Contract Book

MazLo

Founders: Shreya Singh, Yixin Yang, Zixuan Liu

Elevator Pitch

Abstract
Mental health support has been a developing need over the last decades. Despite this rapid growth of the mental health space, the applications available these days are also fragmented. Current solutions only address parts of the problem (like chatbots, mood trackers, etc), and there is no one tool centralizing the space. We aim to optimize this system, building on tailwinds of value-based care and clinical data-driven support tools. MazLo is designed with the guidance of therapists and psychiatrists in mind, to guide the collection of patient data in the mental health space and inform mental status. We aim to help provide efficient mental health data intake and management, inform needs, make connections for therapy, and optimize patient treatment. Overall, MazLo can bring about more intelligent mental health decision-making on the provider side and the consumer side and will save money and optimize happiness for both patients and providers, helping everyone understand themselves, better.

Introduction
Nowadays, mental health requirements have developed rapidly. According to data, 1 out of 5 American adults will have diagnosable mental health conditions, and the remaining 4 may also suffer from negative feelings such as anxiety and depression without noticing. That is, many of us experience suicidal thoughts, feeling hopeless, restless, self-hatred, or suffered from other mental health troubles, but don't even realize that this is instability in mental status, and seeking help is an option. A severe lack of pattern recognition means that we don't notice the alarm signs in our bodies, and there is a need for long-term, data-driven metrics in mental health to quantify these alarm signs.

We propose MazLo, our mental health secretary application. Named after Abraham Maslow, the pioneer of the famous hierarchy of needs, MazLo is founded on the principle that self-actualization and happiness are impossible without a base understanding of ourselves, especially our mental status. The MazLo app will act as a user's personal mental health secretary, and work to record and analyze a patient's mental state in a quantifiable way. With patients that are currently working with a therapist, MazLo can help them track their medicine intake, manage symptoms, take down thoughts and topics to share with the doctor outside of the office, quantify the effectiveness of a therapist's treatment, etc. And with people who may be undiagnosed but face stresses and troubles every day, MazLo can also help. MazLo can help us organize our thoughts and emotions, help us to discover symptoms that we haven't noticed before, prevent possible developing problems, and connect us with groups and therapists that can help if needed. Serving as the mental health secretary that can be carried around easily, MazLo can provide support, analysis, and clinical connections that fulfill users' personal needs.

Product Intention

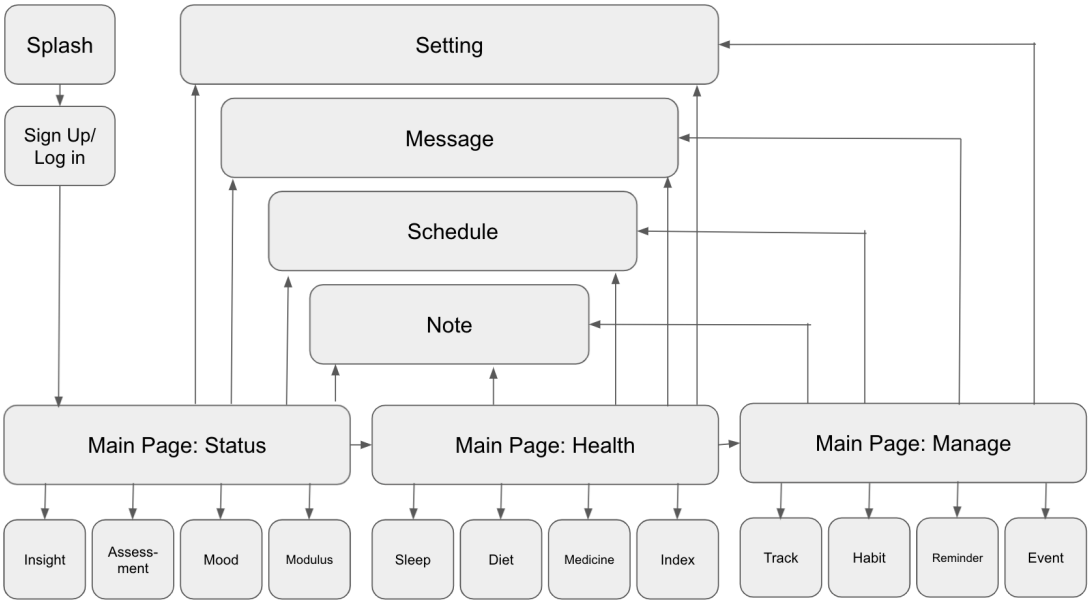
1. MazLo can work as a personal symptom management tool, which can allow users to track their physical and mental status and symptoms. It's beneficial for users to know their sleeping patterns, appetite patterns, mood swings, etc.

2. MazLo can also guide the patient to do the weekly assessment, which would be helpful for the therapist and patient themselves to know their current position and see their progress.

3. Users can use MazLo to take notes of conflicts and events on a daily basis, which can help them to avoid missing points when they meet with a therapist. It can also be helpful for the therapist to have more physical data to provide better treatment

4. Users can also use MazLo to communicate with therapists in real-time and also help them make appointments and manage their scheduling.

Product Schematic Design



Splash: The first page appears when opening the application.
Sign Up/Log in: The sign-up/login page for the user to access the application with email and password.

Main Page - Status: The page containing tabs that navigate the user to different sub-units including insight, assessment, mood, modulus, setting, message, schedule, note, and two other main-page categories.
Insight: The page contains all quantitative diagrams and predictive results. This includes the recorded moods and the results of the mental status questionnaires.
Assessment: The page contains all the questionnaires for mental status determination such as PHQ-9 for depression and GAD-7 for anxiety.
Mood: The page contains a simple mood tracker, where users can take a note of their moods for different times and dates.
Modulus: The page contains self-help practices such as meditations and breath practice would be suggested, as informed by the intelligent insights.

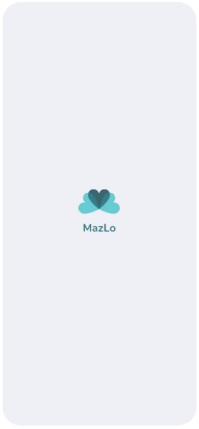
Main Page - Health: This page contains tabs that navigate the user to different sub-units including sleep, diet, medicine, index, setting, message, schedule, note, and two other main-page categories.
Sleep: This page contains a sleep tracker.
Diet: This page contains a diet tracker.
Medicine: This page contains a medicine tracker.
Index: This page contains the index input tabs for recording blood pressure, heart rate, and other health indexes for references.

Main Page - Manage: This page contains tabs that navigate the user to different sub-units including track, habit, reminder, event, setting, message, schedule, note, and two other main-page categories.
Track: This page contains a task or goal tracker, which the user can use to track their short-term goals and manage the results determined clinically, or personally determined through insights.
Habit: This page contains a reminder, where users can set notifications and reminders regarding their mental and physical health.
Reminder: This page contains a habit tracker, to track any positive habits that the user is looking forward to keeping up.
Event: This page contains an event tracker, where users can arrange the conflicts, confusions, and events that happened in their lives that they would like to discuss later.

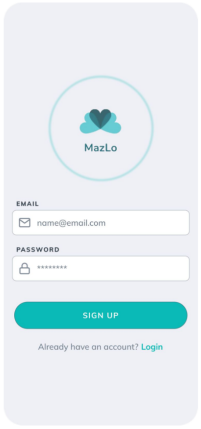
Setting: This page contains information about the user (name, icon, personal information, sync to iCloud) and general setting options.

Message: This page contains the message window for the user to be in contact with the doctor or therapist.
Schedule: This page contains the calendar and scheduling tabs for upcoming meetings, events, or appointments.
Note: This page contains the notebook function for the users to quickly jot down thoughts or emotions.

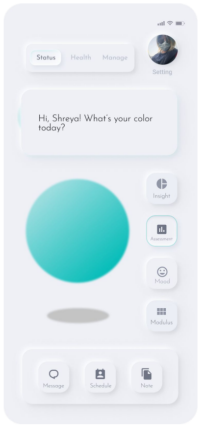
Product Design Demonstration



Splash



Sign up/
Log in



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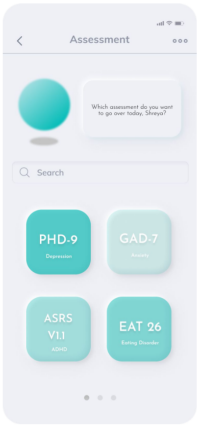
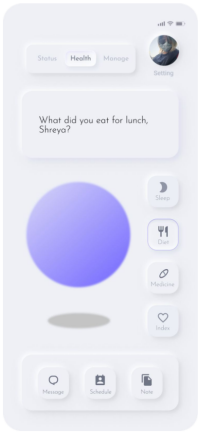
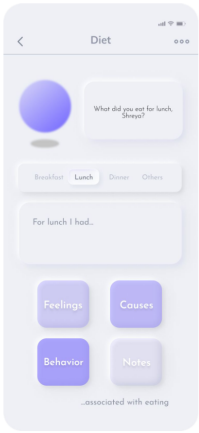


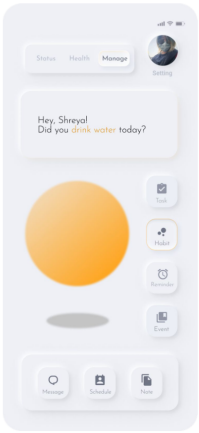
Status:
Assessment



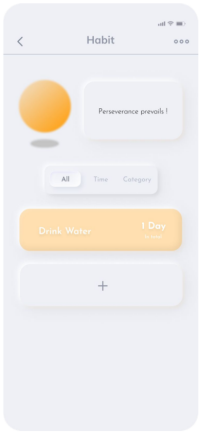
Health



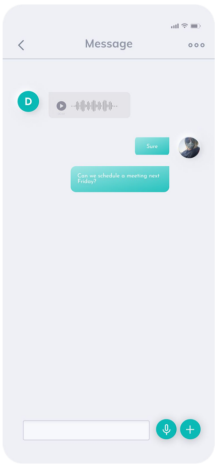
Health:
Diet



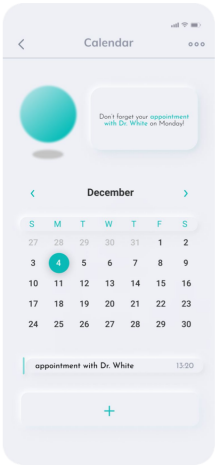
Manage



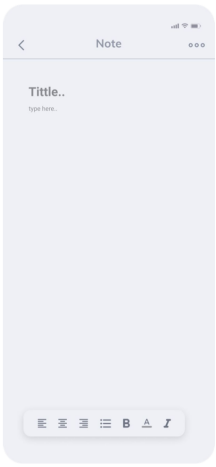
Manage:
Habit



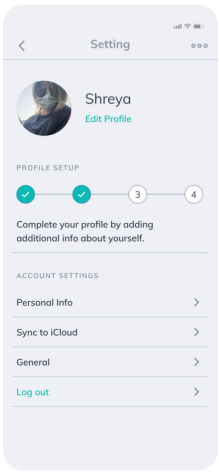
Message



Schedule



Note



Setting

Ethical Considerations

Ethical Consideration	**Description**
No use of dark patterns	No using word-choice or design to mislead or trick users for positive responses. No Ads disguised in regular content. No auto-ticking checkboxes for add-ons or subscriptions. No auto-subscription without notification. Etc.
Limited Permission Request	Only request permission to access other parts of users' mobile phones for functional needs (e.g. request permission to access photos when users need to upload a photo to the application)
Confidentiality	All user information is hidden and is not going to be shared with any other individual or organization without permission.
Informed consent	Users know the benefits, functions, and risks of using the application before using or declining to use or subscribe.
Data safety and privacy	User information would be kept by our company and not shared with other individuals or organizations. Connectivity to the Health Information systems is only happening with the permission of the users themselves.

Market

Market Research
To confirm our problem, we conducted two external market surveys. One was with a provider at a local outpatient therapy clinic in Baltimore, and the second was with an in-patient mental health provider in the Virginia INOVA hospital system. We surveyed both providers and asked them about (1) the current standard of care for mental health treatment, and (2) how they would view a tool such as MazLo.

Both these interviews confirmed our concerns that current mental health treatment is very qualitative. Those interviewed discussed how current metrics in the health space are all clinician-determined and include things like perceived success, perceived motivation, etc. There are surveys administered by the clinician every few months, but due to the lengthiness of these surveys, they cannot be administered more frequently. There exist no metrics today that are patient-recorded and at regular intervals more frequent than every few months. We also understood that while clinicians are open to the idea of software solutions to assist their decision-making, they do need to understand the decision-making process behind the software solution. Therefore, they are more likely to trust decision-support tools that they can use to help their practice, than diagnostic tools that try to replace the clinician.

Market Type
Our primary market is in the US, not globally. In the US, there are estimated to be 116,672 mental health practices, with 40 million adults in mental health care and an additional 100 million adults suffering and untreated.

We will be targeting the B2B (business to business) market first, by selling MazLo as software to health systems and mental health clinics. We will then target the D2C (direct to consumer) market, by selling the MazLo software as an app with a free and premium version, to help the larger 100 million adult population not currently in mental healthcare and suffering from some kind of mental illness.

Market Size
The mental health solutions market is estimated to be $3.3B by 2027, and is growing at a concentrated annual growth rate (CAGR) of 20.5%.

The initial B2B market has a calculated TAM of ~4.3B, using the pricing assumptions of charging $100 per patient per year for patients at each practice onboarded onto MazLo. The secondary D2C market has a calculated TAM of ~10B, calculated by charging $10 per patient per month for the population in the US, not in therapy but suffering from some kind of mental illness. These pricing estimates are based on current comparable software companies in the mental health space.

Business model

Overall, MazLo will be sold via a SAAS model or software-as-a-service model. This allows for easy scalability, with a focus on sales to behavioral health practices after initial product development.

Our business model is initially B2B sales to mental health clinics and health systems. We will charge a subscription fee ($100/patient/year) for every patient on-boarded onto the platform. This works out to $8.33 per patient per month.

After a few years, we will expand into the larger D2C market. Here, we will offer MazLo as an app with a free and premium version. We will charge $1-10 per patient per month for the premium version. For the free version, we will make money via advertising revenue.

Market penetration The mental health solutions market isn't a winner-take-all; there can be multiple players in this space that all succeed. Every patient is different, and this market is large enough to accommodate multiple companies with multiple different approaches to optimizing mental health treatment.

Even our highly conservative penetration estimates of the initial B2B market yield us ~10M in annual recurring revenue (ARR). If MazLo captures only 0.5% of the initial B2B market, this will give us $9.3M in ARR. This estimate includes selling to 0.5% of only large mental health practices, or practices with more than 10 clinicians. We estimate that these practices would be the easiest to sell to, as larger practices have more disposable income to spend on software solutions, whereas smaller practices may not be able to afford a solution like MazLo.

To discuss how we got the 0.5% penetration number: 0.5% of 18,721,088 total patients at large practices is 93,605 patients. Charging $100 per patient annually gives us a total revenue of $9.3M. And note this does not include the D2C secondary market, which is the larger opportunity.

Penetration rate
As discussed later in the GTM section, we anticipate contracts with ~10 mid-large behavioral health systems, or~$2M ARR, by 2024. This would be 0.05% penetration after two years of launch. At this rate, we envision scaling exponentially in the B2B market and hitting 0.5% market penetration by 2027.

Expected sales
As mentioned above, we anticipate contracts with ~10 medium to large behavioral health systems by 2024, giving us $2M ARR. From 2024 onwards, we aim to scale exponentially and achieve 0.5% penetration of the B2B market by 2027. We will also expand onwards into the D2C market in 2025, and expect additional revenue from that channel around then. D2C revenue estimates will be informed by our subsequent B2B sales.

Burn Rate
This $400k USD pre-seed round will give us 6 months of runway, so we see our initial burn rate as 66.6k per month. We will optimize our future burn rate depending on the size of the future rounds we raise. The Seed round is projected to give us two years of runway, and the Series A round is projected to give us one year of runway, but that could change as we grow and scale.

Competitive Landscape

	Overview		Symptom Management				Provider tools			Intelligent Insights		
	Teletherapy	Works with Therapist	Mood Tracking	Physical tracking	Self Evaluation	Task or Goal Track	Cognitive Behavioral Record	Conflict Or Event Record	Contact/ Scheduling with Therapy	Data report and Insights	Self-care Modulus	Personal interventions
MazLo		√	√	√	√	√	√	√	√	√	√	√
Woebot	√		√									
Calm											√	
Happily			√								√	
Moodfit			√	√	√	√	√			√		

Although we are a mental-health-related application, MazLo does not perform actual diagnoses for mental diseases. Thus, the main competitors of MazLo would not be the online therapists or therapy-connecting tools such as WoeBot.

MazLo includes many functions that self-care competitors have, such as modulus, mood tracking, assessments, and personal interventions. Our competitors such as moodift do have part of these functions, but not as well-rounded as MazLo.

Besides, feelings, triggers, and behavior analysis are also guided to be put down from the users in health trackers, allowing users to track their physical and mental status and symptoms, and making MazLo much more competitive than competitors with simple trackers only.

GTM

GTM Timeline
By Q2 2022, we aim to have our product developed, and alpha & beta testing for the product complete. At this point, we aim to start a population-wide validation study. Even though we don't need FDA approval for MazLo, a successful population-wide validation study will make our future sales to mental health practices easier. At this point, we will also raise a Seed Round to hire an initial sales team and finance our validation study.

By Q3 2023, we aim to have contracts with two initial behavioral health systems. We also hope to have letters of approval from key opinion leaders, or KOLs, in the psychology and clinical mental health space. This will also support our future sales. At this point, we hope to have our validation study read out. Ideally, this readout will be positive, allowing us to bolster sales and expand our marketing strategy.

By Q2 2024, we aim to have contracts established with ~10 mid-large behavioral health systems, yielding us ~$2M ARR and 0.05% penetration of the initial B2B market. We will also raise a Series A at this point.

By Q3 2025, we will expand to the larger D2C market, allowing us to target people that are not in therapy. We will raise a Series B at this point, to further bolster our sales into both the B2B and D2C markets.

Additional products in the pipeline
As outlined in the timeline, we aim to expand into the D2C market in Q3 2025. We would offer MazLo as an app available on app stores, rather than just the software we had been selling in the B2B market.

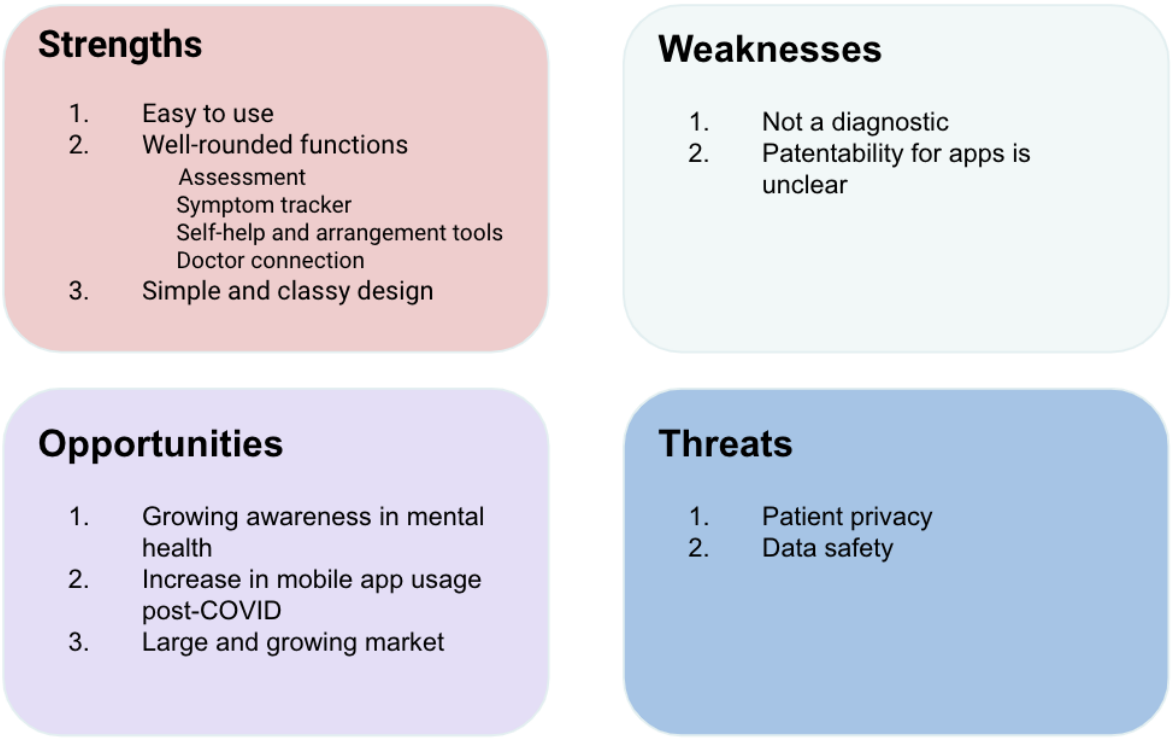
Marketing strategy
As outlined in the GTM timeline, our initial marketing strategy is largely predicated on our validation study. If we can onboard a few mental health clinics to our validation study and prove that MazLo is creating clinical improvement for both patient and provider, that will make future sales much easier. We also will spend money on a sales team to directly sell to these different mental health clinics and health systems.

Reimbursement strategy

With regards to the B2B market, we aim to sell directly to mental health practices and health systems. These practices would pay us for each patient they onboard onto the platform. This allows a structure where the clinics pay for patients, and the patients just pay for the original therapy session. Each clinic can choose how they want to bill MazLo to each patient.

If clinics do choose to bill their patients for MazLo, we expect reimbursement for MazLo to be favorable. This is due to trends in reimbursement that support more quantitative decision-making tools, as well as massive increases in value-based care in the mental health space.

SWOT Analysis



Our strengths are that the application is easy to use, as shown in the above app mockups. It has well-rounded functions that can honestly track a patient's mental health. Its design is also appealing to use.

Our opportunities are that there is a growing awareness, especially in younger generations, on mental health and self-understanding. This has been expedited by COVID, as more time at

home has prompted many to think about mental health more, as well as use mobile apps more. Lastly, the market opportunity here is large and growing.

Some weaknesses we've outlined are that we are not diagnostic and that the patentability for apps is unclear. However, both of these weaknesses are mitigated. While we don't claim to diagnose, we found from our market research that clinicians do not want a tool that replaces their practice. Also if we were a diagnostic, we would need to get FDA approval and we otherwise do not. The patentability of our app is also outlined here as a weakness, but as discussed in the upcoming patentability section, apps in this space do not need to have IP to succeed, and so we do not believe that IP is necessary at all, or make-or-break, for MazLo.

Some threats we've outlined are that MazLo must prioritize patient privacy and data safety. These are things that we are actively thinking about, and will take the appropriate steps to address and mitigate.

Patentability

Our system
The patentable aspects of our system include (1) proprietary data collection surveys and questionnaires, (2) data entry and secure cloud storage systems, and (3) machine learning algorithms used to generate insights. We can also potentially patent the applications of these technologies specifically in the virtual psychology space. We've seen this with Woebot health, which has patented their NLP chatbot for the mental health space specifically.

However, we also want to note that securing IP is not necessary for the success of our business model. Many competitors in the mental health space do not have internal IP on their tech. For example, Betterhelp has no IP, Calm App has IP only on their internal content, and Moodfit (our closest competitor) also only has IP on their internal content. The success of a company in this space depends on the strength of product-market fit and the strength of a sales team. Empirically, IP does not make or break a company in this space.

Existing patent

201213460857A - Almosini - 11/06/13
This patent is entitled "Mental health digital behavior and monitoring system and method." They collect online data from a user (social media, emails, browsing data, Netflix consumption, etc.) and analyze this data using AI algorithms. Irregularities are flagged by comparing the activity data to a baseline, and this information is used to monitor a user's state of mind. Alerts may be sent to a mental health professional if an irregularity indicates a user may be having a mental health crisis.

This patent was created with the same founding principles of MazLo and is perhaps the largest piece of evidence supplementing the fact that an app like MazLo can be patented in its entirety.

After all, this patent specifically states that this user information could fill a key gap between appointments that a clinician is unable to monitor. However, this patent wouldn't occlude MazLo from anything, as our analysis is on our collected user data, not on online activity data.

2015025403 - Chang, et al. - 01/01/15
This patent is entitled "Mood analysis method, system, and apparatus," and describes a medical device that uses a user's ECG (electrocardiogram) to determine heart rate and parasympathetic/sympathetic nervous system state. These systems are uniquely activated in response to depression and anxiety, and this device analyses these nervous systems to determine a user's mood. Therefore, this application patents a "mood analysis system" that analyzes and displays a user's mood according to the user's ECG.

This patent is exclusive to ECG data, so will not prevent us from doing analysis using the data from our surveys. However, it is a great proof point for the fact that biometric data can be used to determine mood, and that these analyses can be patented.

Regulatory analysis

MazLo is not an FDA-regulated device, as it is a decision-support tool and not a diagnostic tool. This is defined by the 21st century CURES Act, which states that something is not an FDA regulated device if (1) it is not processing medical signals or images, (2) is intended for displaying/analyzing/printing patient info, (3) it is intended solely as a recommendation, and (4) a healthcare professional will not primarily rely on it. MazLo meets these four criteria, meaning it is not FDA regulated. However, we will complete at least one population-wide validation study to prove the efficacy of the platform and help us sell.

Company Spend

Budget
MazLo's budget for this pre-seed round is outlined below. As can be seen, most costs here go towards product completion and validation study recruitment. Product completion gets us through the development of the software, as well as alpha/beta testing and hiring of one software engineer. We also start sales efforts by hiring a sales team member and starting B2B provider outreach. The remaining costs are miscellaneous.

Item		Estimated Cost
Product Development		
Software Engineer Salary x1	$	80,000
Website/domain fees	$	1,000
App development misc fees	$	5,000
Data compliance audits	$	2,000
Alpha/beta test management	$	5,000
Validation Study Prep		
Validation study recruitment	$	5,000
Marketing costs		
Sales Team x1	$	80,000
Provider outreach for B2B channel	$	30,000
Misc		
Founding Team Salary x3	$	180,000
TOTAL	**$**	**388,000**

Personnel (current and recruitment strategy)
Current personnel includes the three founding team members, each with annual salaries of 60k per year. We aim to recruit one sales team hire and one software engineer, each with salaries of 80k.

Our software engineering hire can be relatively junior, but we aim to recruit someone with an understanding of how to make applications like this compliant and secure. Our sales hire is targeted to be someone mid-level, as they need to have had some experience working in the mental health space, but not too much experience to where they are too expensive for a company at our stage to hire.

Funding strategy

Valuation
We are raising a $400k pre-seed round, at a pre-money valuation of $1.6M and a post-money valuation of $2M. This works out to 20% investor equity at this pre-seed round. This round will give us 6 months of runway and will support app development and validation study recruitment

Earning multiplication
At this stage, MazLo is still pre-revenue, so our valuation is predicated upon the large market opportunity in the space, as well as the space's growth potential. As we become revenue-generating, we will start calculating our valuation as a multiple of our revenue/earnings. In the mental health space, this multiple can range from 12-20%, depending on investors and company traction.

Exit strategy

Our goal is to grow MazLo to IPO, instead of exiting relatively early via acquisition. We believe that our approach to the mental health space is unique and that we are well-poised to execute on our vision of bringing quantitative decision-making to a previously qualitative field. However, we are open to the idea of being acquired at the Series B to Series C stage by a larger mental health solution that has a larger reach of practices than us and can help us get MazLo to more and more patients. Sales are our largest scaling barrier, so we would be open to acquisition if it helped us achieve this larger goal.