Summary Target Market Analysis & Competitive Landscape Summary for Avatar Buddy, AGI for Adolescents
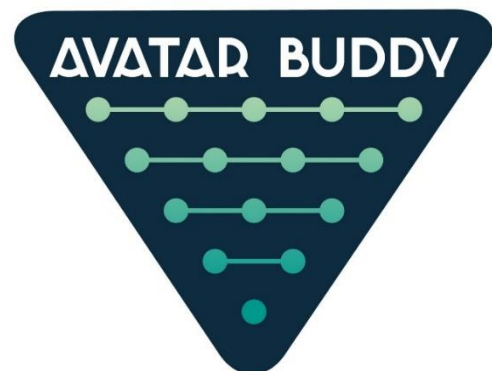
A product of TheSAS Group

CREATING A
LEGACY THRU
A LIFE TIME
OF MENTORSHIP

AVATAR BUDDY

[Investor Release October 2019]

Why Avatar Buddy was Created

Studies show that **Emotional Intelligence**, i.e., the capacity to be aware of, control, self-regulate and express one's emotions, and to handle interpersonal relationships empathetically, is a key factor in a person's trajectory in life.

Fortunately, Emotional Intelligence (EQ) can be taught and reinforced, and a growing field of Social Emotional Learning (SEL) tools are proving effective in helping diverse groups acquire and apply Emotional Intelligence skills that enhance users' ability to succeed – in life, school and career.

In the corporate world, EQ trainings have multiplied to improve the productivity and relationship skills of employees. In the mental health sphere, EQ skill-building strategies are proliferating as elements of treatment. And in the youth development sector, EQ tools are a growing part of the repertoire of interventions to help youth to realize their full potential.

For this last group, studies attest that youth who are fortunate enough to have emotionally skilled and mentors to re-enforce their emotional intelligence learnings excel more than those who do not.

Avatar Buddy was created within this context. It will be one of the first tools to harness artificial intelligence, emotional intelligence skill-building capacity for the consumer market. In its first market release, Avatar Buddy will be a tool to fill the gap in EQ skill-building in the lives of adolescents; it will function as a mentor for teens who don't have a mentor and provide 24/7 access for those who have a mentor.

What Avatar Buddy Is/Does

Avatar Buddy is an intelligent online mentor, who makes the user the center of an on-going relationship. Functionally, Avatar Buddy is an emotional intelligence (EQ) skill-building interactive software designed for individual use on smart as a daily life companion.
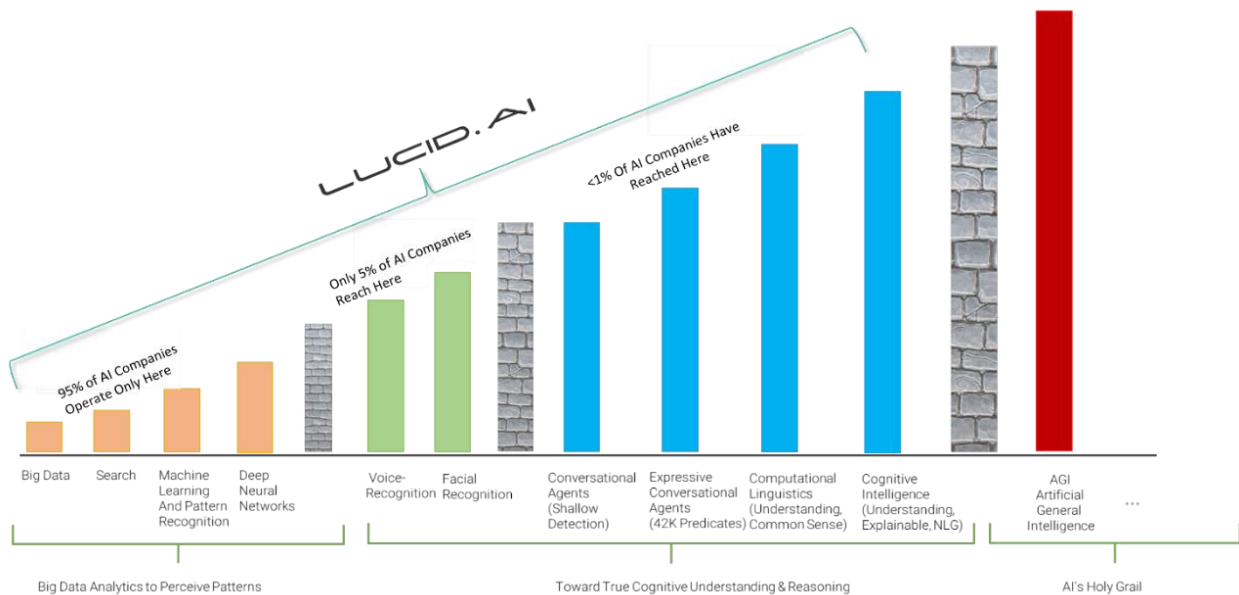
It leverages one of the world's most advanced artificial intelligence technologies – Lucid.AI's Cyc – to offer users a coach or companion capable of *listening* to them, ***recalling prior conversation***, building on prior conversations, and ***responding with insight*** on topics of interest to the user.

Position in the Emerging AGI Space

Avatar Buddy will deploy artificial intelligence (AI) capacity that only 1% of AI firms have achieved to date. Unlike mental health chatbots that use machine learning and pattern recognition to determine what responses should be given during interaction with the end users, , Avatar Buddy cognitive AI to interact with the end users by actively learning the end user to provide personalized feedback.

This makes Avatar Buddy more human-like in its capacity to remember past conversations with users, and personalize interaction. Avatar Buddy leverage digital personas in two ways – one by creating a digital persona of the end user to ensure personal responses and two by creating mentors who are either celebrity or "every day" people which provide personalized responses to the end users.
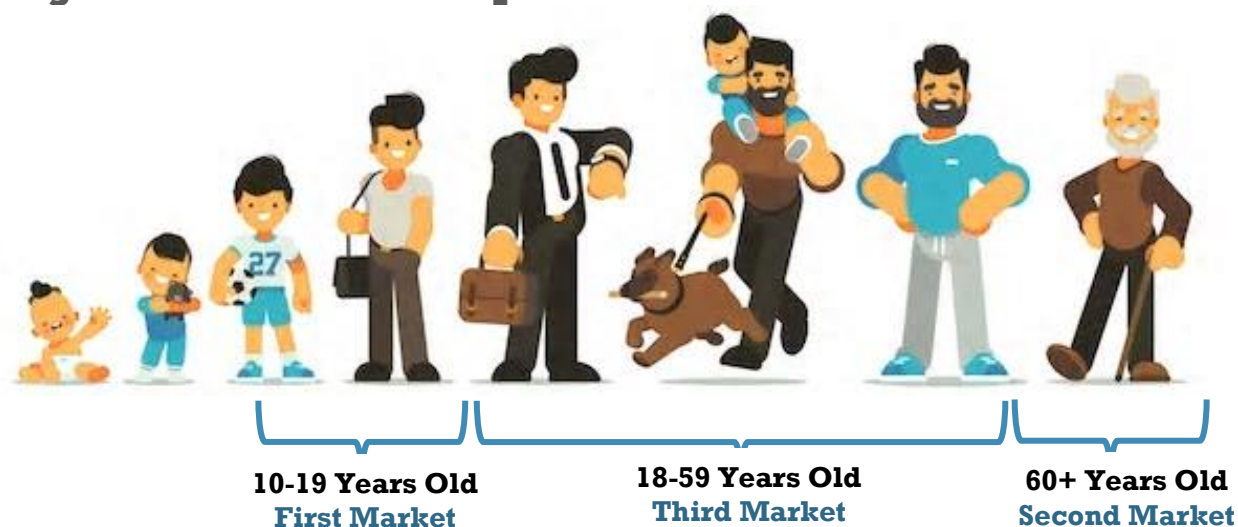

The User Experience

For adolescent users, Avatar Buddy will provide a menu of mentor options for the "best match" to the user's personality. Mentor options will include **celebrity and business icons** with the name recognition and markers of success that can engage adolescents, in addition to **everyday heroes.**

The solution will be designed to give solid advice on topics that many adolescents struggle with. During initial release, Avatar Buddy will be designed to engage in dialogue about how to manage emotions and interactions around bullying, first love and creating friendships. Over time, Avatar Buddy will be equipped for dialogue around added focus areas such as body image, health and weight management, financial management, and college and career planning.

User Features of MVP

- Users communicate with Avatar Buddy via voice and text inputs
- Avatar Buddy will be deployed with both English and Spanish capabilities and will be accessible via all popular smart devices (phones, pads and lap/desktops).
- Avatar Buddy will have the ability to recall dialogue with the user, remembering what was talked about yesterday and able to converse on the topic tomorrow.
- Avatar Buddy will be equipped with screening capabilities to discern mild, moderate or severe mental health in users and will refer those with moderate to severe mental health issues to professionals for support, and disallowing use of the solution..

Stages of Market Development

10-19 Years Old	18-59 Years Old	60+ Years Old
First Market	**Third Market**	**Second Market**

Market Phases

- Its first market release will provide a mentor for adolescents in the 5th through 12th grade, who responds with loving kindness to their questions, reactions, and comments.
- Its second release will encase the real-life persona of celebrities and business leaders creating a legacy version of themselves to share with current and future generations.
- When the persona capabilities are deployed, its second major release stage will be deployed concurrently – the seniors who want to create a legacy for their family and friends and/or providing a life-like companion for those whom they may leave behind.
- As additional features and functionality are added that can support a young adult, the third market will be launched, helping adults in career-building stages using the tool for life or career coaching.
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Beyond the Minimally Viable Product (MVP) stage, Avatar Buddy for adolescents will undergo two major rounds of development.

- **The Round 2 Release** (the Lore Stage) will feature the image of celebrity mentors who have entered agreement with Avatar Buddy. The mentor will be equipped to interact with users from his/her/their world view which will be accomplished through a partial mind file building process.
- **The Round 3 Release** (the Persona Stage) will feature the image of celebrity mentors along with their built-persona, i.e., their actual personality, after comprehensive mind-file building. At this stage, the solution will be equipped to provide advice, coaching and mentoring to its users.

	MVP Release	**Round 2 Release**	**Round 3 Release**
Celebrity Mentor	The Image Stage will feature generic mentors, represented by cartoon images, with generic cognitive reasoning capacity and equipped to interact with users in three focus areas (below). e.g., bullying, first love and creating friendships) using a body of knowledge vetted by child psychologists.	The Lore Stage (Phase 1 - Mentor World View)	The Persona Stage (Phase 2 – Mentor Personality)
Emotional Intelligence Focus Areas	▪ Bullying ▪ First Love ▪ Creating Friendships	▪ Body Image ▪ Make-Up ▪ Sex	▪ Weight management ▪ Nutrition ▪ Substance Abuse Prevention
Uses	▪ Informational inquiries ▪ Questions & Responses	▪ Informational Inquiries ▪ Questions & Responses ▪ Mentoring	▪ Informational Inquiries ▪ Questions & Responses ▪ Advice ▪ Coaching ▪ Mentoring

Second Market

In a future stage of development, the 5th to 12th grade solution of Avatar Buddy will be leveraged to create versions for other unique groups who lack or can benefit from emotionally intelligent companionship, beginning with elders, age 65 and over. The senior version can help alleviate the suffering that stems from isolation and stress in this "third stage" of life. Senior users will be given the opportunity to select a love one who is willing to have a digitalized personality created, such as a spouse in their final stage of life. Once the digitalized persona is created, the senior will use the product to communicate and interact with that person as if the person was there with the senior.

Third Market

Another version of Avatar Buddy has the potential to assist **working age adults**, ages 18 to 64, with emotionally intelligent companionship to help them navigate life's daily circumstances. For this group, Avatar Buddy will provide an on-demand mentor. This version has the same functionality as adolescent version.
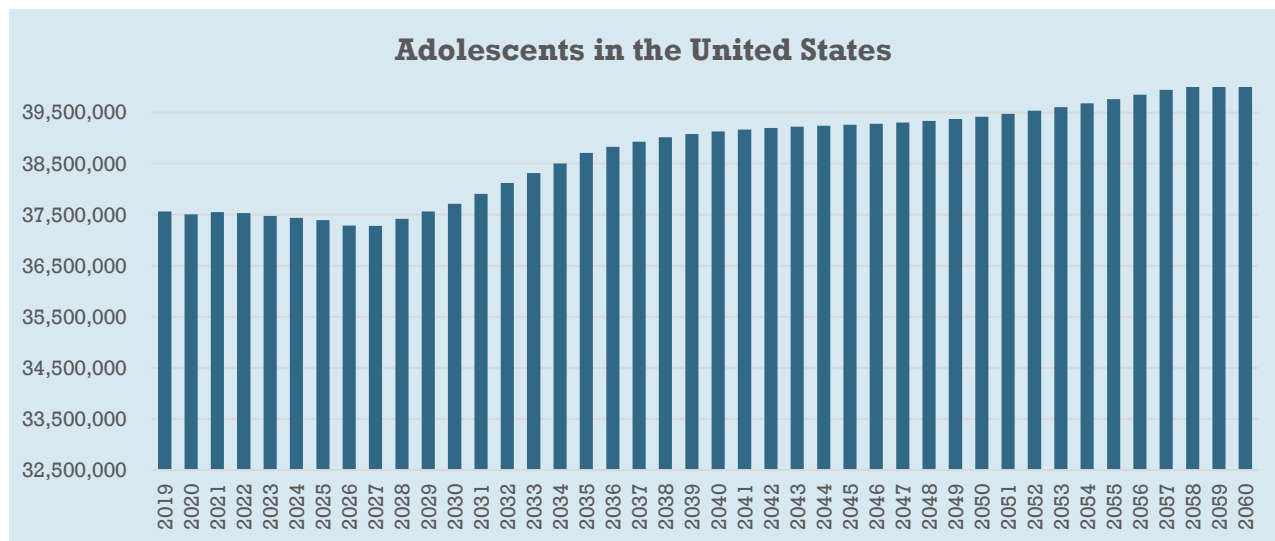
Target Market Sequence

Target Market Sequence

The immediate target audiences are 1) teens, in grades 5 to 12 and b) seniors. On-going research will cultivate niche segments within these two groups.

Adolescents	Seniors 65+
✓ At-risk of development mild-to-server mental health issues ✓ At-risk of academic failure or juvenile delinquency ✓ Cross-over youth in elite settings, struggling to assimilate	✓ Caregivers of ill and incapacitated spouses & loved ones ✓ Spouses whose husband or wife is in their final stages of life ✓ Grandparents leaving a legacy for children and grandchildren

Total Available Market (TAM)

Census projections show continued growth in the nation's adolescent population. By 2040, the nation will have over 39 million residents ages 10 to 18. The number will surpass 40 million by 2059.

Adolescents in the United States

Served Addressable Market (SAM)

Avatar Buddy is designed to positively impact the life trajectory of youth by leveraging Artificial General Intelligence (AGI) to create the presence of a loving adult for users who don't have one in their lives and to amplify the presence of a loving adult for users who already have one in their lives.

Though this definition cuts across socioeconomic and demographic groups, the product's initial market strategy is to focus on "at promise" youth who – due to the economic circumstances or health status of their families – are at risk of failing to realize their full potential.

Avatar Buddy's SAM includes low- and moderate-income youth, youth exhibiting risk behaviors, and youth with first tier mental and physical health challenges. Below are metrics that indicate the size of the market for Avatar Buddy.

Youth Experiencing Depression

"A surprisingly high number of students report depression during adolescence," according to the most current reporting of the U.S. Department of Health and Human Services[i], with 39% of female high school students and 21% of male high school students reporting depressive symptoms. That translates to three in 10 high school students (30%) reporting symptoms of depression in the past year, according to a study conducted in 2013.

> *Among students diagnosed with a major depressive episode in 2013, more than six in 10 did not receive treatment.*

In this space, Avatar Buddy is a preventive and early detection tool that can help teens develop emotional resilience and healthy relationship skills. According to National Alliance on Mental Illness, half of all chronic mental illnesses begin by age 14.

Low-Income Youth

Compared to adolescents living in higher-income families, youth living in poverty or below the "low-income" level are far more likely to struggle in school, and to suffer behavioral and emotional problems. They are also more likely to engage in risk behaviors, and as a result, are more likely to be involved in the juvenile and criminal justice systems, more likely to become pregnant, and more likely to suffer physical ailments and mental health crises.

In 2017, two in five children under 18 were living in families with incomes below 200% of the federal poverty line (defined as an income of $51,500 or less for a family of four in 2019).

By family type, children in single-parent households make up a lion share of the nation's low-income youth. This group makes up 55.4% of low-income children in the United States; and 67% of children in single- parent households are low-income.

By race & ethnicity, children of color are a large majority of low-income youth in America.

By number, there were over 29 million low-income children in the U.S. in 2017.

Children by Income Level

42% low-income
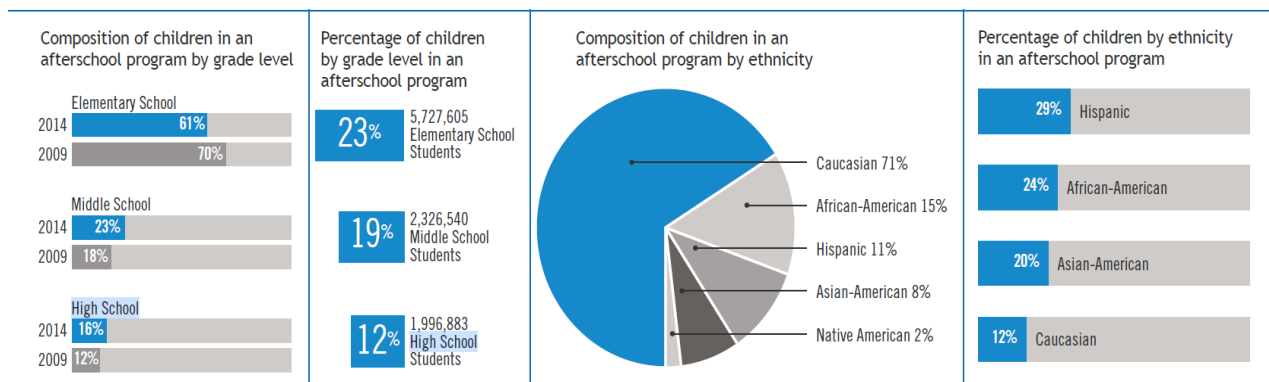
■ In Poverty   ■ Low-Income   ■ Above Low-Income

Afterschool Enrolled Youth

According to the most recent comprehensive study by The Afterschool Alliance (conducted each five years), participation in afterschool programs increased between 2005 and 2009 and grew again between 2009 and 2014 when 10.2 million children (18%) participated in an afterschool program.

Avatar Buddy's target market (adolescents) make-up roughly 43% of the total. As of the 2014 study, there were nearly 4.4 million middle and high school students enrolled in after school. The Afterschool Alliance reports that participation by middle and high school students saw significant increases between 2009 and 2014.

Here again, children of color (non-white) make up a lion's share of Avatar Buddy's target market segments. They make up 88% of children enrolled in after school programs in the most recent year captured by The Afterschool Alliance (see graphic below, right side).

Composition of children in an afterschool program by grade level

Elementary School
2014 — 61%
2009 — 70%

Middle School
2014 — 23%
2009 — 18%

High School
2014 — 16%
2009 — 12%

Percentage of children by grade level in an afterschool program

23% — 5,727,605 Elementary School Students
19% — 2,326,540 Middle School Students
12% — 1,996,883 High School Students

Composition of children in an afterschool program by ethnicity

Caucasian 71%
African-American 15%
Hispanic 11%
Asian-American 8%
Native American 2%

Percentage of children by ethnicity in an afterschool program

29% Hispanic
24% African-American
20% Asian-American
12% Caucasian

Serviceable Obtainable Market (SOM)

The go-to-market strategy for Avatar Buddy will initially focus on adolescents enrolled in after-school and out-of-school programs for academic enrichment, personal enrichment and juvenile delinquency prevention, as well as "system-involved" youth in detention or community supervision programs as well as youth whose families are involved in cases of suspected child maltreatment.

TheSAS Group will operationalize its market strategy with a hyper-local geographic focus. Piloting and initial release of the product will be anchored in Miami-Dade County. Adjoining South Florida counties will be growth territory in year one, followed by statewide expansion as additional buyer partnerships are created.

The product will be sold through national partnerships in year two and beyond.

	Miami-Dade	South Florida	Florida
All Adolescents	310,085	696,177	2,354,396
After-School Enrolled Adolescents	46,513	104,427	353,159
Avatar Buddy Users	11,628	26,107	88,290

Deployment Strategy

Avatar Buddy will initially go-to-market by establishing sales partnerships with two types of national and regional organizations – public and private:

- Public and private funders and administrators of youth development and after school academic enrichment programming, such as the national Office of Juvenile Justice & Delinquency Prevention, the U.S. Department of Education, and others. This terrain offers multiple access points to engage adolescents, including Afterschool enrichment and youth development program providers and trade and development associations such as the Afterschool Alliance, the Alliance for a Healthier Generation, and state-level Departments of Education.

- Insurance companies will be partners in affinity marketing programs, offering Avatar Buddy to their insured customers a discount as part of their menu of wellness and prevention tools to foster good health. One example is Florida Blue's 365 Tool.

For both groups, Avatar Buddy will present a social enterprise opportunity whereby a portion of sales proceeds will be retained by partner organizations to seed their community development work.

Competitive Landscape Summary

Urban Market Analytics (UMA) reviewed public data on quasi competing products, to evaluate both their business models and market strategies. It is important to note that none of the products approximate the technology and functionality of Avatar Buddy. They were selected based upon their utility within Avatar Buddy's target market. Only one of the products below touts a foundation in artificial intelligence (Youper, which reports to be the world's first AI-powered Emotional Health Assistant; it uses Artificial Intelligence to help you monitor and improve your mental health).
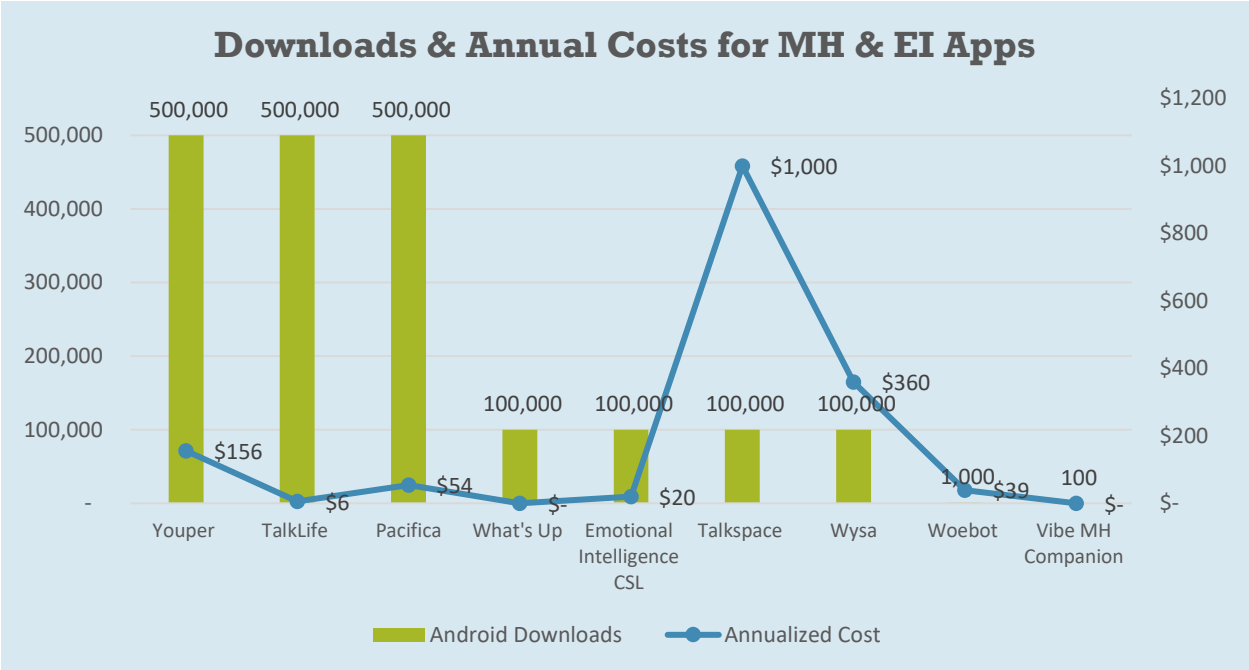
Pricing

Their price points for one year of use ranged from $0/free to several thousand dollars. The average annual cost to users was $320 and the median annual cost was about $29.50 (these figures include the outlier of the bunch – TalkSpace, which UMA estimates may cost approximately $3,000 for 12 months of use. Most offered free download.

Penetration

Only a handful of the products analyzed had 100,000+ downloads. Headspace tops the list, with 4.5 million downloads. Google reported 500,000 users for Youper, TalkLife and Pacifica.

The graph below reflects only the products for which UMA found both annual use cost and Android downloads.

Downloads & Annual Costs for MH & EI Apps

Capital Raised

At least seven of the thirteen products reviewed by UMA raised equity, and the amount of capital raised bears some correlation to market penetration.

Headspace and Talkspace raised the heftiest sums (at $85 million and $57 million, respectively) and had among the highest download counts (4.5 million and 500,000, respectively).

Pacifica is the exception. The product has 500,000 downloads but has raised a mere $54,000.

The Pacifica app, by Pacifica Labs, Inc, is an app that can help address anxiety issues based on Cognitive Behavioral Therapy-based principles. Tools and activities include meditation, relaxation, mood and health tracking tools.

The mediation tool includes more than 30 audio exercises involving deep breathing and muscle relaxation. The audio and text journals claim to help users understand and challenge their thinking patterns to and guide them toward more positive perspectives. The health tracker monitors habits that trigger anxiety such as exercise, sleep, caffeine, alcohol, etc., and, based on these, helps users to set goals that will improve their mood.

Pacifica also gives the user access to its community of peers where they can share stories, tips, and support. The app can be downloaded on both Apple and Android devices for a monthly ($8.99), yearly ($53.99) or lifetime ($199.99) fee.

The advisory board of clinical experts consists of licensed psychiatric, psychology and behavioral Ph.D. holders.

Products Evaluated

Column1	Year Begun	Equity Raised	Annualized Cost	Total Downloads	Android*
Headspace	2010	$84,942,000	$145.05	4,500,000	
Youper	2016	$3,000,000	$155.88	500,000	500,000
TalkLife	2015	$1,800,000	$ 5.99	500,000	500,000
Pacifica	2014	$ 53,800	$ 53.99	500,000	500,000
What's Up	2016		$ 0	100,000	100,000
SoaresLifestyle	2018		$ 19.96	100,000	100,000
Talkspace	2012	$56,700,000	$3,068.00	100,000	100,000
Wysa	2015	$1,300,000	$ 359.88	100,000	100,000
Teen Girl Health			$0	1,000	1,000
Woebot	2017	$8,000,000	$ 39.00	1,000	1,000
Vibe Mental Health Companion	2018			100	100
Moodkit	2010		$ 5.00	0	0
Moodnotes	2010		$ 3.99	0	0

About the Technology by Cyc, Inc.

Cyc technology was built over 35 years, by 2000+ Ph.D. scientist-years' effort. Cyc's ever-growing common-sense and domain-specific Knowledge Base (KB) is the broadest, deepest, most complete AI tool ever developed. It understands (represents fully) real world contextual nuance that other AI can't, like culture, emotions, time, space, beliefs and bias. The Knowledge Base comprises:

- An ontology of about 1.5 million general concepts (e.g., taxonomically "placing" terms like eyes, sleep, night, person, unhappiness, hours, posture, being woken up, etc.);
- More than 20 million general rules and assertions involving those concepts (e.g., that most people sleep at night, for several hours at a time, lying down, with their eyes closed, they can be awakened by a loud noise but don't like that, etc.); and
- Domain-specific extensions to the commonsense ontology and knowledge base in areas such as healthcare, intelligence, defense, energy, transportation, and financial services.

Cyc complements its own knowledge by accessing the data it needs to solve problems, wherever that data exists. Just as with a human practitioner doing that task, Cyc "looks up" what it needs, as it needs it. This is a sort of virtual data warehousing: Cyc does not do a wholesale import of the data into its Knowledge Base. In order to access that customer and/or 3rd party databases and web services, a semiautomated schema-mapping tool (which itself uses Cyc!) is included as part of the Cyc platform. Click here for more information on Cyc. ■

30+ YEARS STRONG	**$300M** INVESTED	**300+** RESEARCH PROJECTS
100+ CORPORATE PROJECTS	LUCID.AI ARTIFICIAL INTELLIGENCE	**4M+** PhD HOURS
25M+ ASSERTIONS	**1.5M+** CONCEPTS	**7T+** LOGICAL EXPRESIONS
FORTUNE 100 CLIENTS FINANCE, HEALTHCARE, ENERGY and SEMI-CONDUCTORS	**15 US GOVT. AGENCIES**	**GLOBAL LABS** MAYO CLINIC, MIT, CORNELL, STANFORD, UNI BREMEN