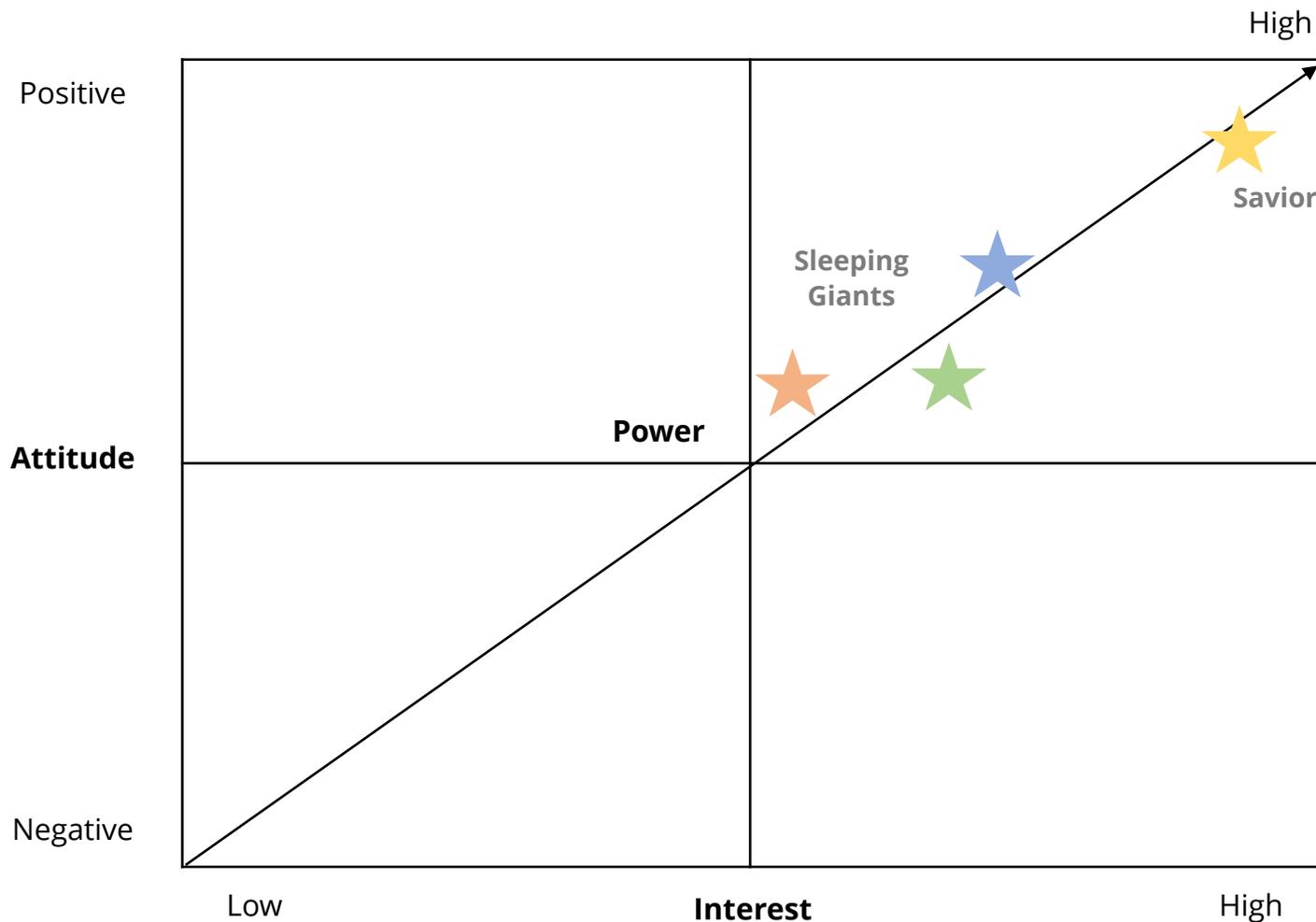


**COMPETITOR, STAKEHOLDER,  
AND RISK ANALYSES**

# COMPETITIVE MATRIX

	Maya's Mind	Spectrum AI (Substitute)	Traditional ABA Therapy (Direct)	Class Dojo (Substitute)	Birdhouse for Autism (Substitute)
Key Features	<ul style="list-style-type: none"> <li>• Connection with BCBA</li> <li>• AI based ABA treatment plan which is geared towards equipping parents with the tools to implement therapy</li> <li>• Schedule and Behavior communication</li> </ul>	<ul style="list-style-type: none"> <li>• Large data processing and storage</li> <li>• Dashboard insights</li> </ul>	<ul style="list-style-type: none"> <li>• In-person 1:1 work with a professional ABA therapist</li> </ul>	<ul style="list-style-type: none"> <li>• Communication</li> <li>• Behavior tracking</li> <li>• Reward system</li> </ul>	<ul style="list-style-type: none"> <li>• Scheduling</li> <li>• Behavior tracking</li> </ul>
Target Audience	<ul style="list-style-type: none"> <li>• Parents</li> <li>• Teachers</li> <li>• BCBAs/ABAs</li> </ul>	<ul style="list-style-type: none"> <li>• Mid to large businesses</li> <li>• ABA therapy companies/clinics</li> </ul>	<ul style="list-style-type: none"> <li>• Anyone with an autism diagnosis</li> <li>• Also includes any other behavioral issues</li> </ul>	<ul style="list-style-type: none"> <li>• Teachers</li> </ul>	<ul style="list-style-type: none"> <li>• Parents</li> </ul>
Strengths	<ul style="list-style-type: none"> <li>• Uses AI to create ABA plan and has continuous feedback capability to reevaluate goals as needed</li> <li>• Large market opportunity</li> <li>• Uniqueness: no direct competitors</li> </ul>	<ul style="list-style-type: none"> <li>• Existing ability to utilize AI</li> <li>• Significant research and funding into product</li> </ul>	<ul style="list-style-type: none"> <li>• Evidence-based, known as the "Gold Standard" for autism care</li> <li>• Versatile: can be used in homes, schools, clinics</li> <li>• Adaptable</li> </ul>	<ul style="list-style-type: none"> <li>• Intuitive and user-friendly platform</li> <li>• Versatility: lots of features for behavior tracking and messaging</li> <li>• Provides teachers with data insights into students' performance and behaviors</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to track and manage large amounts of health data including schedules, medications, and behaviors to help parents understand insights about their child's progress</li> </ul>
Weaknesses	<ul style="list-style-type: none"> <li>• Potential for data privacy concerns</li> <li>• Low initial capital</li> <li>• Dependent on cooperation from parents, BCBAs, and teachers</li> </ul>	<ul style="list-style-type: none"> <li>• Expensive</li> <li>• Does not use AI to provide recommendations or aid in ABA therapy implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Resource-intensive, requiring lots of time, therapists, supervision, and ongoing assessments</li> <li>• Very expensive</li> <li>• Not covered by all insurances</li> </ul>	<ul style="list-style-type: none"> <li>• Not geared towards autism</li> <li>• Messaging feature requires a lot of effort on the teacher's part</li> </ul>	<ul style="list-style-type: none"> <li>• Poor UX</li> <li>• Lots of bugs in application</li> <li>• Lack of updates to software</li> <li>• Lack of resources to maintain app</li> </ul>

# STAKEHOLDER ANALYSIS



## ★ PARENTS

Parents are ranked as **“Saviors”** because they are the main adopters of this product. They are the ones who will choose whether Maya’s Mind will be used for their families. They hold the most influence and are key to the products’ success.

## ★ TEACHERS      ★ BCBAs

## ★ CHILDREN

**Teachers, BCBAs, and Children** are ranked as **“Sleeping Giants”** due to their heavy influential power in whether adoption will be successful, however they are not the main drivers of success. They are secondary users who will only be able to utilize the app properly in conjunction with a parent user.

# STAKEHOLDER SUCCESS METRICS

## User Adoption

Measure number of app downloads to understand user adoption

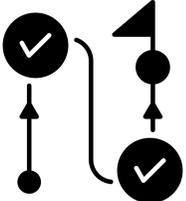


## User Engagement

Measure amount of time spent on app to understand user engagement

## Patient Progress/Success

Track success of ABA therapy through the app based on progress made and goals met



## User Satisfaction

Measure feedback and ratings from users

## Time Saved for Teachers

Track time saved for teachers on parent-teacher communication and classroom management



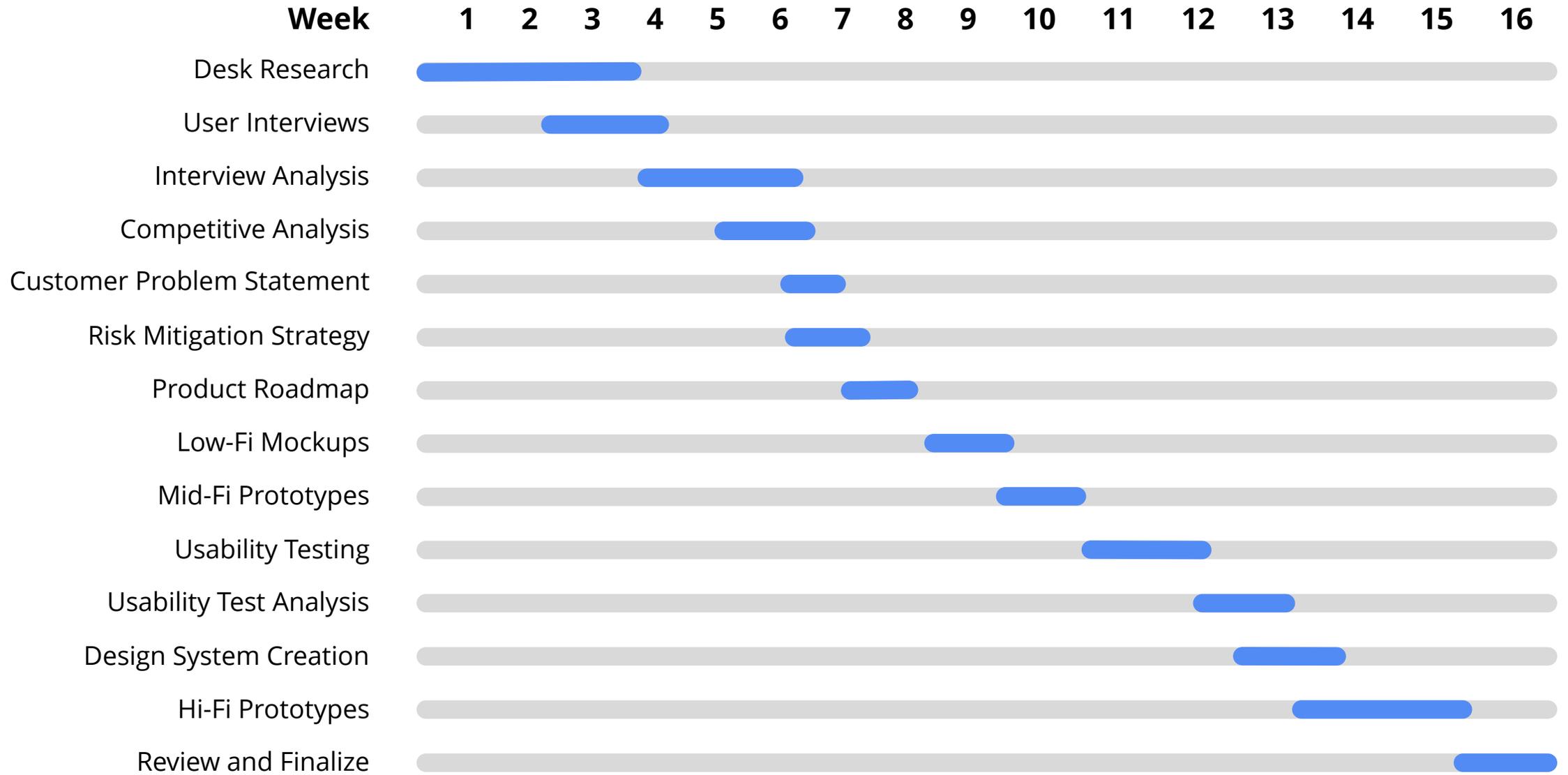
# RISK ANALYSIS

Desired Outcome	Risk	Threat Level Category (Probability/Impact)	Trigger	Mitigation	Owner
<ul style="list-style-type: none"> <li>Parents should be able to effectively learn and implement the ABA therapy based on specific instructions and consultation from the BCBA</li> </ul>	<ul style="list-style-type: none"> <li>Parents are unable to implement the ABA therapy to their children</li> </ul>	<ul style="list-style-type: none"> <li>Mid/High</li> </ul>	<ul style="list-style-type: none"> <li>Parents lose patience with their child's behavior</li> <li>Parents are unable to learn how to implement the therapy</li> </ul>	<ul style="list-style-type: none"> <li>Ability to "flag" issues in the ABA plan for more BCBA support</li> <li>Step-by-step instructions on implementation in ABA plan</li> <li>Access to training resources in app</li> </ul>	<ul style="list-style-type: none"> <li>Parents</li> <li>BCBA</li> </ul>
<ul style="list-style-type: none"> <li>BCBAs need to be on board to provide consultation services</li> </ul>	<ul style="list-style-type: none"> <li>BCBAs may not want to use AI and consult on cases</li> </ul>	<ul style="list-style-type: none"> <li>Low/Mid</li> </ul>	<ul style="list-style-type: none"> <li>BCBAs may not understand why they should get on board</li> </ul>	<ul style="list-style-type: none"> <li>Outline benefits for BCBAs including payment for services, access to more patients, and less time spent because of AI</li> </ul>	<ul style="list-style-type: none"> <li>BCBA</li> </ul>
<ul style="list-style-type: none"> <li>AI technology needs to work to create the ABA plans and create a continuous feedback loop that updates the ABA plan</li> </ul>	<ul style="list-style-type: none"> <li>Unable to get enough data / adoption for AI to be effective</li> </ul>	<ul style="list-style-type: none"> <li>Low/High</li> </ul>	<ul style="list-style-type: none"> <li>Confidentiality/data privacy issues to get information</li> </ul>	<ul style="list-style-type: none"> <li>Research and ensure access to non-confidential data to inform ABA plans</li> </ul>	<ul style="list-style-type: none"> <li>Maya's Mind</li> </ul>
<ul style="list-style-type: none"> <li>Teachers need to be on board to log and track behaviors</li> </ul>	<ul style="list-style-type: none"> <li>Teachers don't want to add a lot of extra work by logging behaviors</li> </ul>	<ul style="list-style-type: none"> <li>Low/Low</li> </ul>	<ul style="list-style-type: none"> <li>Teacher decides they are too busy to track child's behavior</li> </ul>	<ul style="list-style-type: none"> <li>Highlight the benefits of using the app for classroom management</li> <li>Employ easy one click behavior logging to save time</li> </ul>	<ul style="list-style-type: none"> <li>Teachers</li> </ul>
<ul style="list-style-type: none"> <li>App needs to beat its competitors and become a market leader</li> </ul>	<ul style="list-style-type: none"> <li>Other apps and autism services may pose as threats to Maya's Mind</li> </ul>	<ul style="list-style-type: none"> <li>Low/Low</li> </ul>	<ul style="list-style-type: none"> <li>Users decide to go with other options</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that Maya's Mind has a competitive advantage and effectively promote that to target audience</li> </ul>	<ul style="list-style-type: none"> <li>Maya's Mind</li> </ul>



**NEXT STEPS**

# PROJECT TIMELINE



# TRELLO BOARD

The screenshot shows a Trello board for 'Maya's Mind' with a blue header bar. The board is organized into five columns, each representing a stage of the product development process. Each column contains several cards with progress bars, dates, and completion status. The top right of the board includes navigation and utility icons like 'Filters', 'Share', and 'SS'.

- Discovery and Research**
  - Desk Research (Aug 29 - Sep 5, 4/4)
  - User Stories (Sep 3 - Sep 5, 3/3)
  - Customer Discovery and User Research (Sep 16 - Sep 22, 3/3)
  - Interview Synthesis, Journey Mapping, Affinity Mapping, and Persona Creation (Sep 25 - Sep 29, 4/4)
  - Competitive Analysis
- Analysis and Planning**
  - Stakeholder Analysis (Sep 29 - Oct 2)
  - Risk Analysis and Mitigation Planning (Oct 3 - Oct 17)
  - Defining Product Value (Oct 3 - Oct 17)
  - Product Feature Defining (Oct 3 - Oct 17)
- Wireframing and Design**
  - Low-Fi Mockups (Oct 17 - Oct 24)
  - Mid-Fi Mockups (Oct 24 - Oct 31)
  - Usability Test Plan (Oct 31 - Nov 2)
  - Usability Testing (Nov 2 - Nov 11)
  - Analysis and Iterations (Nov 12 - Nov 15)
  - Design System Creation (Nov 15 - Nov 18)
- Prototyping, Testing, and Analysis**
  - Hi-Fi Mockups (Nov 18 - Nov 22)
  - Prototyping Hi-Fi Mockups (Nov 27 - Dec 4)
  - Create Final Pitch Deck (Dec 5 - Dec 7)
- Future Enhancements**
  - Break down features that will be added in a future release (Dec 10 - Dec 14)

[Link to board here](#)

# PRODUCT FEATURES ROADMAP

FEATURE	DESCRIPTION	PORTAL	RATIONALE
Login/Sign Up	Users can log in or sign up with one of three portal options: Parent, Teacher, BCBA	All	Competitive analysis, market research
Input Child Info	Ability to upload/input info about child's autism including age, diagnosis, symptoms/behaviors, preferences, etc.	Parent; Child Profile	Competitive analysis, user interviews
Input Diagnosis / Behavior	Input diagnosis/behaviors OR migrate from profile section	Parent; ABA	Parents can choose what to share with BCBAs
BCBA Match	Auto-match with BCBA: schedule a consultation and unlock AI generated & BCBA approved ABA plan	Parent; ABA	User interviews, speeding up ABA access
ABA Plan	Provide user with ABA plan and specific instructions on implementation. Click on goal to see breakdown	Parent; ABA	User interviews, speeding up ABA access
Progress Tracking	Ability to track child's progress and upload videos (if desired)	Parent; ABA	User interviews, speeding up ABA access
Flag for Help	"Flag for Help" option on goals where BCBA help is needed	Parent; ABA	User interviews, speeding up ABA access
Notification Center	Notifications for child's progress updates and communications across stakeholders (parents, teachers, BCBAs)	All	User interviews, market research

# PRODUCT FEATURES ROADMAP

FEATURE	DESCRIPTION	PORTAL	RATIONALE
Input Schedule	Parent can input the child's schedule. Options to view daily view or weekly view. For teachers: can input school schedule	Parent/Teacher; Child Schedule	Competitive analysis, user interviews
Record Incidents	Ability to record incidents or behaviors (positive or negative) with suggestions for quick logging (AI generated based on incident)	Parent/Teacher; Child Schedule	Competitive analysis, user interviews
Schedule Sharing	Parents can choose what parts of the schedule they share with teachers	Parent; Child Schedule	Parents can choose what to share with teachers
Resources Tab	Include: info about autism, autism screener, info about ABA, implementing ABA instructions, AI generated highlights/news/etc. about autism based on user's in-app activity	Parent; Teacher	User interviews, market research
Search Engine	Ability to search through app for specific information	All	Competitive analysis, market research
Student Drill Down	Teachers can see all their students who are enrolled in Maya's Mind and can click on student to view their schedule	Teacher	Competitive analysis, user interviews
Messaging Parents	Teacher can log an incident and flag a "request for meeting" or "send message" to parents which is quickly auto-populated with relevant information	Teacher	User interviews

# PRODUCT FEATURES ROADMAP

FEATURE	DESCRIPTION	PORTAL	RATIONALE
New Client View	BCBA can see a list of all unmatched clients with a button click for easy connect	BCBA	Market research
View Child Profile	Once connected, BCBA can view the child's profile and the AI generated ABA plan	BCBA	Market research
Review ABA Plan	BCBA can review ABA plan and make any necessary changes before approving	BCBA	Market research
Appointments	BCBA can add time slots for when they are available for easy booking for parents (similar to Calendly)	BCBA; Calendar	Competitive analysis, market research
Client Dashboard	BCBA can view a dashboard with all their clients as well as KPIs and other relevant insights	BCBA	Market research
Choose Notifications	To avoid being overwhelmed, BCBAs can choose whether they get notifications every time AI updates a child's ABA plan	BCBA	Market research

# APPENDIX

# WORKS CITED

1. <https://nationalautismassociation.org/>
2. <https://www.zerotothree.org/>
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6. <https://www.artemisaba.com/blog/aba-behavior-intervention-plan>
7. <https://therapybrands.com/blog/how-aba-telehealth-software-and-parent-portals-can-increase-access-to-aba-therapy/#:~:text=Telehealth%20is%20revolutionizing%20the%20field,need%20for%20in%2Dperson%20visits.>
8. [https://logrhythm.com/blog/risks-of-artificial-intelligence-in-healthcare/#:~:text=Risks%20of%20AI%20in%20Healthcare&text=It's%20important%20to%20assess%20potential,1996%20\(HIPAA\)%20Security%20Rule.](https://logrhythm.com/blog/risks-of-artificial-intelligence-in-healthcare/#:~:text=Risks%20of%20AI%20in%20Healthcare&text=It's%20important%20to%20assess%20potential,1996%20(HIPAA)%20Security%20Rule.)

## DIAGNOSIS

diagnosed at 4 years old

parents didn't notice anything, preschool suspected autism but no one wanted to label him

early recognition around his 1st birthday since a physician family member recognized the symptoms

parents had to wait a full year to get him any treatment because doctors felt that he was too young to diagnose

child diagnosed at 6, missed a lot of school, missed special services, missed birthday, missed home, no graduation, had to wait 3 years, came back at age 4 and the preschool wanted to sign

ABA centers wouldn't take the child without a diagnosis

noticed developmental delay around 2 years old, but it took over a year to get an appointment with a neurologist to get a proper diagnosis

pediatrician couldn't diagnose him but said he had the signs

noticed symptoms at 5 years old, but mistakenly thought it was ADHD

child has other developmental and genetic conditions that he was treated for as a baby - overshadowed autism symptoms

diagnosed at age 7 once a developmental therapist noticed symptoms

Diagnosed pretty late, the school thought his language issues were due to a bilingual home

Finally got autism diagnosis because someone outside the home recognized the symptoms

Misdiagnosed with ADHD

Diagnosed at 5 by a pediatric neurologist

parents knew there was an issue but didn't want to get a diagnosis because it would mean he had autism

hard to get diagnosed with aspergers as a female, but dad being a psychiatrist helped speed the process

Regrets not having him diagnosed earlier

## COMMUNICATION ISSUES

WANTS: Tailoring therapy in school to out of school, increasing transparency of what's going on in school with ABA therapy, it needs to be synced daily. Both parties need to know what is going on

difficult communicating with the school, school's social agenda of getting a "strong" kid and not being the "weakest" kid

in mainstream school, mom doesn't know what kind of support she's getting because of the lack of transparency

wants consistency and transparency across school and home so everyone uses the same language and strategies and are working towards collaborative goals

wants more communication, but there's no time for it

it would be helpful to understand what is happening at the home

struggles with communication from school/teachers

no access to students' ABA therapists

language barrier across parents and teacher bc of low income communities

kids have a hard time understanding and communicating their needs

data is not in a format that can easily be sent to parents

wants more insight and transparency

would be really helpful to know what the day at school looked like since the child is not good at relating the day

would like more communication with school aide to have real time updates

would like school aide to have communication with ABA therapist

Misdiagnosed with ADHD

would like to have enough communication to have trust that if something is going wrong parents are made aware of it

## PAIN POINTS

relied heavily on the special ed school to help her, but now that she is older, she's once again at home all the time and isn't doing anything

very challenging to deal with her at home without support

had to get a private diagnosis because wait time for doctors was too long

educational plan doesn't change frequently enough

Diagnosed pretty late, the school thought his language issues were just a bilingual home

"I wish the teachers at school were more prepared to help him"

rigid routine takes a toll on other relationships

kids have a hard time understanding and communicating their needs

has to get to know each student's ticks and what they thrive on to avoid meltdowns

lots of guessing and checking

Didn't know what to do, went to a children's mental health specialist

struggles with flexibility and handling change

exhaustion and burnout leads to parents letting kid do whatever they want -> unfair to other children

pain point: mom doesn't know how to help the child or the school

struggles with noise, chaos, crowds, traditional discipline doesn't work well

younger kids miss out on opportunities because it doesn't line up with oldest son's needs

parents know there's a lot of signs but it's hard to get a diagnosis because of the stigma

Struggles with motivating her son to do anything

current ABA program is very disorganized, the therapists don't have the bandwidth to come everyday

there is no roadmap of how to deal with autism, parents have to figure it out on their own

don't know what you can and can't ask for

feels helpless

hard to get diagnosed with aspergers as a female, but dad being a psychiatrist helped speed the process

Doesn't know how to react based on son's behavior

## SUPPORT SYSTEM/CARE TEAM

very challenging to deal with her at home without support

parents are worried about what will happen to child once they're too old to care for her, zero outside support

lots of access to experimental treatments and specialists helped get him the best treatments

dedicated nanny for child

applied for additional support at school but still waiting to hear back

would like to meet other families for support

tries to plan ahead because students are extremely schedule oriented

"I wish the teachers at school were more prepared to help him"

kids will model behaviors, so if they're constantly seeing other kids misbehave, then they will also misbehave, copying behaviors

would like more communication with school aide to have real time updates

would like school aide to have communication with ABA therapist

would like to have enough communication to have trust that if something is going wrong parents are made aware of it

## LIKES

worked well: consistency, sticker charts

routines work well for child

having control over her schedule and ability to get around e.g. driver's license helped mother a lot

## LACK OF AWARENESS/EDUCATION

parents didn't notice anything, preschool suspected autism but no one wanted to label him

parents don't do much to support, let the school handle it

doesn't know what resources the school like because she doesn't know what he needs/what is out there

once they got the diagnosis the doctors were done and parents didn't know what to do next

parents were unaware of autism before their child's diagnosis

parents didn't know what was out there and unaware of early intervention

didn't know anything about ABA therapy or mainstream autism in general, missed signs, being from china

family had to figure a lot of their stuff out on their own, didn't know what they were doing

ABA came recommended from a friend, NOT from the doctors

mom knew nothing about autism before son was diagnosed

mother has never even heard of ABA therapy

would like to take more online courses that are actually tailored to her child

noticed symptoms at 5 years old, but mistakenly thought it was ADHD

parents used an online course to learn more about autism, strategies, and resources

pain point: mom doesn't know how to help the child or the school

there is no roadmap of how to deal with autism, parents have to figure it out on their own

don't know what you can and can't ask for

WANTS: an app telling her what the behaviors are to look out for and how to work on them

Regrets not having him diagnosed earlier

Diagnosed pretty late, the school thought his language issues were due to a bilingual home

Misdiagnosed with ADHD

Didn't know what to do, went to a children's mental health specialist

"I wish the teachers at school were more prepared to help him"

Uses a practical parenting newsletter for information

Doesn't know how to react based on son's behavior

"I wish the teachers at school were more prepared to help him"

## RESOURCES/TIMELY INTERVENTION

mother would like to get therapies for son, but doesn't have the funds to pay for it

use private ABA therapy (some covered by insurance) about \$10k spend/yearly

parents had to wait a full year to get him any treatment because doctors felt that he was too young to diagnose

can only get ABA for number of prescribed hours by a neurologist who only sees child once a year

ABA centers wouldn't take the child without a diagnosis

noticed developmental delay around 2 years old, but it took over a year to get an appointment with a neurologist to get a proper diagnosis

Needs a referral for everything, any appointment needs to come from a specialist which parents can't always afford

had to get a private diagnosis because wait time for doctors was too long

applied for additional support at school but still waiting to hear back

insurance won't cover ABA therapy once he passes his original goal

developmental pediatrician is very difficult to get appointment with, only once a year

been on the ABA waitlist for over a year

wish they had access to ABA earlier

hard to get diagnosed with aspergers as a female, but dad being a psychiatrist helped speed the process

long wait time for ABA, there is a lack of resources and getting therapy without a diagnosis is almost impossible

Regrets not having him diagnosed earlier

needed a diagnosis and referrals for ABA and OT

## ABA THERAPY

use private ABA therapy (some covered by insurance) about \$10k spend/yearly

ABA has helped them a lot

WANTS: Tailoring therapy in school to out of school, increasing transparency of what's going on in school with ABA therapy, it needs to be synced daily. Both parties need to know what is going on

would like school aide to have communication with ABA therapist

weekly therapy for 2 hours with other kids to work on social skills

can only get ABA for number of prescribed hours by a neurologist who only sees child once a year

mother has never even heard of ABA therapy

no access to students' ABA therapists

if all students had consistent ABA they would be better off

wish they had access to ABA earlier

kids will model behaviors, so if they're constantly seeing other kids misbehave, then they will also misbehave, copying behaviors

been on the ABA waitlist for over a year

current ABA program is very disorganized, the therapists don't have the bandwidth to come everyday

long wait time for ABA, there is a lack of resources and getting therapy without a diagnosis is almost impossible

needed a diagnosis and referrals for ABA and OT

## WANTS/NEEDS

parents want her to be more social, get her out of the house for a few hours each day

WANTS: Tailoring therapy in school to out of school, increasing transparency of what's going on in school with ABA therapy, it needs to be synced daily. Both parties need to know what is going on

WANTS: to see examples of adults with autism to see what their son's future might look like

WANTS: an app telling her what the behaviors are to look out for and how to work on them

wants consistency and transparency across school and home so everyone uses the same language and strategies and are working towards collaborative goals

it would be helpful to understand what is happening at the home

wants flexibility with appointments

## SCHEDULING

mostly handwrites notes in a notebook

data is not in a format that can easily be sent to parents

long wait time for ABA, there is a lack of resources and getting therapy without a diagnosis is almost impossible

## FEAR OF THE FUTURE

feels helpless

parents are worried about what will happen to child once they're too old to care for her, zero outside support

WANTS: to see examples of adults with autism to see what their son's future might look like

## OTHER HEALTH CONDITIONS

got put into special needs school and on lots of heavy medication

child frequently has silent seizures marked by eye movements

child has other developmental and genetic conditions that he was treated for as a baby - overshadowed autism symptoms

# AUTISM STATISTICS

- 1 in 36 children has been identified with autism in the U.S.
- Around 1% of the world's population has autism spectrum disorder. That's more than 75,000,000 people
- 1 in every 100 children globally are diagnosed with autism spectrum disorder
- Autism prevalence has increased 178% since 2000

- The global autism spectrum disorder therapeutics market size was valued at USD 1.93 billion in 2022
- The market is projected to grow from USD 2.01 billion in 2023 to USD 3.42 billion by 2030, exhibiting a CAGR of 7.9% during the forecast period. (Fortune Business Insights)

# COMPETITOR SWOT ANALYSIS

	<b>Manatee Therapy (Indirect)</b>	<b>Spectrum AI (Substitute)</b>	<b>Traditional ABA Therapy (Direct)</b>
<b>Strengths</b>	<ul style="list-style-type: none"> <li>• Affordably priced</li> <li>• Access to mental health professionals</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to store and process large amounts of data related to ABA treatment</li> <li>• Uses AI to analyze insights and metrics to help improve conversations between therapists and families</li> </ul>	<ul style="list-style-type: none"> <li>• Evidence-based, known as the “Gold Standard” for autism care</li> <li>• Versatile: can be used in homes, schools, clinics</li> <li>• Adaptable</li> </ul>
<b>Weaknesses</b>	<ul style="list-style-type: none"> <li>• Only available in limited states</li> </ul>	<ul style="list-style-type: none"> <li>• Expensive</li> <li>• Primarily marketed towards mid to large businesses, mostly established ABA therapists and medical companies</li> <li>• Does not use AI to provide recommendations or aid in ABA therapy implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Resource-intensive, requiring lots of time, therapists, supervision, and ongoing assessments</li> <li>• Very expensive</li> <li>• Not covered by all insurances</li> </ul>
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>• Expansion into AI for in-between session support</li> <li>• Expanding into a broader market geographically</li> </ul>	<ul style="list-style-type: none"> <li>• AI based interventions</li> <li>• Global expansion</li> </ul>	<ul style="list-style-type: none"> <li>• Increased demand as awareness of autism increases</li> <li>• Telehealth can expand the reach of ABA services to underserved areas with limited access to in-person therapy</li> </ul>
<b>Threats</b>	<ul style="list-style-type: none"> <li>• Lots of competition</li> <li>• Safety concerns: lack of buy-in from parents who don’t trust virtual therapy</li> </ul>	<ul style="list-style-type: none"> <li>• Lots of competition in the medical record and ABA therapy markets</li> </ul>	<ul style="list-style-type: none"> <li>• Competition</li> <li>• Resource constraints</li> </ul>

# COMPETITOR SWOT ANALYSIS

	<b>Class Dojo (Substitute)</b>	<b>Birdhouse for Autism (Substitute)</b>
<b>Strengths</b>	<ul style="list-style-type: none"><li>• Intuitive and user-friendly platform</li><li>• Versatility: lots of features for behavior tracking and messaging</li><li>• Provides teachers with data insights into students' performance and behaviors</li></ul>	<ul style="list-style-type: none"><li>• Ability to track and manage large amounts of health data including schedules, medications, and behaviors to help parents understand insights about their child's progress</li></ul>
<b>Weaknesses</b>	<ul style="list-style-type: none"><li>• Not geared towards autism</li><li>• Messaging feature requires a lot of effort on the teacher's part</li></ul>	<ul style="list-style-type: none"><li>• Poor UX</li><li>• Lots of bugs in application</li><li>• Lack of updates to software</li><li>• Lack of resources to maintain app</li></ul>
<b>Opportunities</b>	<ul style="list-style-type: none"><li>• Global expansion</li><li>• Partnerships with educational institutions</li><li>• Enhanced data analytics</li></ul>	<ul style="list-style-type: none"><li>• AI generated insights</li><li>• Updated interfaces</li></ul>
<b>Threats</b>	<ul style="list-style-type: none"><li>• Competition</li><li>• Technological changes</li><li>• Lack of educational budget investment</li></ul>	<ul style="list-style-type: none"><li>• Competition</li><li>• Lack of updates leads to the app becoming outdated</li></ul>

# TIMELINE

## 1. Discovery & Research

- Desk Research
- User Stories
- Customer Discovery and User Interviews
- Interview Synthesis
- Journey Mapping, Persona Creation, Affinity Mapping
- Competitive Analysis
- Customer Problem Statement Creation

## 2. Analysis & Planning

- Stakeholder Analysis
- Risk Analysis and Mitigation Planning
- Defining Product Value
- Product Feature Defining
- Sprint Planning

## 3. Wireframing & Design

- Low, Mid, and Hi Fidelity Wireframes
- Design System Creation
- Test Plan
- User Testing
- Iteration

## 4. Prototyping, Testing, & Analysis

- Prototyping
- Usability Testing
- Iteration
- Create Final Pitch Deck
- Review and Present