Health Tech Mobile Apps

LANDSCAPE OVERVIEW

MARKETS, TECHNOLOGIES, COMPANIES, INVESTORS, TRENDS

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DEEP KNOWLEDGE VENTURES

HealthTech Mobile Apps Landscape Overview 2018

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Executive Summary

This report provides an overview of the trends, structures, drivers, challenges and opportunities in the Health Tech Mobile Applications industry. The report also provides insights into the competitive landscape of the industry and how it shapes the world. We have analyzed and concisely summarized the major driving trends of the industry, and surveyed the impact and benefits of mHealth in general, with the aim of informing readers about the current and future trends adopted by the key players of the industry and to determine the overall competitiveness of the market.

This report is based on an analysis of **100 mobile apps** and **120 investors** in the HealthTech Mobile Apps sector. The 10 subsectors by which we categorized companies include: Brain training, Geo tracking, Meditation, Nutrition, Period tracking apps, Productivity and Performance, Quantified Self apps, SleepTech, Sport and Fitness apps.

The Mobile Apps industry has grown steadily for almost a decade, and that growth seems to be continuing well into the 2020s. App developers will need to adapt to changing circumstances and increased competition, new monetization models changing in tandem with changing user taste, and the way consumers interface with HealthTech mobile apps is likely to change as service apps and the Internet of Things will grow in prominence. The global mHealth market is expected to reach USD 111.8 billion by 2025, growing at a CAGR of 44.2%.

A thorough **competitor analysis** is also presented in the report. The Eterly mobile app and 20 other healthcare mobile apps are profiled. The analysis is based on the comparison of the following criteria: Life extension algorithm, AI, Personal Medicine, Automated personal assistance, Daily advice, Progress tracker and SleepTech technologies.

The main trend in mHealth which identifies the industry in its short and midterm perspectives is AI. However at the current time there are very few projects with AI incorporated into HealthTech mobile apps, as well as apps that employ advanced data science and AI-empowered big data analysis to create personalized AI recommendation systems, which constitute features that we predict will become hallmarks of HealthTech mobile apps within the next 1-2 years. The goal of this report is to provide an analysis of the current state and landscape overview of the Health Tech Mobile Apps industry, to outline major trends and perspectives of its further development.

The purpose of HealthTech apps are to increase access to healthcare and health-related information (particularly for hard-to-reach populations), improve users' ability to diagnose and track diseases, and expand access to ongoing medical education and training for health workers.

In 2016 the global number of mHealth apps has reached 259,000 apps. Today there are over 59,000 mHealth apps on the main app stores worldwide, and the trend is only rising. In fact, the healthcare mobile app development industry is one of the fastest growing today.

The global mHealth app market grows at a tremendous rate of 32.5% CAGR, and by the end of 2017 will reach $26 billion in revenue. The global market for mobile medical apps is projected to reach $102.43 billion by 2022. The mHealth app market size was valued at USD 4.19 billion in 2016 and is projected to grow at a CAGR of 44.2% over the next 5 years.

- 66% of Americans use mobile platforms to manage their health issues. 79% use a wearable device (Pulse of Online Health, 2015);
- Almost 100K health-related apps have been added by 13K new publishers to the market since 2015. At that moment, there had already been 259,000 medical apps in major app stores (Research2Guidance Annual mHealth Report, 2016);

The motivation behind the development of mHealth apps arises from two factors. The first factor concerns the myriad constraints felt by the healthcare systems of developing nations. These constraints include high population growth, a high burden of disease prevalence, small healthcare workforces, large numbers of rural inhabitants, and limited financial resources to support healthcare infrastructure and health information systems.

The second factor is the recent rapid rise in mobile phone penetration in developing countries to large segments of the healthcare workforce, as well as the population of each country as a whole. With greater access to mobile phones to all segments of a country, including rural areas, the potential of lowering information and transaction costs in order to deliver healthcare improves.

Sources: http://www.information-age.com/top-7-trends-healthcare-app-development-123468014/
https://medium.com/@Adoriasoft_Com/healthcare-mobile-app-development-and-mhealth-apps-in-2017-eb307d4cad36

Accordingly to our analysis of the industry, all existing HealthTech mobile apps can be devided into two broad categories: first generation apps which are focused on metrics/measurements, and second generation apps which include the ability to personalise output accordingly to the analysis of personalized data of each user. Apps which include personalized medicine and AI assistance are undoubtedly the key to a productive future in this arena. The HealthTech mobile apps available today generally display a low-to-medium level of sophistication, with many providing limited benefits for patients, doctors and consumers. However, there are examples of more sophisticated apps in the market, and our analytical department have made this report in order to provide tangible metrics for assessing the market and forecasting major trends and developments, both broadly and in specific subsectors, so as to give industry players, including business analysts, investors, entrepreneurs and corporate decision makers an optimized framework for quantified market forecasts, projections, assessments and valuations.

The years 2016-2017 saw basic apps lacking data analysis, insured data privacy, chatbots and AI interactions or recommendation systems. The leading edge of the current state of HealthTech mobile apps offer all these features. Previously, any HealthTech mobile app was inherently considered novel (**First Generation which is now outdated**), but in 2017 it became clear that apps needed to integrate a sufficient level of personalisation and AI analysis with a basic chatbot and other elements - i.e., which is considered at the current level as mHealth state-of-the-art solutions. This now represents a **Second Generation** of HealthTech mobile apps.

The **Third Generation is set to rise in 2018-2019**, where the aforementioned features will become basic and expected - certainly by the end of the year, and will be marked by the synergistic convergence of data analysis, insured data privacy, chatbots and data science driven sophisticated solutions empowered by AI.

If there is no AI, an app can be categorized as first generation. If an app has integrated AI and/or blockchain features, it can be classified as 2nd generation. If it uses advanced MarTech, gamification engagement technologies, Data Science, AI and blockchain in a synergistic manner, it can be classified as 3rd generation. The distinguishing features of these emerging apps through the next 6-12 months are: data science algorithms and big data analysis embedded into the system, self-teaching and self-improvement capabilities, increasing amounts of analysis of data patterns, and the ability to provide highly personalised feedback and analysis. These features will be supported by AI, making an AI team on the HealthTech mobile app development group essential.

Source: https://www.grandviewresearch.com/press-release/global-mhealth-app-market

What Distinguishes 1st Generation of HealthTech Apps from 2nd and 3rd Generations of HealthTech Apps?

Those mobile apps which are today considered as next generation HealthTech mobile apps will become the de facto standard by the end of 2018 and beginning of 2019; integration of AI, blockchain, data ownership, and engagement/gamification are the main features of the nextgen apps. These apps will be distinguished by their high level of user personalization, enhanced engagement and gamification and their use of advanced MarTech, which underpins and allows for the collection and analysis of increasing amounts of user data to further improve the efficiency of predictive AI and to tune user recommendations in a much deeper personalised and precise manner.

	Technologies	Wearables	Engagement & MarTech	Chatbot	Data Science & AI	Data Ownership	Blockchain	AI	Longevity
2010 - 2017	1st Generation	+	+	-	-	-	-	-	-
2017 - 2018	2nd Generation	+	+	+	+	-	-	+	-
2018 - 2019	3d Generation	+	+	+	+	+	+	+	+

The table above assesses and categorises current HealthTech mobile apps according to the presence of specific features and elements that our analysts have concluded will become the major hallmarks for HeathTech mobile apps over the course of the next 2 years. The table also shows which of these elements are most likely to become hallmarks by the end of the current fiscal year, and which ones will become integrated into mobile apps first, as low-hanging-fruit within the industry, as well as which ones will take longer to become standard features of HealthTech mobile apps. As can be seen above, our market analysis predicts that all eight hallmarks will become the de facto standard for competitive and state-of-the-art HealthTech mobile apps by the end of 2019.

Data Science & AI: crucially, this growth will be enabled by the reinforcement loop of a growing user base providing more data for the systems to use and improve their predictions for the user. The more data is provided, the better recommendations will be; meanwhile, the better the AI-enabled guidance, the more it will incentive users to join and submit their data. The more data users provide, the better services they get for themselves.

Chatbots: the AI chatbot will act as a personal coach and a guide for each user according to their personal requirements. More and more types of mobile applications will direct themselves towards the chatbot model. In the context of healthcare, this will most often take the form of a personal trainer adjusted to the user precisely, even in terms of the emotional and psychological state of the user at a given time.

Ownership of the data: user data should belong to the user, especially considering the risks of data privacy breaches (for example the large debacle surrounding Cambridge Analytica); it will become the norm that data will belong to users, and that if the data is used by third parties the user will need to give consent, and will be compensated or remunerated (if the third parties generate profit from this). Significant emphasis will be placed on cloud storage and cybersecurity, in order to aid this goal.

Blockchain: blockchain technologies allow the immutable, secure and decentralized storage of information. When applied to user health data, it allows storage of data in a fully anonymized yet transparent, and distributed yet secure fashion. A blockchain back-end is the foundation upon which user control of data can be realized, and it represents one of the major elements that will mark the industry standard of 3rd generation HealthTech apps.

Engagement: since mobile applications are a mass market product, they should have top tier design, but at the same time maximum engagement and maximum gamification to incentivize users to use these mobile apps, not just for monitoring their health, but also to improve it, neutralizing any detrimental behaviours and promoting positive patterns of health and lifestyle.

Longevity: another rising trend already making waves in the mHealth sector is Longevity, which means that applying on mobile apps current technologies, methods and scientifically backed recommendations soon will become the norm in regards to preventive medicine and extension of healthy period of life . The convergence of AI, Blockchain, MarTech for Longevity will be at the heart of the next generation of HealthTech mobile apps.

Case Study: Longevity United and Eterly Mobile App

Modern Health care apps, which for example are created by Longevity United, are creating a marketplace with a blockchain back-end that will host data acquired from medical institutions, research centres, and longevity experts. That data combines with user data through the integration with Eterly's front-end mobile app, allowing the app to produce personalised health plans and make recommendations to users about how to live the healthiest lives possible.

The system will also use the latest medical research on commercially available supplements, treatments and drugs of benefit to the user. Longevity United will use novel CryptoEconomic strategies and tokenization technologies; Longevity Tokens will be issued to users as a reward for completing health and fitness plans successfully, to sponsor the work of scientists and researchers, and to bring investment into the platform from leading healthcare and mobile app investors and strategic partners. Users will be able to "spend" their Longevity Tokens on premium services offered within the Longevity United marketplace.

It is for these reasons that the joint venture between Eterly and Longevity United serves as an excellent case-study of what can be considered as the third generation of HealthTech mobile apps. Separately, they are both clearcut examples of second-generation HealthTech mobile apps -- ones which employ AI, big-data analysis, and which use a blockchain backend to store and access user data in secure, transparent, immutable and anonymized manner. As the fruits of their joint venture develop, in half a year they are excellently poised to unleash the third generation of HealthTech mobile apps, which combine the above features with gamification and next generation MarTech to enhance community engagement.

Eterly and Longevity United, separately, can be considered as 2nd generation mHealth apps. When they combined their forces through their recently-announced joint venture, they could be considered as being halfway toward the standard of 3rd generation solutions.

This joint venture serves as an excellent case-study of the right combination of technologies with the potential to evolve into the 3rd generation of mHealth mobile app. All the necessary elements are there, and it is just the optimal, synergistic assembly of those elements required to realise this 3rd generation of mHealth mobile app, and one of the only apps in the longevity side of mHealth in particular.

Cutting-edge mobile healthcare technologies are going to be based on following layers:

- **Open Marketplace** - A marketplace that provides recommended products, services, clinics, and doctors for a healthy life, life extension, and longevity, using an internal currency and tokenization.
- **Mobile Application** - A seamless and innovative mobile applications with an easy to use interface.
- **Blockchain Back-end** - All personal information is stored securely on the blockchain backend.
- **AI & Big Data Analysis** - Continuous monitoring, assessment and analysis, including optimized recommendations, diagnosis, and prognostics through forecasting using artificial intelligence.

Eterly: Mobile platform

Eterly: Personalized Big Data & Predictive Analytics

Longevity United: Composite marketplace and community of scientists

Longevity United: Tokenization

Eterly *User Interface & Mobile App*

Marketplace & Community of Scientists

Blockchain Back-end
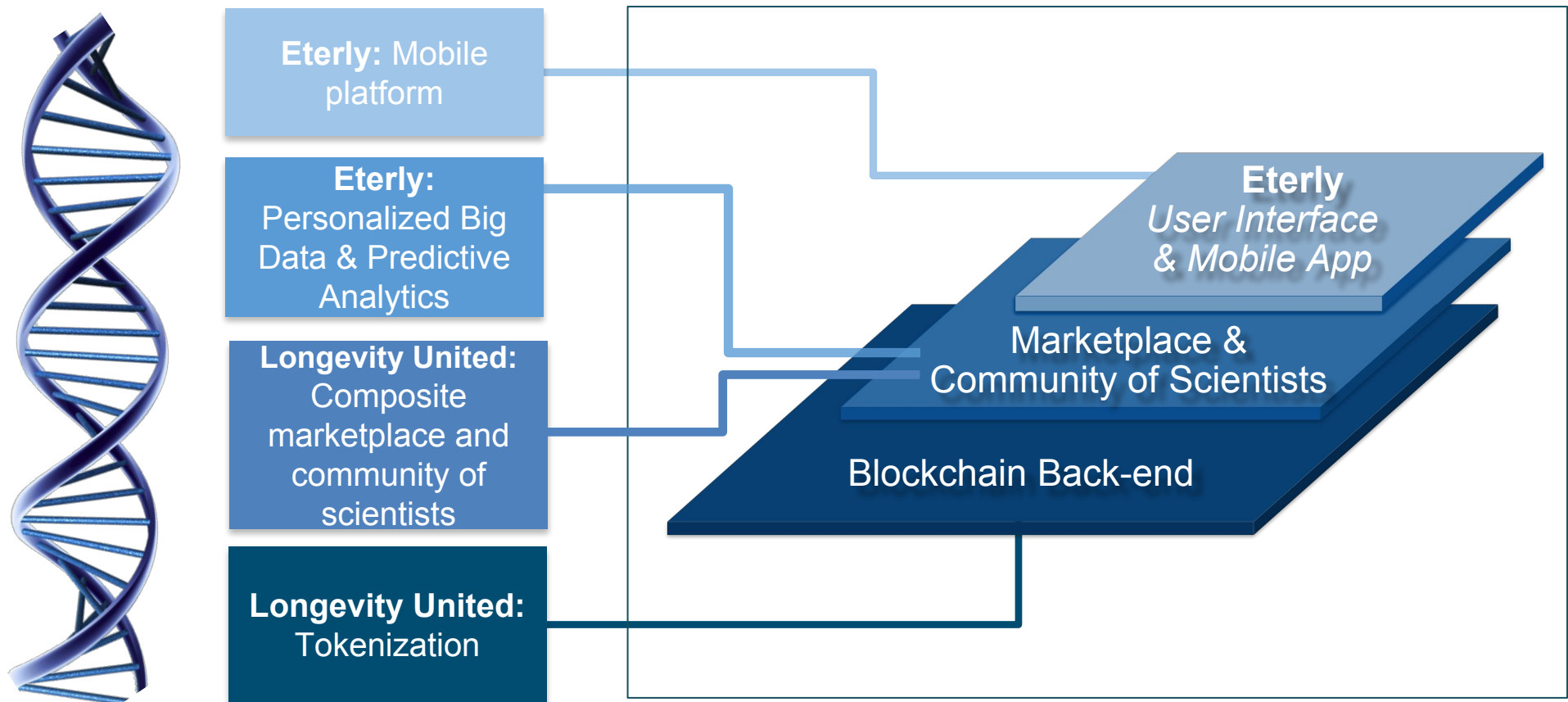
Health Tech
Mobile Apps
Landscape 2018

Mobile Apps - 100
Investors - 120

Health Tech Mobile Apps Landscape 2018

Mobile Apps - 100
Investors - 120

Meditation apps

Brain Training apps

Productivity apps

mHealth apps

Investors

Mobile apps

SleepTech

Quantified Self apps

Nutrition apps

Period Tracking apps

Sport apps

Geo Tracking

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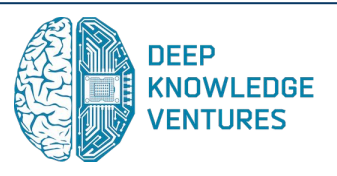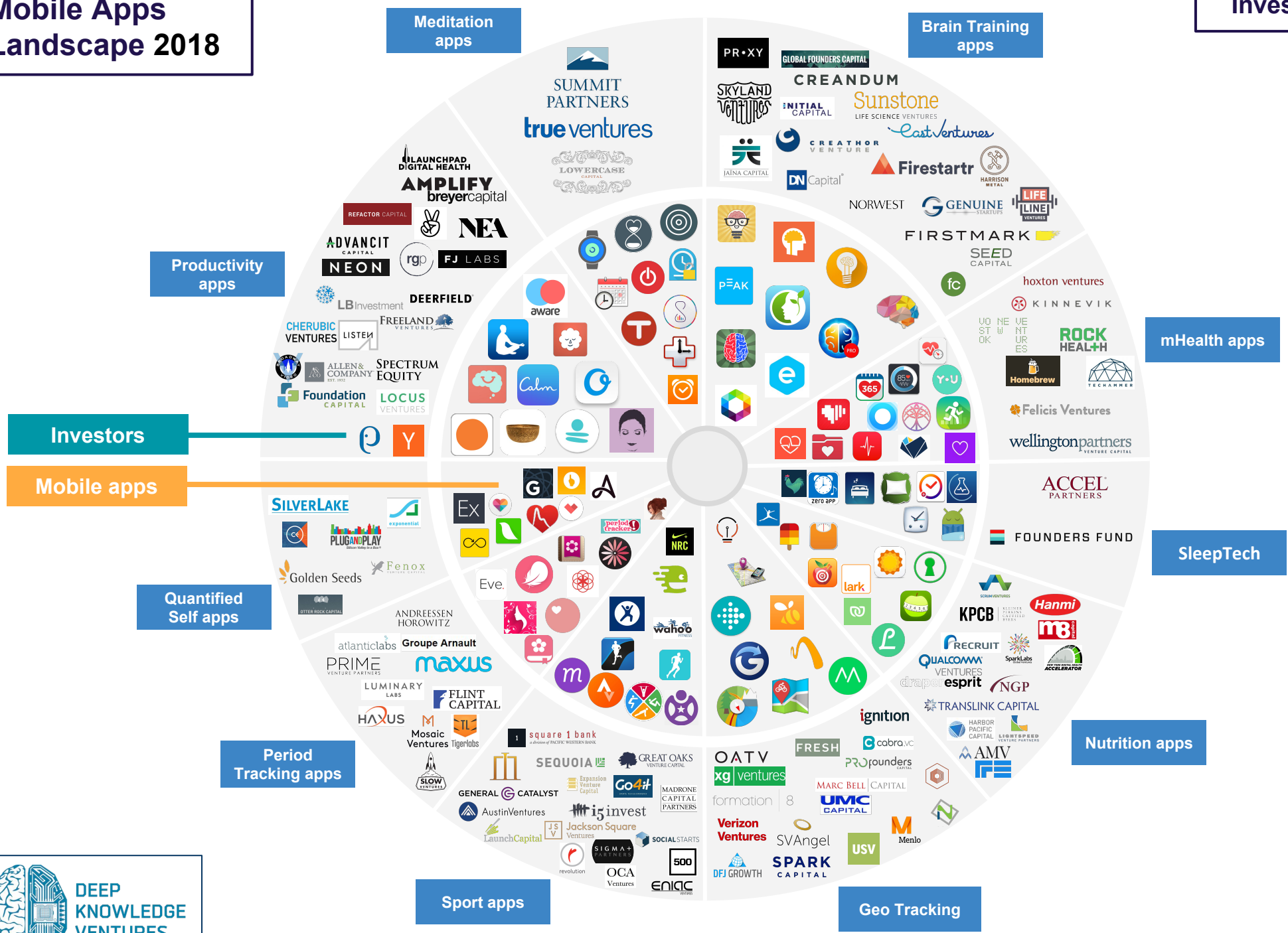
Apps

Sleep	Health	Period tracking apps	Brain training apps	Sport apps	Geo tracking apps	Meditation apps	Nutrition apps	Quantified Self apps	Productivity apps

Investors
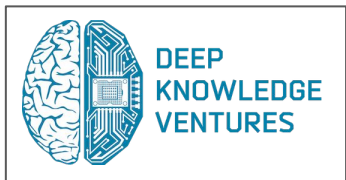
DEEP KNOWLEDGE VENTURES

100 HealthTech Mobile Apps

1. 5217—time management for increased productivity
2. Addapp Insights
3. ASUS ZenFit
4. Aware
5. Babylon
6. Brain Wars
7. Brainilis
8. Calm
9. Calorie Counter
10. Calorie Counter
11. Calorie Counter
12. Cardiio: Heart Rate Monitor
13. Cardiogram
14. Cardiograph
15. Center Health—The Diabetes App
16. Clue: Period & Ovulation Tracker
17. Cronometer
18. Elevate - Brain Training Games
19. Endomondo
20. Engross
21. Eterly
22. Eve
23. Exist
24. Fit Brains Trainer
25. Fitbits
26. Fitocracy - Fitness Collective
27. Flo
28. FoodPrint™
29. Foodzy
30. Foursquare Swarm
31. Geo Tracker
32. Glympse
33. Good Morning
34. Good Night's
35. GPS Sports Tracker—Running & Cycling
36. Gyrosco
37. Headspace: Guided Meditation & Mindfulness
38. Health Lab Diabetes Management
39. Healthy 365
40. HRV4Training
41. iCare Health Monitor
42. iHeart
43. Insight Timer
44. Instant
45. Instant Heart Rate
46. LADYTIMER
47. Lark
48. Lark - 24/7 Health Coach
49. Left vs Right: Brain Games
50. Lifelog
51. LifeSum
52. Lose it!
53. Lumosity
54. MapMyFitness
55. Maya
56. Memorado
57. Mind Games
58. Moves
59. Movesum
60. My Calendar - Period Tracker
61. MyChart
62. MyMovement
63. MyTrails
64. NeuroNation
65. Nike+ Run Club
66. Noom Coach
67. Nudge Health Tracking
68. Omvana
69. Peak
70. Period calendar
71. Period Diary
72. Period Tracker
73. PrimeNap Sleep Tracker
74. RescueTime
75. Runkeeper
76. Runtastic Running & Fitness
77. SaveMyTime
78. Simple Habit
79. Sleep as Android
80. Sleep Better
81. Sleep Time
82. SleepBot
83. SleepCycle
84. Smarter Time
85. Smiling Mind
86. SnoreLab
87. Sportsman PRO
88. Stop Breathe & Think: Meditate
89. Strava Running and Cycling GPS
90. Take a Break
91. The Mindfulness App
92. Time Recording
93. Timesheet
94. Toggl Time Tracker
95. Tsheets
96. Wahoo Fitness
97. Welltory: quantified self stress tracker - HRV
98. WomanLog
99. Work Log
100. YOU: Small actions, big change

120 Investors in HealthTech Mobile Apps

1.	500 Startups	41.	Genuine Startups	81.	OCA Ventures
2.	Accel Partners	42.	Global Founders Capital	82.	Oreilly AlphaTech Ventures
3.	Advancit Capital	43.	Go4it Sports, Tech & Experience	83.	Otter Rock Capital
4.	Allen & Company	44.	Golden Seeds	84.	Plug and Play
5.	Amplify.LA	45.	Great Oaks Venture Capital	85.	Prime Venture Partners
6.	Andreessen Horowitz	46.	Groupe Arnault	86.	PROfounders Capital
7.	AngelList	47.	Hanmi IT	87.	Proxy Ventures
8.	Asset Management Ventures (AMV)	48.	Harbor Pacific Capital	88.	Qualcomm Ventures
9.	Atlantic Labs	49.	Harrison Metal	89.	Recruit Strategic Partners
10.	Austin Ventures	50.	Haxus	90.	Refactor Capital
11.	Breyer Capital	51.	Homebrew	91.	Revolution
12.	Broadway Video Ventures	52.	Hoxton Ventures	92.	Rock Health
13.	C4 Ventures	53.	i5invest	93.	RoundGlass Partners
14.	CABRA.VC	54.	Ignition Partners	94.	RRE Ventures
15.	CF(Crunch Fund)	55.	Initial Capital	95.	Scrum Ventures
16.	Cherubic Ventures	56.	Jackson Square Ventures	96.	Seed Capital
17.	Creandum	57.	Jaina Capital	97.	Sequoia Capital
18.	Creathor Venture	58.	Kinnevik AB	98.	Sigma Partners
19.	Deerfield	59.	Kleiner Perkins Caufield & Byers	99.	Silver Lake Partners
20.	DFJ Growth	60.	LaunchCapital	100.	Skyland Ventures
21.	DN Capital	61.	Launchpad Digital Health	101.	Slow Ventures
22.	Draper Esprit	62.	LB Investment	102.	Social Starts
23.	East Ventures	63.	Lifeline Ventures	103.	Spark Capital
24.	Elefund	64.	Lightspeed Venture Partners	104.	SparkLabs Global Ventures
25.	Eniac Ventures	65.	Listen Ventures	105.	Spectrum Equity
26.	Expansion Venture Capital	66.	Locus Ventures	106.	Square 1 Bank
27.	Exponential Partners	67.	Lowercase Capital	107.	Summit Partners
28.	Felicis Ventures	68.	Luminary Labs Ventures	108.	Sunstone Capital
29.	Fenox Venture Capital	69.	m8 Capital	109.	SV Angel
30.	Firestartr	70.	Madrone Capital Partners	110.	Techammer
31.	FirstMark	71.	Marc Bell Ventures	111.	Tigerlabs
32.	FJ Labs	72.	Menlo Ventures	112.	Translink Capital
33.	Flint Capital	73.	Milestone Venture Partners	113.	True Ventures
34.	Formation 8	74.	Mosaic Ventures	114.	UMC Capital
35.	Foundation Capital	75.	Naya Ventures	115.	Union Square Ventures
36.	Founders Circle Capital	76.	Neon Adventures	116.	Verizon Ventures
37.	Founders Fund	77.	New Enterprise Associates	117.	Vostok New Ventures
38.	Freelands Ventures	78.	New York Digital Health Accelerator	118.	Wellington Partners
39.	Fresh VC	79.	NGP Capital	119.	XG Ventures
40.	General Catalyst	80.	Norwest Venture Partners - NVP	120.	Y Combinator

Market Overview
HealthTech
Mobile Apps

3rd Generation mHealth Apps:
Synergetic Convergence of 5 MegaTrends

AI Chatbots

AI-Driven Big Data Analytics

User Control of Data

Blockchain Back-End

Gamification & MarTech

CONVERGENCE

2017

2018

2019
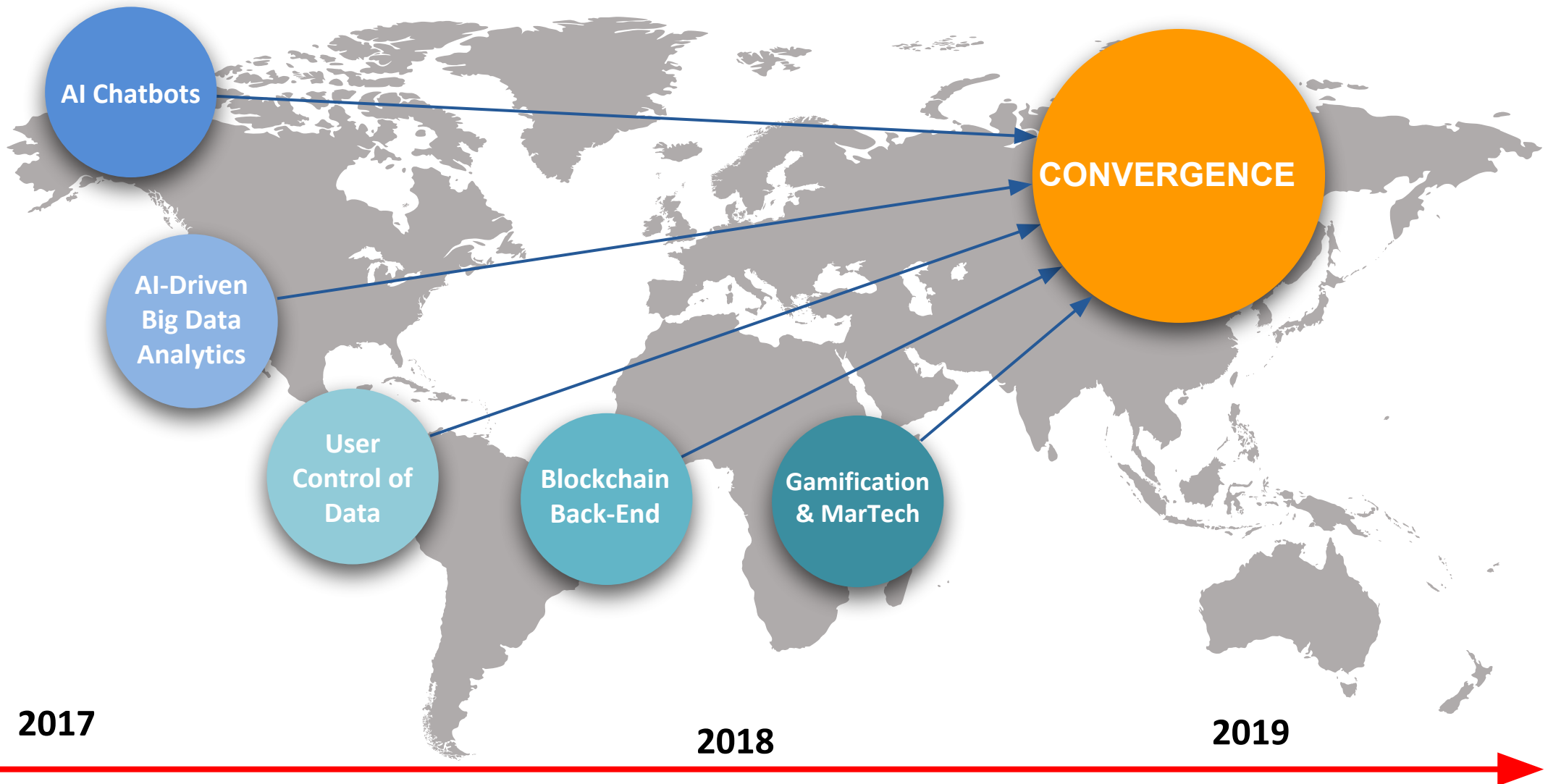
Number of HealthTech Mobile Apps

	Number of Apps
Health Apps	9,649
Productivity Apps	8,484
Sport Apps	6,967
Geo Tracking Apps	4,694
Meditation Apps	3,353
Quantified Self Apps	2,956
Sleep Apps	2,678
Brain Training Apps	1,930
Period Tracking Apps	1,687
Nutrition Apps	1,203
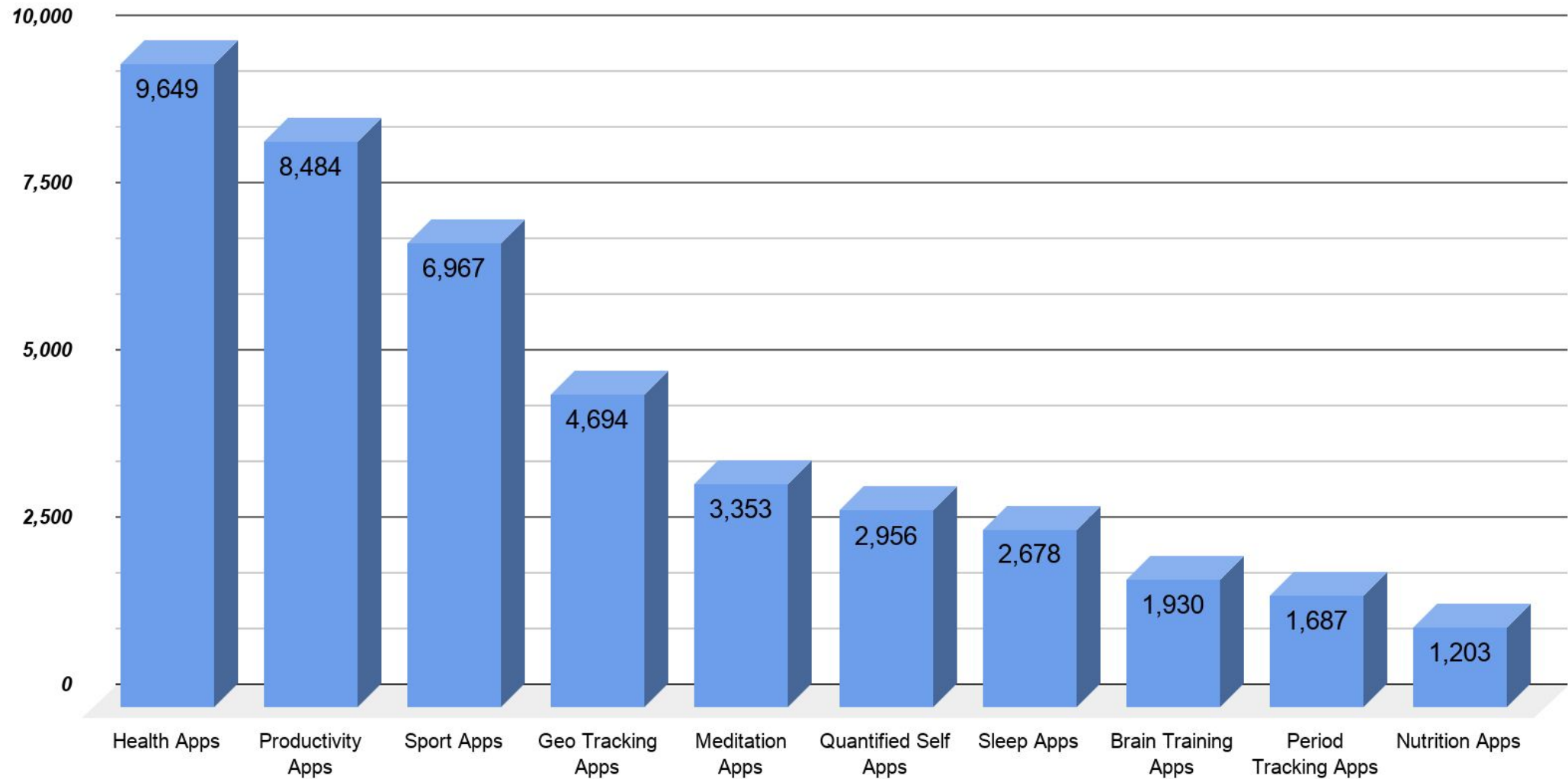
Investment Budgets of Health Tech Mobile Apps

in billions of US$

Sources:
http://enterprisemonkey.com.au/blog/mobile-apps-taking-sports-industry-by-storm/
https://dazeinfo.com/2014/05/12/business-productivity-apps-market-worth-58-billion-2016-courtesy-byod-culture/
https://www.webwire.com/ViewPressRel.asp?aId=214152
https://www.statista.com/statistics/295771/mhealth-global-market-size/
https://innovatemedtec.com/digital-health/quantified-self
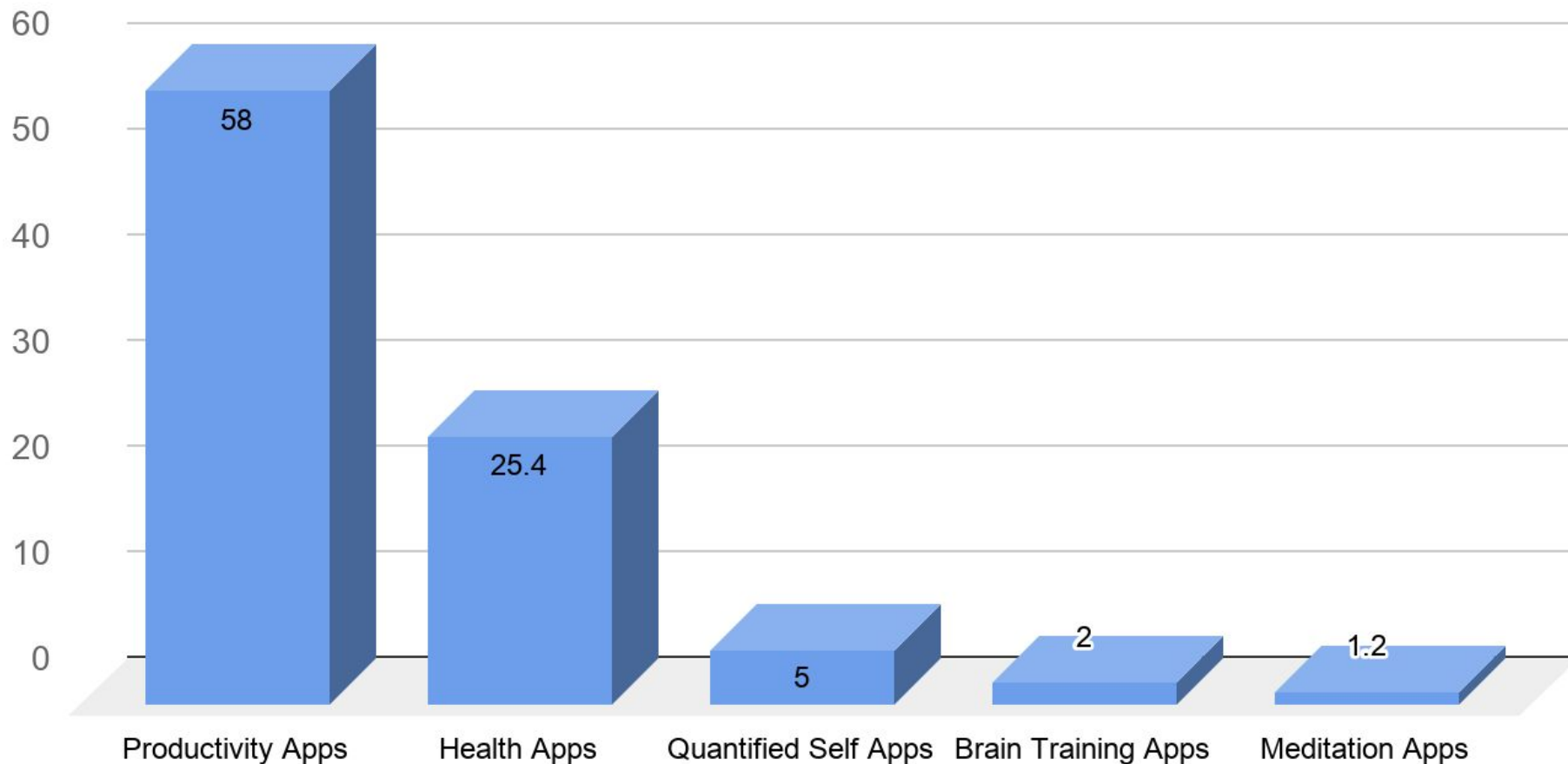
Potential investments in Health Tech Mobile Apps in upcoming decade

in billions of US$
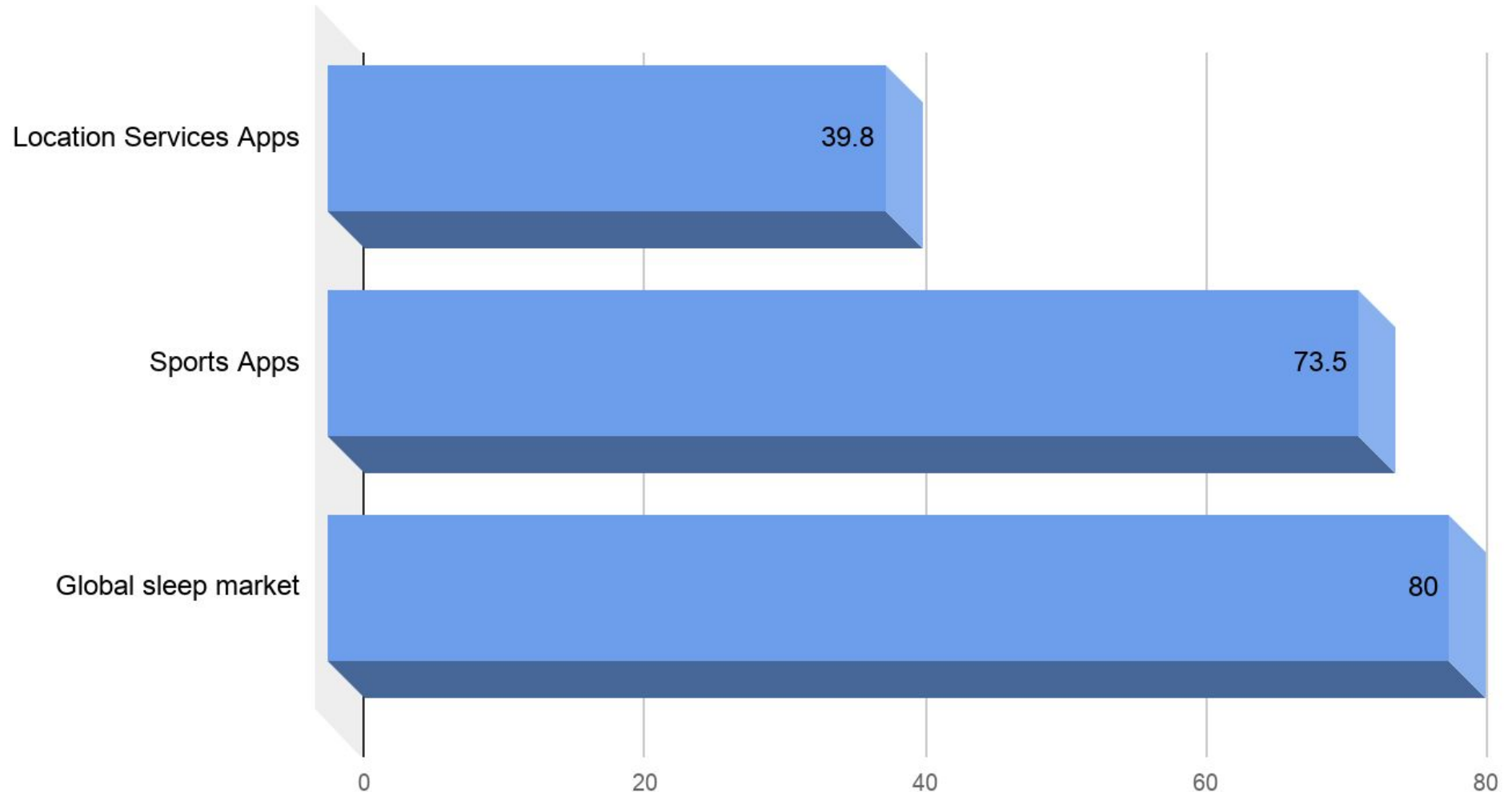
IMS Research - World Market for Wearable Technology - Revenues by Application-Mid-range Forecast

Industrial
6,5%

Military
8,7%

Fitness and Wellness
13,0%

Activity Monitors to account for more than 13.0% of the Fitness and Wellness market in 2016

Infotainment
54,3%

Healthcare and Medical
17,4%

Smart Watches are expected to drive growth in the Infotainment segment over the review period

Continuous Glucose Monitoring (CGM) to remain the largest product category in the Healthcare and Medical market in 2016

Health/Fitness Mobile Apps

Health on the move

Mobile-health revenue*, $bn

- Rest of World
- Asia-Pacific
- Europe
- North America

2013   2018 *forecast*

*Connected medical devices and health-care applications

Source: BCC Research
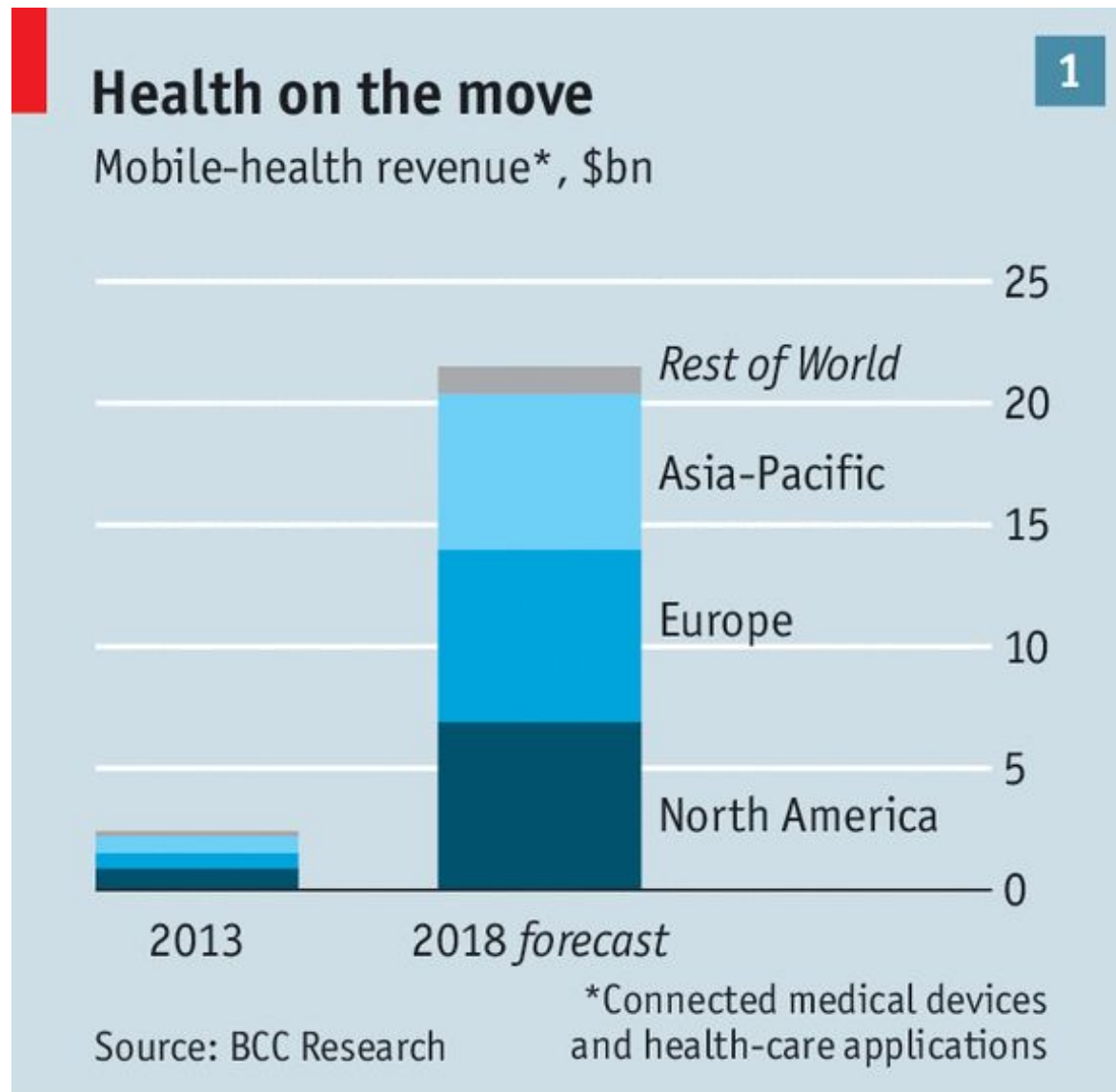
Economist.com

Health and fitness apps usage grew by more 330% in the last three years according to research by Flurry Analytics. Advances in artificial intelligence currently allows apps to understand individual cases and respond to questions from users with relevant follow up queries. Fitness and nutrition apps follow caloric intake and activity. Integration with wearables expand their capabilities dramatically.

Health and fitness apps show very high retention rates. According to the research by Flurry Analytics, over 75% of active users open their health and fitness app at least two times a week, and more than 25% of users access their fitness apps more than 10 times a week. The high frequency of usage drives up engagement, which, for app developers, presents an attractive opportunity to increase monetization. What's more, health and fitness app users are loyal, with 96% of them sticking to only one app. But that also means that new incumbents will find it difficult to acquire users.

Demographics Comparison: Fitbit vs. S Health

**Age Groups Breakdown,
Time Spent Per User [hh:mm]**

Fitbit

18 - 24	25 - 34	35 - 44	45 - 54	55+
04:29	01:03	01:50	01:44	01:52

S Health

18 - 24	25 - 34	35 - 44	45 - 54	55+
00:06	00:25	00:10	00:18	00:19
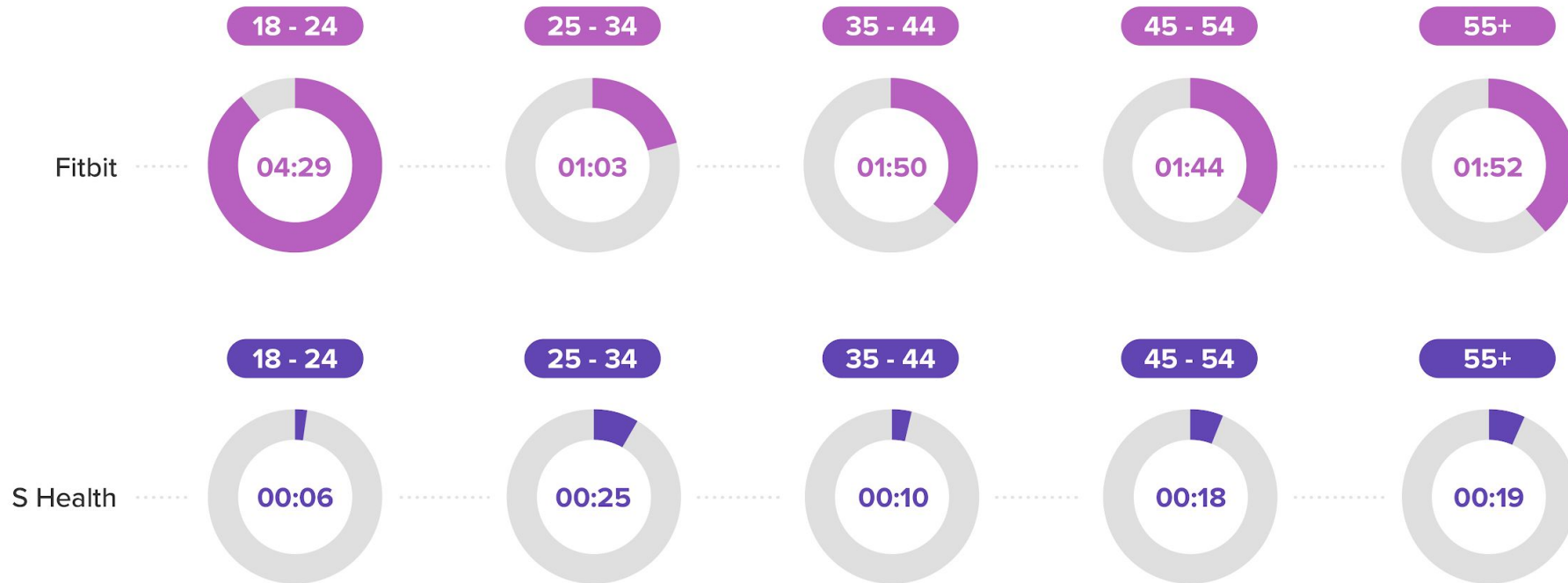
Source: Verto Watch™, July 2017, U.S. Adults 18+

The senior demographic is relatively active on fitness apps. According to the Verto Index, a demographic comparison between the two top apps on its index, Fitbit and S Health, show that the age group 55 years and older, ranked second among the different age groupings in terms of time spent using the app.

Precision medicine necessitates that patients and healthy people participate in partnership with clinicians and researchers.

Central to this process is the technology used to monitor and provide relevant health-related data about individuals: Devices and instruments that capture physiological data. These technologies include a rapidly expanding array of consumer products and wearables, as well as complex clinical care platforms in academic medical centers.

For patients, this might mean collecting data with an FDA-approved mobile device or app, such as a continuous glucose monitor or a mobile heart monitor app.

Such data can provide a practitioner immediate information about a patient, and when collected from large numbers of people, can reveal patterns and trends that are clinically useful. Data collection by patients gives them "ownership" of the process; they become more motivated to track and adjust their behavior to prevent disease, to recognize changes and to follow care plans developed in consultation with their providers.

From wellness to not-so-wellness

United States, mobile-health apps, 2015, %

2

WELLNESS

DISEASE AND TREATMENT

| 0 | 20 | 40 | 60 | 80 | 100 |

Fitness

Lifestyle and stress

Diet and nutrition

Disease-specific

Women's health and pregnancy

Medication reminders

Other

Health-care providers

Source: IMS Health

Economist.com

23
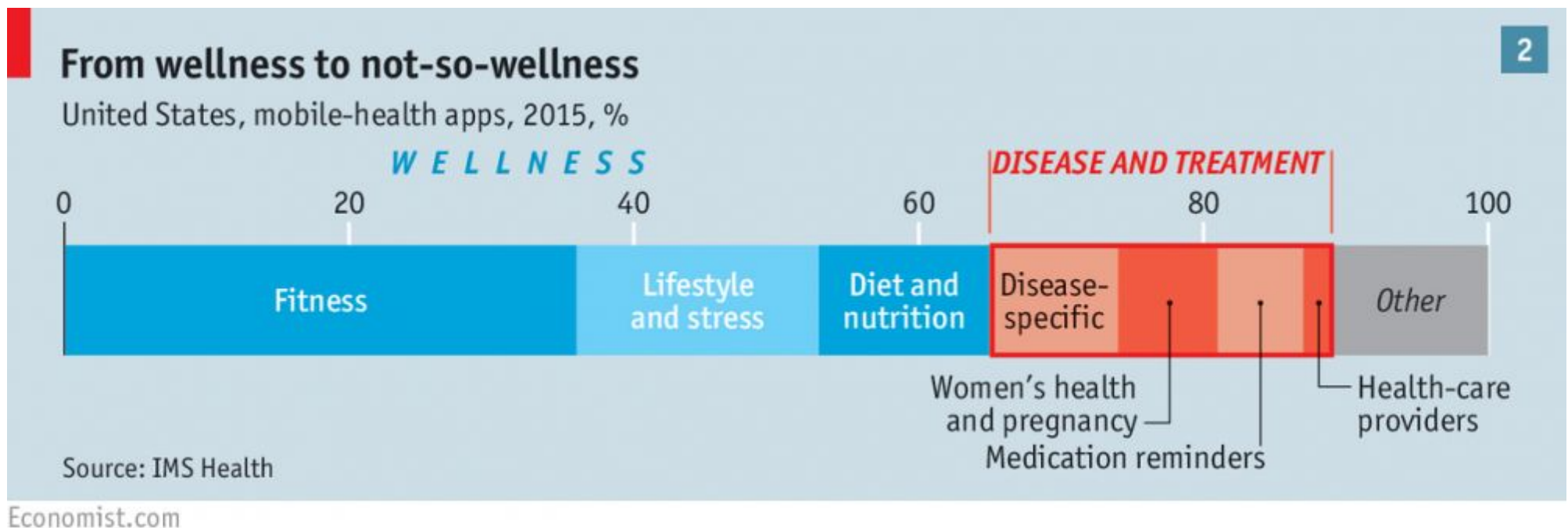
mHealth market 2015: 500m people will be using healthcare smartphone applications

Smartphone user base in 2015 (million)
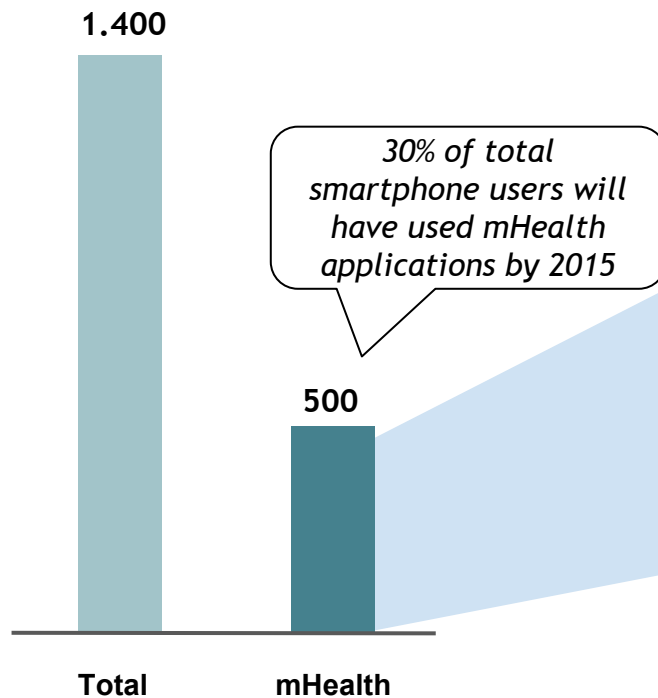
Share of mHealth revenue sources of total mHealth market opportunity in 2010-2015 (%)

1.400

500

Total

mHealth

30% of total smartphone users will have used mHealth applications by 2015

Those mHealth users will mainly pay for services and devices

Transaction
8%

Advertisement
1%

Paid downloads
14%

Services
46%

Device sales
30%
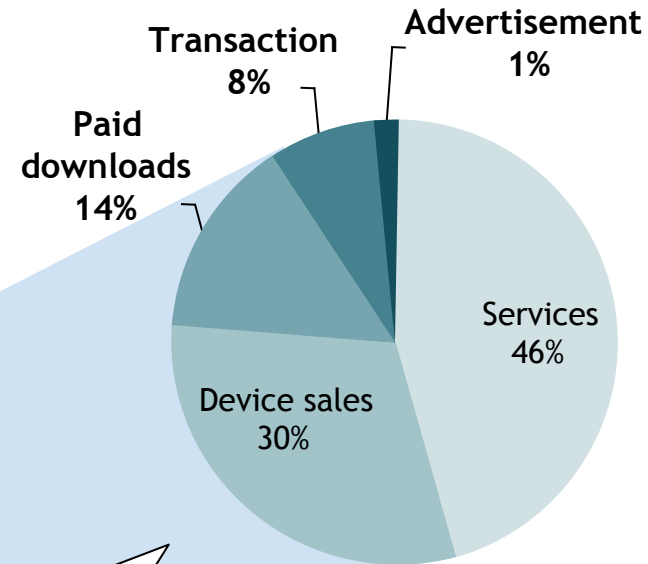
Smartphone applications will become the killer applications for mobile health solutions.

Comparison 20 HealthTech Mobile Apps

Comparison of 20 Health Tech Mobile Apps

Company	Life extension algorithm	AI	Personal Medicine	Automated personal assistant	Daily advice	Progress tracker	SleepTech	Total funding amount	Installs	Website
Eterly	+	+	+	+	+	+	+	N/A	1,000 - 5,000	http://eterly.com/
1.Fitbit					+	+	+	$66,000,000	10,000,000 - 50,000,000	https://www.fitbit.com/uk/app
2. MyChart			+	+				N/A	1,000,000 - 5,000,000	https://mychart.clevelandclinic.org/
3. Lark		+			+	+	+	$21,100,000	100,000 - 500,000	https://www.web.lark.com/
4. Flo		+	+		+	+		$6,000,000	10,000,000 - 50,000,000	https://flo.health/
5. HRV4Training					+	+		N/A	1,000 - 5,000	https://www.hrv4training.com/
6.iCare Health Monitor			+					N/A	1,000,000 - 5,000,000	http://www.icarefit.com/
7.Healthy 365					+	+		N/A	500,000 - 1,000,000	https://www.healthhub.sg/apps/25/healthy365

Comparison of 20 Health Tech Mobile Apps

Company	Life extension algorithm	AI	Personal Medicine	Automated personal assistant	Daily advice	Progress tracker	SleepTech	Total funding amount	Installs	Website
8. Addapp Insights			+	+	+	+		$1,800,000	N/A	https://addapp.io/
9.Gyrosco			+		+	+	+	$1,300,000	100,000 - 500,000	https://gyrosco.pe/
10.Health Lab Diabetes Management			+	+	+	+		£3,950,000	1 000–5 000	https://tictrac.com/research/health-lab-diabetes-management/
11.Babylon		+	+	+			+	N/A	10000	www.babylonhealth.com
12.iHeart			+					N/A	N/A	https://goiheart.com/
13.Lose it!			+	+		+		$5,500,000	5,000,000 - 10,000,000	http://www.loseit.com/
14. Noom Coach			+	+		+		$25,952,322	10,000,000 - 50,000,000	https://www.noom.com/
15.Sleep Time			+	+		+	+	$3,416,215	1,000,000 - 5,000,000	http://www.azumio.com/

Comparison of 20 Health Tech Mobile Apps

Company	Life extension algorithm	AI	Personal Medicine	Automated personal assistant	Daily advice	Progress tracker	SleepTech	Total funding amount	Installs	Website
16.Cardiograph	+					+		N/A	10.000.000+	http://macropinch.com/cardiograph/
17.Calorie Counter (BY MyFitnessPal)					+	+		$18,000,000	50.000.000+	https://www.myfitnesspal.com/
18.Sleep as Android					+	+	+	N/A	10,000,000 - 50,000,000	https://sleep.urbandroid.org/
19.Center Health—The Diabetes App	+		+		+	+		N/A	100 - 500	https://www.center.health/
20. Instant Heart Rate	+		+	+		+		$3,416,215	5,000,000 - 10,000,000	http://www.azumio.com/s/instantheartrate/index.html

0. **Eterly** is an AI-driven health and fitness advisor that goes far beyond the capabilities of the fitness trackers that have become so popular recently. The app works seamlessly with users wearable device, helping record steps, heart, activity and sleep data, whilst its extra features ensures that the app understands user on a deeply personal level. Using proprietary technology, cutting edge science, and advanced AI techniques, Eterly acts like a personal coach, custom designing and adjusting, in real time, a health and fitness routine mapped to precisely fit each and every user's specific needs.

1. **Fitbit** is a company dedicated to health and fitness field and are building products that help transform people's lives. Fitbits develop products as: activity trackers, wireless-enabled wearable technology devices that measure data such as the number of steps walked, heart rate, quality of sleep, steps climbed, and other personal metrics involved in fitness. Despite of the fact that it is a great motivator, tells you your fat burning zone, whether your heart rate reached cardio, and when you hit your peak, Fitbits comparing to other apps (e.g. Eterly) doesn't use information about users' eating habits, vitamin intake and mood, in the way that can advise people for a healthier life.

2. **MyChart** is an online health management tool that connects patients to portions of their electronic medical record, allowing them to schedule appointments, including lab work and mammograms; review test results; have a virtual visit with their provider; request a prescription renewal; send messages to the health care team; view and print medical information such as visit summaries, health history, medication lists and immunization schedules. MyChart is meant for use only to support the patient's relationship with their current or future medical professional. MyChart doesn't track user's activity progress or the quality of sleep, and neither provide patients with daily advice.

3. **Lark** is the first artificial intelligence nurse to be reimbursed as a live healthcare professional. Lark's A.I. Platform monitors and manages the most crushing chronic diseases, provide lifelong changes to members and able to offer every member unlimited 1-on-1 support from their Personal Lark Coach. The app is personalized to meet patients' needs and goals. Currently, Lark has four products on the marketing including a wellness, diabetes prevention, diabetes management, and hypertension management platforms.

4. **Flo** is a period tracker and ovulation calculator that uses artificial intelligence for the most accurate menstrual cycle predictions. Data-driven algorithms generate a personalized flow of useful tips & health insights: daily health insights; community-generated recommendations; analytical reports; interactive surveys; Flo assistant. Flo is different from previous apps because it doesn't track user's activity or sleep and it is addressed to a specific group: female gender.

5. **HRV4Training** is the only app providing advanced data analytics on the relation between physiological parameters, training and performance, directly in the app. HRV-based advice to optimize your goals, prevent overtraining and improve performance. HRV4Training is a a way to measure how we react to stressors like a workout for example and better understand how much time our body needs to get back to normal. It gives daily advice to users and as well provide them with much more insights on the relations between training intensity, recovery and performance. The disadvantage of HRV4Training is that it doesn't possess a life extension algorithm and it doesn't track the sleep or give personal medicine information.

6. **iCare Health Monitor** is a mobile Internet company specializing in health service. iCare Health Monitor use data to provide users with health warnings, personalized sport and health services. The app claims to measure blood pressure, heart rate, blood lipids, blood oxygen, vision, colorblind, hearing, lung capacity, breath rate, and psychological index – all without any peripherals.

7. **Healthy 365** is a health and diet tracking mobile application. The app enables users to track daily steps, count and calculate the corresponding calories burned. It also helps to track the daily food and drinks intake and the corresponding calories consumed.

8. **Addapp Insights** give glances into user's well-being and help improve factors like sleep, nutrition, fitness and mood. Connecting activity trackers and health apps to Addapp, the app analyzes all that data and gives daily, actionable insights and tips. Addapp is different from other applications because it analyzes all the data across services, not just the data collected by one app or device, as well it is easy-to-understand with easy-to-read graphs.

9. **Gyrosco** is the best way to track sleep. The Sleep AI feature automatically detects when the user is asleep based on the other data and learning the daily behavior. As well, it tracks activities as: running, cycling, gym workouts, & more. The app keeps track of computer activity, to make sure that the person is properly balancing work, sleep, and other time spent online. It tracks meditation and everything related to mental health—like sleep, work, yoga, and social media—to stay balanced and get reminders if the goals aren't achieved.

10. **Health Lab Diabetes Management** is designed to help people make better informed lifestyle choices, become further educated about their condition and adopt new behaviours. With the Health Lab - Diabetes Management app the user will get the needed support through: personalised advice; clinically approved content; social support; progress tracker. The app provides members with information about diabetes management; monitoring diet and nutrition and weight management in the form of articles and videos with the aim to keep you engaged and educate you about your condition on a daily basis.

11. B**abylon** has created a mobile application which allows patients to schedule and make video consultations with professional doctors online, using their smartphone. Babylon's key value is providing people with qualitative medical help. In contrast, Eterly directs activity towards health and fitness, anti-aging and longevity.

12. **iHeart**, as its name implies, the product is focused on the discovery and elimination of problems in a human organism's cardiovascular system. The specialist device helps a human to define the speed of aortic pulse wave, frequency of heart muscle contraction and oxygen levels in the blood. iHeart is marketed as a tool which allows us to define the healthy age of a person.

13. **Lose It!** is the industry-leading digital health and fitness platform that is centered on the proven principles of calorie tracking and community support for healthy, sustainable weight loss. Members track their daily food intake and fitness activity, and can create goals, start or join community activities and competitive challenges, connect activity trackers, access coaches, and more.

14. **Noom Coach** is a weight loss and health app that uses mobile technology to help people lead healthier lives. The Noom Coach has a large food database to make it easy to log the meals. It indicates whether a food is more or less calorie dense or nutritious through a color-coding system. It can even help users figure out the correct portion size and as well it tracks the activity.

15. **Sleep Time by Azumio** provides insight into the user's sleep patterns. By tracking the level of movement throughout the night, Sleep Time generates customized sleep data in easy-to-read charts. The app learns how the s\users sleep and wake them up gradually during the lightest sleep phase, leaving users feeling refreshed, never drained. The difference of this app with others is that it is tracking only the sleep quality of users and doesn't provide with daily advice.

16. **Cardiograph** is an application which measures the heart rate. The users can save their results for future reference and keep track of multiple people with individual profiles. Cardiograph gets accurate results almost instantly with brand new measurement algorithm. It can be very useful while exercising, if you're under stress or if you have a heart-related medical condition. Cardiograph is perfectly tailored to allow multiple people to use the app on a shared device. Every measurement the users take is saved to their personal history, so they can keep track over time.

17. **Calorie Counter (by MyFitnessPal)** is one of the fastest, easiest to use calorie counter app. It helps users tracking food. reach goals, change habits, log exercise and steps, get support and motivation, view a history of calories, macros, and nutrient intake and share progress with friends and family members on their own health journey.

18. **Sleep as Android** is a smart alarm clock with sleep cycle tracking. Sleep as Android tracks user's sleep to find the optimal moment for their wake up. Waking up in light sleep is natural, gentle and it may only be compared to the experience of waking up without any alarm clock. The app has features like sleep talk and snoring recording, snoring stats and anti-snoring, room noise stats, sleep advice, sleep deficit stats and bedtime notification, nature sound lullabies for fast fall asleep.

19. **Center Health—The Diabetes App** is a quicker and easier way to manage diabetes, letting users focus on what matters most – living their life. The assistant, Aria automatically points out trends in users' data, helping them better understand, predict, and treat their diabetes. Instantly tracks carbs and any other events and it shows how the daily life affects the blood sugar.

20. **Instant Heart Rate** is a mobile heart rate monitor. The app provides users with detailed analytics to get in tune with each heartbeat. The features include heart rate measurements, cardio workout monitoring and track progress. The app does not need any external hardware.

10 Major Subsectors of HealthTech Mobile Apps

Wearables

Wearables, as the name suggests, are items worn on the body that **store, record or communicate** with the wearer or a professional information related to health. As such, they come in varied form factors and can perform varied functions depending on context and wearer.

Socio-economic context plays a key role in the way wearables can affect health and longevity in different demographics. For example, in developing areas such as Udaipur, Rajasthan, the immunisation records of infants were stored in pendants worn around the neck. These were read by local clinicians in a pilot which took place in 100 villages via NFC (near field communication) technology. Taking account of the local culture, which involves having small children wear pendants around their neck for spiritual protection, the wearable, dubbed Khushi Baby, integrates seamlessly while enabling professionals to assess local epidemiology and protect children's health in developing regions (Kharara, 2015).

For sportspeople, wearables can provide activity data to physiotherapists and prevent injuries. Such products come in vest or bra form. The wearables that have attained the greatest popularity to date fall into the **technology** category (Apple Watch), **fitness** category (Fitbit) or **condition-specific** category e.g. blood pressure monitoring, heart function monitoring, and so on.

Available measurements taken through wearables include sleep activity (Pebble Time smartwatch), different types of physical activity (Gymwatch fitness tracker), brain activity (Muse headband), stress (PIP, a device which measures skin conductivity) and weight (Fitbit Aria) (Mesko, 2016).

Fitbit

Muse

Khushi Baby

Currently, the many different wearables and their respective platforms, apps, software or accompanying professionals, such as physiotherapists or doctors, are relegated to **niche activities** such as sport or monitoring specific health conditions, while those that have come the closest to mainstream usage (such as Apple Watch) are too **limited in their sensory potential** to become the powerful, everyday, connected and actionable tool required to have a considerable impact on health and longevity.

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Wearables hold an inherent advantage over conventional monitoring devices and methods. They are able to track physiological parameters in real time and their shrinking size does not constrain use to a specific location. Consequently, they can drastically shorten response time to critical health episodes and, more importantly, detect any of a number of alarming vital signs that occur prior to a life threatening occurrence, think seizures or a heart attack. The connectivity features mean that they act immediately, alerting the user, a family member, a doctor, a caretaker, or a hospital, or, perhaps most importantly, summon an ambulance automatically.

Right now heart rate, blood pressure and the number of steps a person takes are the most common readings that a wearable device can detect, but in the future, we are likely to see wearables that are more flexible in terms of their tracking capabilities, incorporating different types of sensors that would enable them to do more diverse and user specific readings.

Wearables can also be beneficial in less urgent health matters, helping users lead an active, healthy and life prolonging lifestyle. Sensors that detect motion for instance can track a person's behavior - whether they've been sitting down too long or whether they haven't been getting enough exercise - and nudge them towards healthier habits.

The almost immediate detection time and the automation of tasks afforded by wearables are even more prominent when the elderly demographic is in question. For instance, with the help of algorithms, accelerometers would be able to tell if a person fell or collapsed and act accordingly. Wearables can also act as personal assistants, sending reminder alerts for scheduled medication.

The data collected can also be seamlessly integrated with a doctor's records system, making a visit to a physician much more efficient and accurate with historical data. Perhaps we will one day be able to trust wearables to alter dosages based on the readings that they gather.

Brain-Training Apps

Professor Barbara Sahakian,President of the International Neuroethics Society (INS), said:

"Good brain health is as important as good physical health. There's increasing evidence that brain training can be beneficial for boosting cognition and brain health, but it needs to be based on sound research and developed with patients,". *"There's increasing evidence that brain training can be beneficial for boosting cognition and brain health, but it needs to be based on sound research"*

Barbara Sahakian

A 2012 systematic review that analyzed 151 computerized training studies published between 1984 and 2011, found that certain training tasks had a big effect on working memory, processing speed and brain function. Luminosity has an estimated annual revenue of $23.6 million, Cognifit have recently secured $9.2 million in investment and Peak have raised $7 million in a recent investment round. The market for cognitive assessment which the brain training market it is apart of is expected to grow from its 2016 level of $1.98bn to $8.06 in 2021 which is a huge compound growth of 32.3 according to one market research report.

According to the latest findings in Neuroscience, our brain reaches its peak performance at 16-25 years, and thereafter cognitive functioning declines. But the better news is that no matter how old you are or what your profession is, science shows that training with brain exercises can in fact benefit you. Science has come up with a good way to stay mentally active: personalized brain exercises.

Recently, the extensive COGITO Study at the Max-Planck Institute demonstrated that training with brain exercises improves working memory for people of all age groups. Intelligence is not a fixed characteristic that you are simply born with. The brain can be trained!

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Geo Tracking Apps

Geolocation is an automated procedure for determining the geographical positioning of an electronic device.

The number of active users of "family locator services" (smartphones with GPS and personal location devices) in North America and Europe is expected to reach 70 million in 2016, up from 16 million in 2011, according to a new report from Berg Insight.

The use of geolocation tracking has many different functions. It can be used for presenting ads, relevant content, promotions, or coupons. The best thing about using geolocation data for mobile marketing is that it creates more tailored and relevant marketing for potential customers.

According to a study by TNS users of location based apps utilize these services to enrich their social live, with one in five (22%) using it to find their friends nearby. Around a quarter use the technology to find restaurants and entertainment venues (26%) or check public transport schedules (19 %) and 8 % to book a taxi.

The studies show that people use Geo-Tracking apps for:

- Navigation – 46 %
- Finding friends nearby – 22 %
- Finding restaurants – 26 %
- Checking public transport – 19 %
- For a deal or special offer – 13 %

Source:
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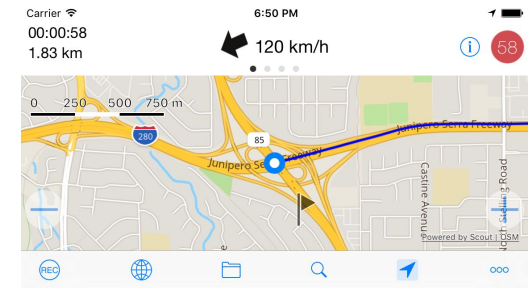
myTracks App
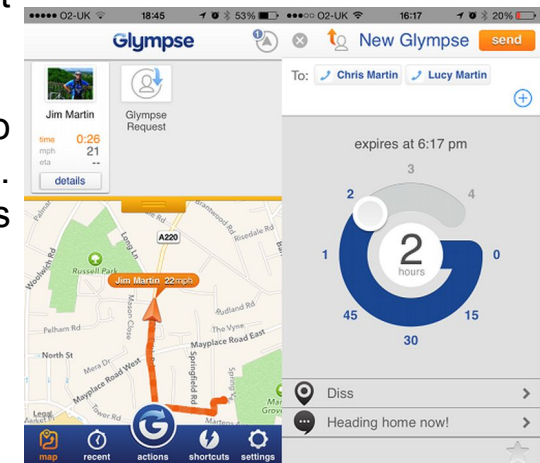
Glympse

mHealth Apps

Tom Xu, **the founder and CPO** of Azumio said:

"*The future of bringing mobile health applications to a wider audience is here, and starts by creating a single source for the best mobile health and fitness solutions,*" said Xu. "*Consumers can now use their phone to monitor heart rate, stress level, improve workout routines and sleeping behaviors, and even control blood sugar levels. Now, with Azumio, we have the resources and experience to create a mobile health and fitness platform that will impact hundreds of millions of consumers.*"

Tom Xu

According to EU Commission's Green Paper on mHealth, fitness tracking apps are meant to maintain or improve healthy behaviors, quality of life and well-being of individuals.

Health-related apps in five therapy areas could produce $7 billion in annual savings. This represents about 1.4 percent of total costs in these patient populations. If this level of savings could be achieved across all disease areas, annual cost savings of $46 billion could be achieved. mHealth Apps nearly double since 2015, 318,500 now available with roughly 200 new apps added daily to top app stores. Apps focused on health conditions and patient care are now 40% of all apps up from 27% in 2015.

The global market for Mobile Medical Apps is projected to reach $ 14 billion by 2020. For 2017 the mHealth market is forecast to be valued at around 25.39 billion U.S. dollars. The number of mHealth apps downloaded worldwide reached a high in 2016, with an estimated 3.2 billion downloads, almost double of the number of downloads in 2013.

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Meditation Apps

Rich Pierson, Headspace CEO said:

"*It's important to bring guided meditation directly to the phone, rather than expecting people to seek out in-person classes, because that's where they spend their time, that's where their stress is*". "*A lot of people say, 'I've started meditating and I'm just really angry. It brings up emotions. Meditation is just the lens of what's going on in your mind, and maybe you're just not aware of it. By doing it, it makes you aware of it, and so they think, 'It's making me angry, it's making me stressed.' But actually, it's just shining a light on what was there*."

Rich Pierson

Meditation has become widespread in recent years as employers search for ways to relieve rampant stress in the office. The meditation industry hit $1 billion last year, and popular apps are offering corporate packages to various businesses.

Estimated to be a $1.1 billion industry in the U.S. by market research firm IBISWorld,an increase of more than $100 million from the previous year, which finds the alternative health care industry as a whole is still in a growth phase. Private or group meditation and mindfulness training makes up 7.4 percent of the $15.1 billion alternative care market in the U.S.

As companies embrace the idea that employees' mental health is directly tied to their performance, many are allocating budgets to benefits that help improve focus and alleviate stress. 22 percent of companies already offer meditation training at work, according to a study by the National Business Group on Health (NBGH) and Fidelity Investments. Another 21 percent plan to add such training in 2017.

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Nutrition Apps

Sergey Oreshko, the CEO of MyNetDiary said:

"MyNetDiary first helps you plan your diet. It estimates your calorie needs, how much calories you need to consume daily given your amount of activity, how many calories you need to consume to start losing weight. Then every day, it helps you track your food and exercise to make sure you do meet your target. It's much more than just a calorie counter, it's not just about calories. The app provides a way to compare food, we call it food score, helping to compare food, and compare food based on their food labels."

Sergey Oreshko

A medical journal review from 2011 found that keeping a food diary can improve weight loss. According to a survey, 26 percent of people aged 18 to 29 years, 18 percent of women regularly use apps to track their diet and nutrition.

A 2015 study by research firm Marketdata estimates the size of the U.S. weight loss market at $64 billion in 2014. Apps and software are a big part of that mix. MyFitnessPal for example was acquired by Under Armour for $475 million last year. As of July 2017, Fitbit was ranked first with 23.6 million unique U.S. users. MyFitnessPal was ranked second with a 11.7 million user strong audience. Fitness and nutrition apps are widely used for detecting /tracking/ analyzing and sharing vitality and fitness achievements. Nutrition apps provides you practical information and tips from the experts to help you and your family stay food safe.

Sarah Koszyk, a San Francisco sports nutritionist said that incorporating a nutrition app into your fueling plan can be effective: "It's a convenient way to build awareness about what you're eating and allows you to make smarter decisions, so that you can reach your goals in a measurable way".

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https://www.diabeteswellbeing.com/sergey-oreshko-interview-and-podcast/

Period Tracking Apps

Ida Tin, CEO and co-founder of CLUE said:

Ida Tin

"*I feel as strongly as ever that Clue's mission is to keep female health and its advancement at the top of the global agenda and I am thrilled to partner with prestigious investors who share our vision,*" Tin said in a statement. "*Healthcare is already going digital, just look at the 60 percent of smartphone users in the US using their devices to manage health. Female health is also driving this. And when you consider that more than half the world's population is female, you realize how enormous the market potential and opportunity for Femtech companies is to truly make an impact.*"

Periods usually arrive once each month, but the exact date, flow, cramp severity, and accompanying symptoms are not quite that consistent. For this very reason, the app market is flooded with period trackers that aim to offer insight into the monthly cycle. There are thought to have been as many as 200m downloads of period tracking apps worldwide.

Period tracking can help in getting to know the own body and cycle and observe any symptoms — such as mood swings or headaches — that may occur during a particular phase of the cycle. Period tracking can help to identify any changes to the menstrual cycle that may be an indicator of potential health issues. Furthermore, using period tracking apps can tell when it is likely to be most fertile for avoiding pregnancy or trying to become pregnant.

A recent study of over 1,000 British women published by Action Aid to mark Menstrual Hygiene Day 2016 found that 54 percent of girls and women aged between 16 and 24 find talking about their periods embarrassing. The research found that 3.5 million girls and women have taking time off school or work because of their period, but three-quarters hid the truth about why they were absent.

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http://www.mobihealthnews.com/content/clue-gets-20m-enhance-intelligence-period-tracking-app-grow-team

Quantified Self Apps

Adriana Lukas, founder of the London Quantified Self group noted:

"*Whenever literacy of any kind comes into play, we are talking about potentially profound changes in any system affected by that literacy. Just as widespread literacy has had a profound and unforeseen impact — not only on the evolution of knowledge and information but also on society in general — health and data literacy as inspired by the demand side QS (quantified self) movement has the potential to do the same in the context of health and health care.*"

The quantified self is a movement that incorporates technology into the acquisition of data relating to inputs (such as food or air quality), states (such as mood or blood oxygen levels) and performance (such as mental or physical) for the purpose of tracking and improving one's own health.

The overriding hope of the movement, beyond just individual improvements, is that this data will help the health care system move away from a sickness-based model to a prevention model through real-time data collection. Proponents say it helps individuals become agents of their own health and takes some pressure off of physicians and other health care providers.

Health monitoring plays a huge role in maintaining health and wellness and managing disease. Involvement in self-management also can save employers, insurers and individuals millions of dollars a year in medical costs and decreased productivity.

Adriana Lukas

SleepTech Apps

Fares Siddiqui, CEO and co-founder at Circadia:

"*Sleep technology itself is booming [but] sleep tracking technology is actually all over the place. Apple have acquired Beddit. Hello Sense going bust. Just look at the Fitbit stock price over the last five years and you'll see where it's going. So it makes you think; sleep trackers are going down, but then the sleep aids industry is still projected for double digit growth year on year until 2020 and we're looking at an $80Billion market. So what is going wrong?" "So, the issue with sleep tracking in general is that there is this first wave or first generation of over simplistic tracking technology,.. [but] no one gets information on how they can actually improve their sleep. It's clear that trackers are not sleep aids, and what we're focused on is a system that combines sleep tracking with the therapy and the diagnostics as part of the loop so that it becomes a sleep aid.*"

New data tracking apps and gadgets that claim to help monitor and improve the sleep are infiltrating bedrooms. They range in diversity and in price, from no-cost sleep track apps to $500 headsets. The user can even cuddle up and sync the breathing with a "sleeping" robot—the experience akin to sleeping with a furry pet animal. Over about the past five years, the consumer market for sleep technology has been steadily rising, says Angela Chen, a science reporter for *The Verge* who surveyed the latest sleeping gadgets at the 2018 International Consumer Electronics Show.

Fares Siddiqui

Sport Apps

Gauravjeet Singh, CEO of Playo:

"*We don't pretend to be a fitness app. A number of us played some [kind of sport] growing up. We were very happy when we were playing as kids, and it seemed unfair that sport is restricted to professional athletes. Sports begin as fun and then are slowly replaced by diet and fitness regimes later in life. Playo wants to take it back to the basics.*"

Sport apps allow users to track fitness activities (such as walking, running and cycling) using GPS and to see detailed statistics around their pace, distance, and time.

Gauravjeet Singh

Sports apps turned out to be the second fastest growing app category, closely following messaging and social apps: Sports apps usage worldwide increased by 43% in 2016. At the same time, in Europe, an average session within sports apps grew by 90%.

Sports statistics apps can be a great addition to a marketing strategy for a sport venue or event, as well as for a sports team or organization. Media companies focusing on the sports industry can also benefit from building mobile apps to provide its audience with access to their resource on the go.

"Downloadable apps are moving the sports tracking device market from proprietary devices to mobile phones, but adoption has been limited by the data they can collect. However, with the connectivity that Bluetooth Smart will embed in mobile handsets, wearable devices will bring greater detail to mobile handsets," stated Jonathan Collins, ABI principal analyst, in a press release.

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https://easternpeak.com/blog/how-to-develop-a-sports-statistics-app/
https://www.techinasia.com/meet-indian-startup-making-sports-fun
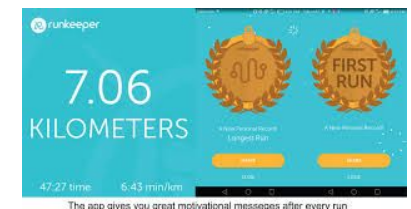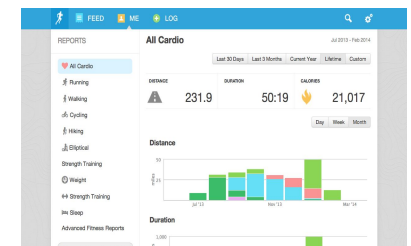
Longevity
AI and Data Science
Mobile Apps

Integration with Blockchain and next generation IT-technologies

Introduction

The following chapter details the rise and exponential growth of three convergent trends and technology spheres that are having an increasing impact on the HealthTech mobile apps industry, namely:

- **Personalized Preventive Medicine with focus on Longevity**
- **Data Science & Artificial Intelligence**
- **Blockchain and other next generation IT-technologies**

The most successful mobile apps in this space, and the ones with the greatest potential to become 3rd generation mobile apps, will be those that combine these three major technology spheres into one integrated system.

The optimized integration and assembly of these separate technological spheres will have a greater disruptive and accelerative impact on the HealthTech Mobile Apps industry and has the potential to substantially enhance the effectiveness of user health **diagnostics**, **prognostics**, and **health regime optimization**.

The ultimate goal of the HealthTech industry is to provide users with the **tools** and **recommendations** required to make them as healthy as possible, for as long time as possible. In many cases this will naturally involve the enhancement and extension of **healthy longevity**.

The overarching aim of the industry is to put power over users **health into their own hands**, to make the users **"The CEO of their Health"**, and to move toward an age of not precision medicine per se, but something much greater: **The precision health**.

The following pages profile three leading examples which serve as case studies for the convergence of these advanced technologies:

- The joint venture **Eterly** and **Longevity United**
- **Doc.AI**
- The consortium of companies revolving around **Insilico Medicine**, including **Longenesis**, **Rynkl**, **Beauty.AI** and **Young.AI**

Longevity Industry Landscape Overview Volume II:
The Business of Longevity

2018-2022 The Rise of the Longevity Industry

- **Digital Health**
- **Artificial Intelligence**
- **Blockchain**
- **P3 medicine**
- **AgeTech**
- **Exponential acceleration of further progress**
- **Objective forecasting for 2018 - 2022 (applying TRL's)**

The report details the present state of precision, predictive and preventive medicine (referred to hereafter as 'P3'), how it works in conjunction with emerging preventative medical technologies, and the prospects for the next five years. *Volume 1: The Science of Longevity,* set the landscape of geroscience against the backdrop of the 'silver tsunami' of global demographic aging. It summarised the history and current state of development in geroscience, examined whether existing proposed solutions measure up to the impending problems, and profiled 650 distinct entities related to geroscience.

This present volume, entitled *The Business of Longevity,* outlines the commercial side of this emerging industry. It describes the novel financial systems that will form the necessary framework of the industry, and introduces *AgeTech*, and other novel technologies that have the elderly as their prime beneficiaries. These technologies have yet to reach fruition, but are expected to grow rapidly in the next several years as the elderly remain more active than ever before.

www.longevity.international

Longevity Mobile Apps and AI assistants

A cohort of AI-driven apps and assistants are being developed to fulfil the promise of P3 medicine. They range from health and fitness mobile apps, to data analysts for health and beauty.

Eterly for example is a mobile app developed to incentivise users to share their health and fitness data on blockchain and provide insights and prompts through an AI-driven chatbot. By regularly collecting user data on diet, exercise, sleep and more, it allows a large database to be built where users own their data and can share it with researchers and clinicians.
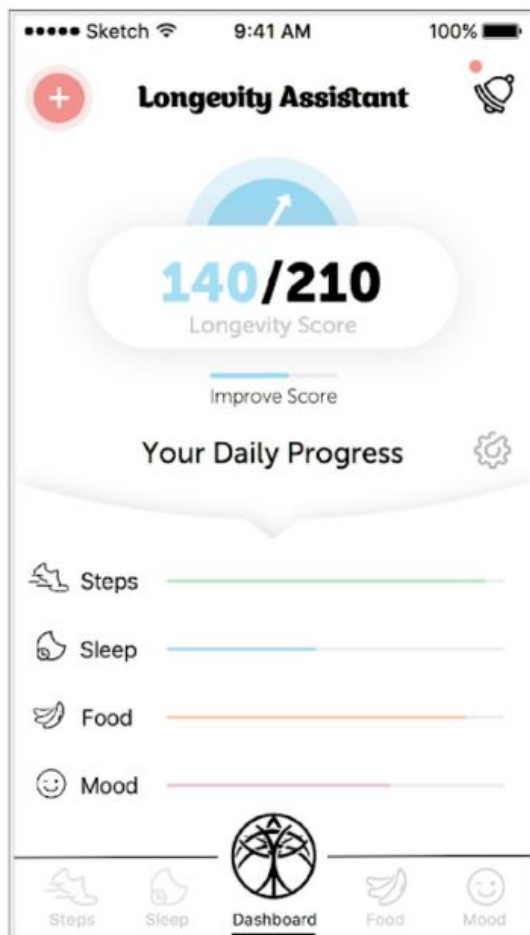
Multiple streams of data are analysed for each user individually to provide an overarching

Longevity Score which tracks their health and wellbeing. Incentivising tokens are issued to users based on how much they engage with Eterly.

Tokens can be exchanged for cutting edge medical and fitness rewards. The Longevity Assistant prompts users to provide various bits of information over time, via an intuitive and stimulating interface. Data can be manually added, or automatically sent to the app from other trackers such as Fitbit or Apple Watch.

As feedback, the AI chatbot provides blurbs of pertinent and personalised information at key times of the day to educate and encourage users in their health and longevity journey.

Longevity United & Eterly

Tokenization

Eterly
Mobile Application

Blockchain
Back-end, Artificial
Intelligence

3rd Party vendors
(supplements,
devices,
recommended
clinics)

Corporate partners,
Insurance
companies,
Biopharmaceutical
companies

Longevity.international

Knowledge and
science
contributions

Expert Community
(Doctors/scientists)
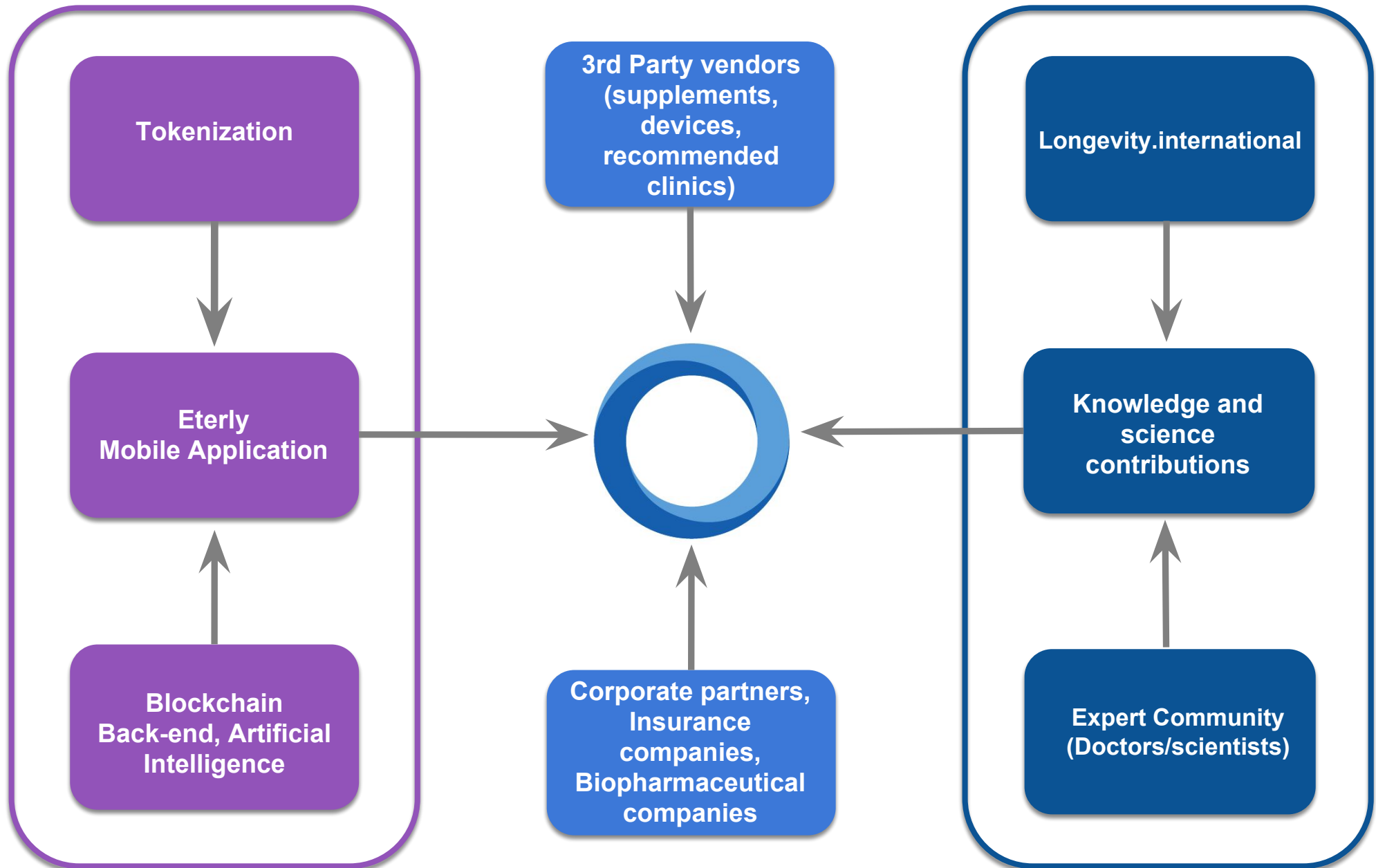
Longevity United & Eterly

Front end

Premium app services:

"premium upgrades" that match the users' personalised profile:
- Personal coaching
- Full profile personalisation
- Supplement recommendation
- Personal biomarkers
- Biomarker optimisation guidance

PREMIUM APP SERVICES

OPEN MARKETPLACE

The Open Marketplace Supplements/Device cross selling:

Offering recommendations of purchasing a device / supplement based on expert medical advice, that is in tune with the app Selected & approved partners

Public

Private

Work partner with health/life insurance/corporate wellness providers:

sponsored programs for a healthier lifestyle and corporate health programs on contract or subscription basis.

CORPORATE LIFE INSURANCE PROGRAMS

WHITE LABEL

Work/partner with manufacturers:

wearable fitness devices, smartwatch makers,
health, fitness and lifestyle apps likely to take the form of a "white label" software solution with free support and development to be paid for in sales or fixed commissions

Back end

Longevity United & Eterly

The joint venture between Eterly and Longevity United also employ the majority of the features that our analysts predict will become the standard hallmarks of 3rd-generation HealthTech apps by the end of 2019, including:

- a gamified mobile app front-end that employs AI-based recommendations in the form of a chatbot,

- a blockchain back-end to keep user data both distributed and transparent, in a fully-anonymized yet accountable manner so that users retain full control over the use of their data and are remunerated for its use by third parties, and

- big data analysis of user data in a way that creates a positively-reinforcing feedback loop, whereby more data increases the personalisation and accuracy of the apps' AI-based user recommendations, and whereby increasingly personalized recommendations encourages more and more users to join and submit their data for big data analysis.

This makes the joint venture between Eterly and Longevity United another prime example of the right combination of technologies with the potential to evolve into the 3rd generation of HealthTech mobile app.

Mobile Apps, AI assistants, Blockchain

Other AI apps are also being developed, such as **doc.ai**. Doc.ai aims to employ AI to enable patients and researchers to share their data safely and benefit from pooling together relevant data from specific patient cohorts or for certain conditions.

Insurers incentivise the collection of data and discovery of new insights and treatments, and patients and scientists get rewarded for participating. Users get paid in doc.ai currency named Neurons every time they share complete data, while researchers get paid large sums once they've developed a successful new treatment based on the data submitted and handled by AI.

Doc.ai also runs research such as the Inclusive AI Project that aims to correctly develop AI that accounts for diversity of people. By curating a large number of selfies and their attached data e.g. gender, age, height and weight, AI can eventually hold a powerful predictive ability for any individual.

At the end of 2017, doc.ai also announced the release of its blockchain-based natural language processing platform to generate medical insights from analysis of combined sets of different types of medical data.

This AI-driven data analysis also feeds into its AI chatbot, so that users can have personalized conversations about their health at any time of the day.
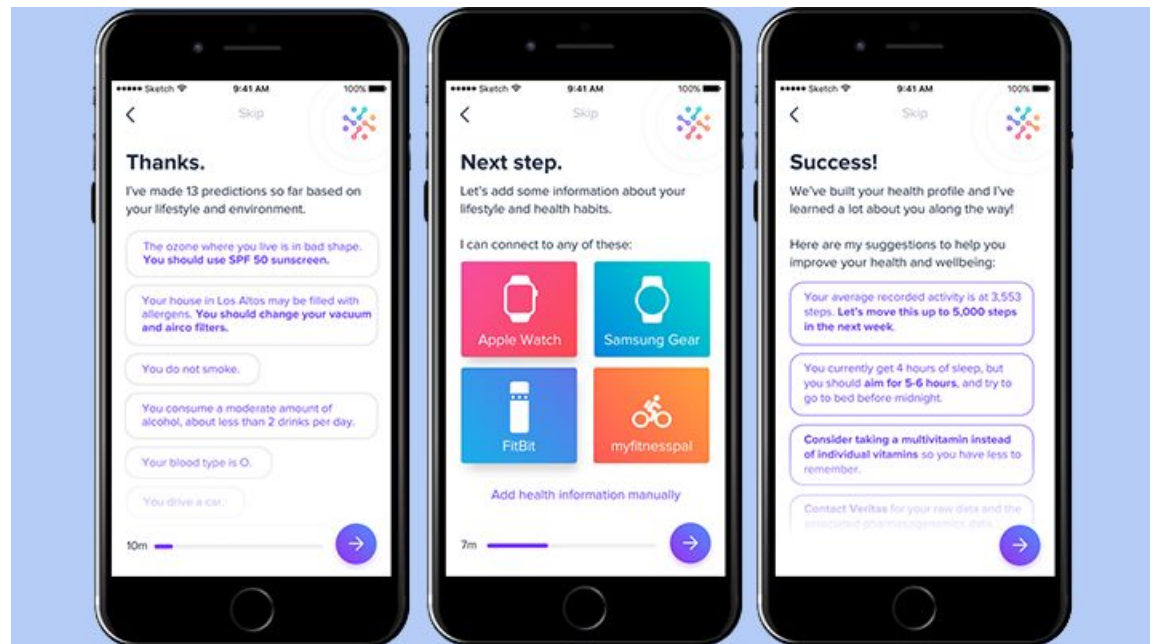
Longenesis & Insilico Medicine

The consortium of spin-off projects from Insilico Medicine and its collaborators (e.g. Youth Laboratories), including the mobile apps Beauty.AI and Young.AI, as well as the health data app and platform Longenesis, also serve as an excellent case-study and example of the right combination of technologies that have the potential to evolve into the 3rd generation of HealthTech mobile apps.

Longenesis combines AI-driven big data analysis with a blockchain back-end in order to create a human health and life science data marketplace, where users can be remunerated for use of their health data by third-parties.

The combination of AI-driven big data analysis and a blockchain-based backend for immutable and decentralized storage of user data are two of the main hallmarks distinguishing 3rd generation HealthTech mobile apps from 1str and 2nd generation apps, putting Longenesis in a good position to become a leading example of Longevity-focused, 3rd generation HealthTech mobile apps.

L O N G E N E S I S

Longenesis = Longevity + Genesis

/lônˈjenəsəs/
—
The creation
of longevity

/lônˈjevədē/
—
Long life

/ˈjenəsəs/
—
the origin or mode
of formation
of something

"We are looking to improve human performance, extend life, prevent disease and make all people wealthier by developing a decentralized ecosystem for exchange and utilization of human life data using the latest advances in blockchain and artificial intelligence"

Youth Laboratories, Beauty.AI & Young.AI

Youth Laboratories is a company focusing specifically on the **skin** and attempting to develop big data analytics capable of detecting early signs of disease, as well as to handle the issues surrounding **beauty** that are associated with biological age and that are so prevalent at the skin level. Youth Laboratories runs **Beauty.AI** (the first beauty pageant judged by AI) and **RYNKL** (the mobile app that determines the extent of face wrinkles from a photo and generates a score 0 - 100).

Meanwhile, Young.AI uses a wide variety of user data, from blood test data to photos, videos and voice, to genetic, microbiomic, wearable and ECG data, in order to predict users' biological age via Insilico Medicine's deep learning algorithms. The system also tracks which activities impact your biological age the most, and can be used to design personalised lifestyle, fitness and supplement regimens to promote healthy longevity. The combination of big-data analysis of user health data, AI-driven data analysis, and user health recommendations puts Insilico Medicine and its consortium of spinoff projects in a leadership position among Longevity-focused HealthTech apps already, and also put them in an excellent position to evolve into a leading example of 3rd generation HealthTech mobile app.
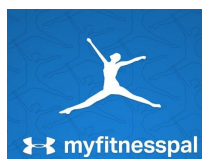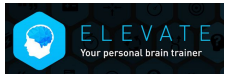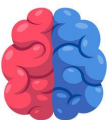
Appendix
100 Health Tech
Mobile Apps

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
1. 5217 — time management for increased productivity	By Francisco Franco	Android	https://play.google.com/store/apps/dev?id=8270010790606670648 https://plus.google.com/u/0/+FranciscoFranco1990	N/A	N/A	50,000 - 100,000	N/A
2. Addapp Insights	Addapp Corp/Addapp.io	iOS 8.0 iPhone, iPad, and iPod touch	https://addapp.io/	Addapp is a mobile application that translates its users' health apps and activity tracker data into actionable recommendations.	$1,800,000	N/A	N/A
3. ASUS ZenFit	(By ZenWatch, ASUSTeK Computer Inc.)	Android	https://www.asus.com/zenwatch/	ASUSTeK Computer Inc., usually referred to as ASUS, is a Taiwanese multinational computer hardware and electronics manufacturer.	N/A	500,000 - 1,000,000	N/A
4. Aware	zoojoo.be/Uber Health Tech Private Limited	Android iOS iPhone, iPad, and iPod touch	https://awaremeditationapp.com/#why-aware	Aware Offered By zoojoo.be is a cloud- and mobile-based, workplace wellness platform that offers customized solutions for organizations.	$1,000,000	100,000 - 500,000	RoundGlass Partners
5. Babylon Health	babylon health	Android, iOS 10.0, iPhone, iPad, and iPod touch	http://www.babylonhealth.com/	Putting an accessible and affordable health service into the hands of every person on earth.	$85,000,000	100.000 – 500.000	Hoxton Ventures Kinnevik AB NNC Holdings

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
6. Brain Wars	Translimit, Inc	Android iOS 6.0 iPhone, iPad, and iPod touch	http://translimit.co.jp/	Translimit was initially launched back in January by Hiroki Takaba and Takuma Kudo, both of whom previously worked at CyberAgent companies.	$2,900,000	10,000,000 - 50,000,000	N/A
7. Brainilis	appilis LLC	Android iOS 9.0 iPhone, iPad, and iPod touch	https://www.brainilis.com/	appilis LLC is an Android game developer that has been active since 2016.	N/A	100,000 - 500,000	N/A
8. Calm	Calm.com, Inc.	Android iOS 9.0 iPhone, iPad, and iPod touch	https://www.calm.com/	Calm provides applications for individuals to relax their minds.(Calm is working to bring the amazing benefits of meditation to a busy world.	$1,043,000	5,000,000 - 10,000,000	AngelList Cherubic Ventures Elefund Listen Ventures Neon Adventures
9. Calorie Counter	MyFitnessPal, Inc.	Android iOS 9.0 iPhone, iPad, and iPod touch	https://www.myfitnesspal.com/	MyFitnessPal offers a mobile app and website for people to track, learn, communicate and improve their health and wellness.	$18,000,000	50,000,000 - 100,000,000	N/A
10. Calorie Counter	FatSecret	Android iOS 9.0 iPhone, iPad, and iPod touch ,Microsoft	https://www.fatsecret.com/	FatSecret helps people achieve their diet and nutrition goals supported by a passionate community of over 45 million users.	N/A	10,000,000 - 50,000,000	N/A

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
11. Calorie Counter	MyNetDiary Inc.	Android iOS 9.0 iPhone, iPad, and iPod touch	http://www.mynetdiary.com/	MyNetDiary is an online diet log service that contains 515000 foods database.	N/A	1,000,000 - 5,000,000	N/A
12. Cardiio: Heart Rate Monitor	Cardiio, Inc.	iOS 8.0 iPhone, iPad, and iPod touch	https://www.cardiio.com/	Cardiio develops intelligent algorithms for the monitoring of wellness, fitness, and chronic diseases using sensors.	$170,000	N/A	Rock Health
13. Cardiogram	Cardiogram, Inc.	Android iOS 9.3 iPhone, iPad, and iPod touch	http://cardiogr.am/	Cardiogram organizes your mobile health data by making it meaningful, useful, and actionable.	$2,000,000	5,000 - 10,000	Homebrew Techammer
14. Cardiograph	MacroPinch Ltd.	Android iOS 8.0 iPhone, iPad, and iPod touch	http://macropinch.com/	Macropinch Ltd. is a company which develops health & fitness apps for iPhone	N/A	10,000,000 - 50,000,000	N/A
15. Center Health — The Diabetes App	Center Health Inc.	Android iOS9.0 iPhone, iPad, and iPod touch Windows St	https://www.center.health/	Next generation of diabetes management tools and software	N/A	100 - 500	N/A

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
16. Clue: Period & Ovulation Tracker	BioWink GmbH	Android iOS 10.0 iPhone, iPad, and iPod touch	https://helloclue.com/	Clue is the world's fastest growing female health app.	$30,343,611	10,000,000 - 50,000,000	Atlantic Labs Groupe Arnault Luminary Labs Ventures Mosaic Ventures Tigerlabs
17. Cronometer	Cronometer Software Inc.	Android iOS 9.0 iPhone, iPad, and iPod touch	https://cronometer.com/	cronometer.com Bootstrapped Startup for Detailed Personal Nutrition & Fitness Tracking	N/A	50,000 - 100,000	N/A
18. Elevate - Brain Training Games	Elevate, Inc	Android iOS 9.0 iPhone, iPad, and iPod touch	https://www.elevateapp.com/	Elevate is a new type of cognitive training tool designed to build communication and analytical skills.	$7,700,000	5,000,000 - 10,000,000	N/A
19. Endomondo	Endomondo.com/Endomondo LLC	Android iOS 10.0 iPhone, iPad, and iPod touch	https://www.endomondo.com/	Endomondo is a social fitness network and mobile app allowing users to track their workouts, challenge friends, and analyze their training.	$8,175,000	10,000,000 - 50,000,000	Seed Capital
20. Engross	Engross Apps	Android	http://www.engrossapp.com/	Engross is specially designed to lower distractions/procrastination and improve concentration.	N/A	50,000 - 100,000	N/A

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
21. Eterly		Android, iOS 10.0. iPhone, iPad, and iPod touch	http://eterly.com/	Eterly acts like a personal coach, custom designing and adjusting, in real time, a health and fitness routine mapped to precisely fit each user's specific needs.	N/A	50-100	N/A
22. Eve	Glow	Android iOS 9.0 iPhone, iPad, and iPod touch	https://glowing.com/	Glow is a fertility app that crunches and analyzes vast quantities of data to help users take control of their reproductive health.	$23,000,000	1,000,000 - 5,000,000	N/A
23. Exist	Hello Code Pty Ltd	Android iOS 10.0 iPhone, iPad, and iPod touch	https://exist.io/	EXIST- can help you understand what makes you more happy, productive, and active.	N/A	5,000 - 10,000	N/A
24. Fit Brains Trainer	Rosetta Stone Canada, Inc	Android iOS 8.0 iPhone, iPad, and iPod touch	http://www.fitbrains.com/	Fit Brains is a cutting-edge, brain-training program brought to you by Rosetta Stone, a premier learning company with leading products used by schools, business and government organizations.	N/A	1,000,000 - 5,000,000	N/A
25. Fitbit	Fitbit, Inc.	Android, iOS 9.0, iPhone, iPad, and iPod touch.	https://www.fitbit.com/app	Fitbit is the world's leading app for tracking all-day activity, workouts, sleep and more. The free Fitbit app is designed to work with Fitbit activity trackers and smart scales.	$66,000,000	10,000,000 - 50,000,000	Sapphire Ventures,Qualcomm Ventures,SoftBank CapitalTrue VenturesUncork CapitalFoundry Group
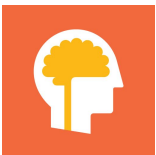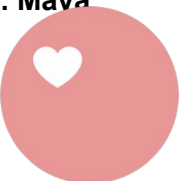
App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
26. Fitocracy - Fitness Collective	Fitocracy, Inc.	Android iOS 8.0 iPhone, iPad, and iPod touch	https://www.fitocracy.com/	Fitocracy is an online fitness community offering games and social networking tools that help members improve their fitness.	$2,200,000	100,000 - 500,000	500 Startups Eniac Ventures Expansion Venture Capital Great Oaks Venture Capital OCA Ventures Social Starts
27. Flo	OWHEALTH, INC.	Android iOS 10.0 iPhone, iPad, and iPod touch	https://flo.health/	Flo is the fastest growing AI-powered women's health platform that encompasses accurate cycle predictions.	$6,000,000	10,000,000 - 50,000,000	Flint Capital Haxus
28. FoodPrint™	Nutrino Health Ltd	Android iOS 9.0 iPhone, iPad, and iPod touch	https://nutrino.co/#/	Nutrino A big data, personalized nutrition platform.	N/A	10,000 - 50,000	N/A
29. Foodzy	Foodzy	Android iOS 7.0 iPhone, iPad, and iPod touch	https://foodzy.com/	Foodzy is a personal food journal mobile app and website, helping users keep track of everything they eat and drink.	N/A	10,000 - 50,000	N/A
30. Foursquare Swarm	Foursquare Labs, Inc.	Android iOS 9.0 iPhone, iPad, and iPod touch	https://www.swarmapp.com/	Foursquare is a local search and discovery service mobile app that provides its users with personalized local search experiences.	$207,350,000	10,000,000 - 50,000,000	C4 Ventures DFJ Growth Oreilly AlphaTech Ventures Silver Lake Partners Spark Capital SV Angel Union Square Ventures

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
31. Geo Tracker	Edeh Kingsley Chigozie	Android	N/A	Geo Tracker allows you to see how productive they are everyday by showing you how long you stay at a particular location.	N/A	10,000 - 50,000	N/A
32. Glympse	Glympse	Android iOS 8.0 iPhone, iPad, and iPod touch	http://glympse.com/	Glympse is a location sharing technology company that offers a consumer app and a platform for businesses to integrate location technology.	$41,900,000	5,000,000 - 10,000,000	Ignition Partners Menlo Ventures Naya Ventures UMC Capital Verizon Ventures XG Ventures
33. Good Morning	Apalon Apps	Android iOS iPhone, iPad, and iPod touch	http://www.apalon.com/good_mornings_android.html	Apalon is a successful mobile development company. It is a part of a leading media and Internet company IAC (NASDAQ: IACI).	N/A	1,000,000 - 5,000,000	N/A
34. Good Night's	Ateam Inc.	Android iOS iPhone, iPad, and iPod touch	http://www.a-tm.co.jp/en/	Ateam inc is a game develope	N/A	1,000,000 - 5,000,000	N/A
35. GPS Sports Tracker — Running & Cycling	Caynax	Android	http://www.caynax.com/	Fitness app independent developer	N/A	100,000 - 500,000	N/A

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
36. Gyrosco	Gyroscope Innovations	Android iOS 9.3.0 iPhone, iPad, and iPod touch	https://gyrosco.pe/	Gyroscope is an online platform that enables individuals to maintain a personal dashboard for health analytics.	$1,300,000	100,000 - 500,000	Fresh VC Marc Bell Ventures FRESH MARC BELL CAPITAL
37. Headspace: Guided Meditation & Mindfulness	Headspace, Inc.	Android iOS iPhone, iPad, and iPod touch	https://www.headspace.com/	Headspace's mission is to improve the health and happiness of the world.	$75,153,477	5,000,000 - 10,000,000	Advancit Capital Allen & Company Breyer Capital Broadway Video Ventures Deerfield Freelands Ventures Refactor Capital Spectrum Equity
38. Health Lab Diabetes Management	Tictrac/Tictrac Limited	Android iOS 9.0 iPhone, iPad, and iPod touch	https://tictrac.com/research/health-lab-diabetes-management/	Tictrac is a connected health platform that engages people in their health through their data.	£3 950 000	1 000–5 000	N/A
39. Healthy 365	Health Promotion Board	Android iOS 8.0 iPhone, iPad, and iPod touch	https://www.healthhub.sg/programmes/37/NSC	Healthy 365 app is brought to you by the Health Promotion Board (HPB).	N/A	500,000 - 1,000,000	N/A
40. HRV4Training	Alessandra Saviotti	Android iOS 8.0 iPhone, iPad, and iPod touch	https://www.hrv4training.com/	HRV4Training helps you optimize your goals and prevent overtraining by measuring your Heart Rate Variability and providing tailored feedback on your physical condition.	N/A	1,000 - 5,000	N/A
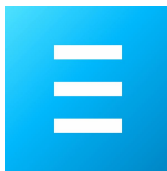
App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
41. iCare Health Monitor	Beijing Jiajia kangkang Co. Ltd.	Android iOS 8.0 iPhone, iPad, and iPod touch	http://www.icarefit.com/	iCare Health Studio is a mobile Internet company specializing in mobile health service, at present in the measuring direction is an international leader.	N/A	1,000,000 - 5,000,000	N/A
42. iHeart	iHeart	Android iOS iPhone, iPad, and iPod touch	https://goiheart.com/	iHeart is a tool to help people realize the personal power they have to change their health and wellness.	N/A	1.000 – 5.000	N/A
43. Insight Timer	Insight Network Inc.	Android iOSiPhone, iPad, and iPod touch	https://www.insighttimer.com/	Meditation app focused on health and education	N/A	1,000,000 - 5,000,000	N/A
44. Instant Heart Rate	Azumio Inc.	Android iOS 9.0 iPhone, iPad, and iPod touch	http://www.azumio.com/s/instantheartrate/index.html	Azumio is a venture-backed company that develops a suite of fitness apps for smartphones.	$3,416,215	10,000,000 - 50,000,000	N/A
45. Instant	Emberify - Instant	Android iOS 10.0 iPhone, iPad, and iPod touch	http://emberify.com/	Emberify is a startup working on personal analytics using contextual technologies.	N/A	100,000 - 500,000	N/A

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
46. LADYTIMER	Vipos Apps/vipos.com	Android iOS 9.0 iPhone, iPad, and iPod touch	http://ladytimer.com/android/	Vipos.com is a Health & Fitness related Company and has developed apps like Ovulation Calendar Ladytimer.	N/A	5,000,000 - 10,000,000	N/A
47. Lark - 24/7 Health Coach	Lark Technologies, Inc	Android iOS 8.0 iPhone, iPad, and iPod touch	https://www.web.lark.com/	Lark is the first artificial intelligence nurse to be reimbursed as a live healthcare professional.	$21,100,000	100,000 - 500,000	N/A
48. Lark	Lark Technologies, Inc	Android iOS 8.0 iPhone, iPad, and iPod touch	https://www.web.lark.com/	Lark is the first artificial intelligence nurse to be reimbursed as a live healthcare professional.	$21,100,000	100,000 - 500,000	Asset Management Ventures (AMV) CF(Crunch Fund) Fenox Venture Capital Golden Seeds Lightspeed Venture Partners Otter Rock Capital
49. Left vs Right: Brain Games	MochiBits, LLC	Android iOS iPhone, iPad, and iPod touch	https://mochibits.helpdocs.com/	MochiBits, LLC is an independent game development studio based in Los Angeles. They create fun games for iOS and Android.	N/A	5,000,000 - 10,000,000	N/A
50. Lifelog	Sony Mobile Communications	Android	https://www.sonymobile.com/	LifeLog is an online platform that enables users to rediscover, create, and share memories on social and personal media.	N/A	10,000,000 - 50,000,000	N/A
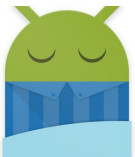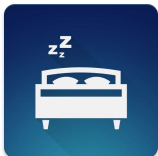
App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
51. LifeSum	Lifesum AB	Android iOS 9.0 iPhone, iPad, and iPod touch	https://lifesum.com/	Lifesum is a Swedish digital health startup that helps clients become healthier by using applied psychology and technology.	$16,700,000	5,000,000 - 10,000,000	Draper Esprit NGP Capital SparkLabs Global Ventures
52. Lose it!	FitNow, Inc.	Android iOS 8.0 iPhone, iPad, and iPod touch	http://www.loseit.com/	FitNow Parent company of popular weight-loss app, Lose It!, coaching platform, Ascend, and nutrigenomics product, embodyDNA.	$5,500,000	5,000,000 - 10,000,000	N/A
53. Lumosity	Lumos Labs, Inc.	Android iOS 9.0 iPhone, iPad, and iPod touch	https://www.lumosity.com/	Lumosity is a neuroscience research company that provides online brain training programs.	$70,585,000	10,000,000 - 50,000,000	N/A
54. MapMyFitness	Under Armour, Inc./MapMyFitness, Inc.	Android iOSiPhone, iPad, and iPod touch	http://www.mapmyfitness.com/	MapMyFitness operates a suite of fitness-oriented websites and associated mobile applications.	$23,650,000	1,000,000 - 5,000,000	Austin Ventures Milestone Venture Partners Square 1 Bank
55. Maya	Plackal Tech	Android iOS 9.0 iPhone, iPad, and iPod touch	http://www.maya.live/eng.html	Plackal develops consumer apps and enterprise solutions for mobile devices.	$700,000	5,000,000 - 10,000,000	N/A

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
56. Memorado	Memorado Gmbh	Android iOS 9.0 iPhone, iPad, and iPod touch	https://memorado.com/	Leading brain training platform with the mission to improve the mental well-being of everyone.	$4,600,000	1,000,000 - 5,000,000	Creathor Venture Global Founders Capital Sunstone Capital
57. Mind Games	Mindware Consulting, Inc	Android iOS 7.0 iPhone, iPad, and iPod touch	http://mindgames.mobi/	MindGames designs and develops brainwave-controlled games, apps, and software for personal usage and business applications.	N/A	10,000,000 - 50,000,000	N/A
58. Moves	ProtoGeo	Android iOS 9.0 iPhone, iPad, and iPod touch	http://moves-app.com/	*ProtoGeo is a startup focused on the development of mobile applications.*	$1,600,000	5,000,000 - 10,000,000	N/A
59. Movesum	Lifesum AB	iOS 9.0 iPhone, iPad, and iPod touch	http://movesum.com/	Lifesum is a Swedish digital health startup that helps clients become healthier by using applied psychology and technology.	$16,700,000	N/A	N/A
60. My Calendar - Period Tracker	SimpleInnovation/Emily Powell	Android iOS 8.0 iPhone, iPad, and iPod touch	http://period-tracker.com/	Track of periods, cycle, ovulation, and fertile days.	N/A	5,000,000 - 10,000,000	N/A
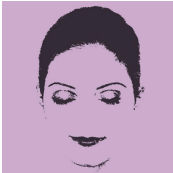
App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
61. MyChart	Epic Systems Corporation	Android, iOS 9.0, iPhone, iPad, and iPod touch		MyChart gives you access to your lab results, appointment information, current medications, immunization history, and more on your mobile device.	N/A	1,000,000 - 5,000,000	N/A
62. MyMovement	fncmedia	Android	https://www.mymovement.de/	Track your Roadtrips, Backpacking Trips, City Tours or Fitness Activities! Add Media Assets to create unforgettable memories.	N/A	500 - 1,000	N/A
63.My Trails	FrogSparks	Android	https://www.frogsparks.com/	FrogSparks develops mobile applications for Android.	N/A	1,000,000 - 5,000,000	N/A
64. NeuroNation	NeuroNation	Android iOS iPhone, iPad, and iPod touch	https://www.neuronation.com/	NeuroNation is the gym for your brain - developed by German Scientists(mission is to make the world more open and connected)	N/A	5,000,000 - 10,000,000	N/A
65. Nike+ Run Club	Nike, Inc.	Android iOS 10.0 iPhone, iPad, and iPod touch. Windows Phone	https://www.nike.com/US/en_US/p/activity	Nike is an American company that designs, develops, and markets footwear, apparel, equipment, and accessory products.	N/A	10,000,000 - 50,000,000	N/A

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
66. Noom Coach	Noom Inc.	Android iOS 9.3 iPhone, iPad, and iPod touch	https://www.noom.com/	Noom's applications combat chronic and pre-chronic conditions with structured programs and human coaches.	$25,952,322	10,000,000 - 50,000,000	Hanmi IT Harbor Pacific Capital Kleiner Perkins Caufield & Byers LB Investment m8 Capital New York Digital Health Accelerator
67. Nudge Health Tracking	Nudge, LLC	Android iOS 8.0 iPhone, iPad, and iPod touch	https://nudgecoach.com/nudgeapp/	NudgeCoach Create More Client Success Stories Using Mobile Health.	N/A	10,000 - 50,000	N/A
68. Omvana	Mindvalley Creations Inc.	Android iOS 10 iPhone, iPad, and iPod touch	http://www.omvana.com/	Seller: Mindvalley Creations Inc.----Mindvalley incubates and accelerates businesses that innovate on transformational education for all ages, through mediums.	N/A	100,000 - 500,000	N/A
69. Peak	Peaklabs/brainbow	Android iOS 10.0 iPhone, iPad, and iPod touch. Windows Phone	http://www.peak.net/	Brain training reimagined for your mobile lifestyle.	$10,532,081	5,000,000 - 10,000,000	Creandum DN Capital Firestartr Initial Capital Jaina Capital Lifeline Ventures Proxy Ventures
70. Period calendar	Simple Design Ltd./ABISHKKING LIMITED.	Android iOS 8.0 iPhone, iPad, and iPod touch	Private company limited by shares	Period Calendar tracks and predicts period	N/A	50,000,000 - 100,000,000	N/A
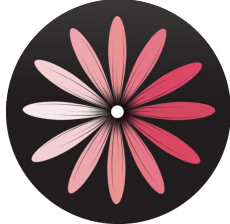
App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
71. Period Diary	Nanobit Games/nanobitsoftware.com	Android iOS 8.0 iPhone, iPad, and iPod touch	http://www.nanobit.co/	Nanobit Software is a mobile apps developer company and has developed various apps for the Android and iOS users.	N/A	100,000 - 500,000	N/A
72. Period Tracker	GP Apps/GP International LLC	Android iOS 9.0 iPhone, iPad, and iPod touch	https://gpapps.com/	Empowering millions with simple tools to improve their health and lifestyle.	N/A	10,000,000 - 50,000,000	N/A
73. PrimeNap Sleep Tracker	PrimeNap	Android	http://www.primenap.com/	PrimeNap is a sleep tracker and sleep cycle alarm clock with many features for you to graph your sleep patterns and wake up at the perfect time feeling refreshed.	N/A	50,000 - 100,000	N/A
74. RescueTime	RescueTime Team	Android	https://www.rescuetime.com/	RescueTime is a frictionless web-based time management tool that keeps track of what you do and for how long when you are on your computer.	$920,000	100,000 - 500,000	Lowercase Capital True Ventures
75. Runkeeper	FitnessKeeper, Inc.	Android iOSiPhone, iPad, and iPod touch	https://runkeeper.com/index	FitnessKeeper offers Runkeeper, a mobile platform that employs location technology to allow users to track their workout performance.	$11,510,000	10,000,000 - 50,000,000	N/A

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
76. Runtastic Running & Fitness	runtastic	Android iOS 9 iPhone, iPad, and iPod touch, Windows Phone	https://www.runtastic.com/en/apps	Runtastic provides its users with mobiles application that enables them to track their fitness activities.	€ 150 000	10,000,000 - 50,000,000	i5invest
77. SaveMyTime	Save My Time	Android	http://savemytime.co/en/	Track your time and get insights how you spend it.	N/A	100,000 - 500,000	N/A
78. Simple Habit	Simple Habit, Inc. SIMPLE HABIT	Android iOS iPhone, iPad, and iPod touch	https://www.simplehabit.com/	Simple Habit is on a mission to empower humans to stress less, achieve more and live better.	$2,500,000	100,000 - 500,000	FJ Labs Foundation Capital Locus Ventures New Enterprise Associates Y Combinator
79. Sleep as Android	Urbandroid Team	Android	https://sleep.urbandroid.org/	Leading an international startup with the vision of Introducing smart concepts for mobile computing related most of all to medical applications.	N/A	10,000,000 - 50,000,000	N/A
80. Sleep Better	Runtastic	Android iOS iPhone, iPad, and iPod touch	https://www.runtastic.com/en/apps	Runtastic provides its users with mobiles application that enables them to track their fitness activities.	€ 150 000	5,000,000 - 10,000,000	N/A

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
81. Sleep Time	Azumio Inc.	Android iOS iPhone, iPad, and iPod touch	http://www.azumio.com/	Azumio is a venture-backed company that develops a suite of fitness apps for smartphones.	$3,416,215	1,000,000 - 5,000,000	N/A
82. SleepBot	SleepBot	Android iOS iPhone, iPad, and iPod touch	http://www.mysleepbot.com/	SleepBot is a mobile application that wakes the user up during the lightest part of their sleep cycle.	N/A	1,000,000 - 5,000,000	N/A
83. SleepCycle	Northcube AB	Android iOS iPhone, iPad, and iPod touch	https://www.sleepcycle.com/	Northcube is a leading Swedish game and app development studio.	N/A	1,000,000 - 5,000,000	N/A
84. Smarter Time	Smarter Time	Android	https://www.smartertime.com/	Smarter Time is the new automated time-tracker.	N/A	100,000 - 500,000	N/A
85. Smiling Mind	Smiling Mind	Android iOS iPhone, iPad, and iPod touch	https://www.smilingmind.com.au/	Smiling Mind is modern meditation for young people.	N/A	100,000 - 500,000	N/A

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
86. SnoreLab	Reviva Softworks Ltd	Android iOS iPhone, iPad, and iPod touch	http://www.snorelab.com/	SnoreLab was created by Jules Goldberg in 2012 after his wife complained about his snoring.	N/A	1,000,000 - 5,000,000	N/A
87. Sportsman PRO	Axiom Mobile/Axiom Mobile LLC	Android iOS iPhone, iPad, and iPod touch	https://www.stopbreathethink.com/	Stop, Breathe & Think's mission is to inspire the world to practice mental wellness every day.	N/A	500,000 - 1,000,000	N/A
88. Stop Breathe & Think: Meditate	Stop, Breathe & Think, PBC	Android iOS 10.0 iPhone, iPad, and iPod touch. Windows Phone	http://www.strava.com/	Strava is an online network that connects the global community of athletes.	$2,400,000	1,000,000 - 5,000,000	Amplify.LA Launchpad Digital Health
89. Strava Running and Cycling GPS	Strava, Inc.	Android iOS iPhone, iPad, and iPod touch	https://www.meditationoasis.com/app-support	Meditation Oasis is a medical company which develops apps like Chakra Balancing and Energy Healin	$41,850,000	10,000,000 - 50,000,000	Go4it Sports, Tech & Experience Jackson Square Ventures Madrone Capital Partners Sequoia Capital Sigma Partners
90. Take a Break	Meditation Oasis	Android iOS iPhone, iPad, and iPod touch	http://themindfulnessapp.com/	MindApps is a blend of technology and spiritual knowledge	N/A	100,000 - 500,000	N/A

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
91. The Mindfulness App	MindApps	Android iOS iPhone, iPad, and iPod touch	http://themindfulnessapp.com/	MindApps is a blend of technology and spiritual knowledge	N/A	100,000 - 500,000	N/A
92. Time Recording	DynamicG Android Apps	Android	https://sites.google.com/site/androidtimerecording/home	DynamicG is an Android developer, who started in 2010, and thus is one of the Android pioneers.	N/A	1,000,000 - 5,000,000	N/A
93. Timesheet	Florian Rauscha e.U.	Android	https://timesheet.io/	Timesheet allows you the recording of your working hours with a simple push of a button.	N/A	1,000,000 - 5,000,000	N/A
94. Toggl Time Tracker	Toggl.com/Toggl OÜ	Android iOS 8.0 iPhone, iPad, and iPod touch	https://toggl.com/	Toggl is a leading online time tracking tool, which is extremely popular among freelancers, consultants, and small companies.	N/A	100,000 - 500,000	N/A
95. Tsheets	TSheets.com/TSheets.com LLC	Android, iOS, and Google Chrome, or a desktop or mobile web browser.	https://www.tsheets.com/	TSheets is the cloud-based time tracking and scheduling solution that's changing the way 40,000+ customers track their time in 100+ countries.	$15,000,000	100,000 - 500,000	Summit Partners

App name	Company name	OS	Web site	Description	Total funding amount	Installs	Investors
96. Wahoo Fitness	Wahoo Fitness	Android iOS iPhone, iPad, and iPod touch	https://www.wahoofitness.com/	Wahoo Fitness harnesses the power of your iPhone to transform the way you rid	N/A	100,000 - 500,000	N/A
97. Welltory: quantified self stress tracker - HRV	Welltory inc. Welltory	Android iOS 9.0 iPhone, iPad, and iPod touch	https://welltory.com/	Welltory An app for iOs\Android\WEB based on lifestyle data that helps thousands of hard workers combat their stress & fatigue.	$1,430,000	100,000 - 500,000	CABRA.VC
98. WomanLog	Pro Active App	Android iOS 9.0 iPhone, iPad, and iPod touch	http://www.womanlog.com/	Pro Active App is an Android developer, who started in 2010, and thus is one of the Android pioneers. The current app portfolio contains 8 apps. In the Google rankings, Pro Active App's apps appear in the top 100 in more than 10 countries.	N/A	5,000,000 - 10,000,000	N/A
99. Work Log	AR Productions Inc.	Android	http://backbackb.com/concrete/	AR Productions is a one person app development company dedicated to publishing easy to use and useful apps.	N/A	1,000,000 - 5,000,000	N/A
100. YOU: Small actions, big change	Fifth Corner Inc.	Android iOS 8.1 iPhone, iPad, and iPod touch	https://you-app.com/	YOU-App Self-improvement through small steps(YOU-app is about taking small steps to happier healthier you. They're focused on helping especially women create positive change in their lives.	$550,000	50,000 - 100,000	Wellington Partners wellingtonpartners VENTURE CAPITAL

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