

HUMAN factor

Kristen Karlovich, Module 7, MRes Healthcare and Design 2024

**Adaptive Interface Design -
AI powered database that
provides easy
understandable access to
class II at-home medical and
therapeutic devices**

Market Research and Industry Analysis

Innovation: Adaptive Interface Design - AI powered database that provides easy understandable access to Class II at-home Medical and Therapeutic Devices

Macro market:

- 1/3 of people avoid going to the doctor because of fear and anxiety attacks
- "The Share of Americans without Health Insurance in 2022 Matched a Record Low. In 2022, 26 million people — or 7.9 percent of the population — were uninsured, according to a report in September 2023 from the Census Bureau."
- nearly 94 percent of Americans have access to the internet
- 98 percent of adults in the United States between 30 and 49 years were internet users, making it the age group with the highest level of internet penetration in the country. more likely to be readmitted to hospital and more likely to experience delay in transfer to other health or social care settings including their own homes
- *Nearly 80 percent* of physicians in one AMA survey say they've had patients abandon treatment due to prior authorization struggles with health
- 83 million people in the U.S. currently live in areas without sufficient access to a primary care physical
- **two in three** doctors admitted to experiencing burnout during the pandemic
- Because when doctors lack the resources they need to keep their practices open, they close their offices. Or they reduce their hours

Micro market:

- Early Adopters: Hospitals Associated with the International Medical Corps. (associated Practices)
- Health Geeks
- Private Small practices Recommend to patients (use it for patients)
- Non-elderly AIAN and Hispanic people had the highest uninsured rates at 19.1% and 18.0%, respectively, as of 2022. Uninsured rates for nonelderly NHOPI (12.7%) and Black people (10.0%) also were higher than the rate for their White counterparts (6.6%)

- The global market for **at-home medical devices** was projected to reach over **\$41 billion by 2025**, with a compound annual growth rate (CAGR) of around **6.5%** from 2020 to 2025.
- The global **therapeutic medical device** market was valued at over **\$100 billion in 2020**, with an expected CAGR of around **5%** from **2021 to 2026**.

Heads of Power Of Devices:

- Philips Healthcare
- Medtronic
- ResMed
- Johnson & Johnson
- Abbott Laboratories
- Dexcom
- Baxter International

Heads of Power Head of AI Health:

- Google Health (Alphabet)
- IBM Watson Health
- Microsoft Healthcare
- Amazon Web Services (AWS) Healthcare
- GE Healthcare
- Siemens Healthineers
- Cerner Corporation
- NVIDIA Healthcare

Heads of Power Head Design Accessibility Websites:

- Deque Systems
- Equalweb
- AbleDocs
- UserWay
- Tenon.io
- Siteimprove
- AudioEye

- Could Be extremely Hard to Enter without a partnership
- No direct Competitors (but could easily be taken over by a powerhouse)
- 493 full text articles assessed for eligibility, and 218 clinical studies of new medical devices included. In all, 99/218 (**45%**) of the devices described in clinical studies ultimately received regulatory clearance or approval

Mullins Domain

Market domain

Industry domain

Macro level

Market attractiveness

- The global market for **at-home medical devices** was projected to reach over **\$41 billion by 2025**, with a compound annual growth rate (CAGR) of around **6.5%** from 2020 to 2025.
- The global **therapeutic medical device** market was valued at over **\$100 billion in 2020**, with an expected CAGR of around **5%** from **2021 to 2026**.

MEDICAL

- Medical device manufacturers have two potential audiences: **patients or doctors**
- The Pew Research Center survey, conducted Dec. 12-18, 2022, of 11,004 U.S. adults finds **only 38% say AI being used** to do things like **diagnose disease** and **recommend treatments** would lead to **better health** outcomes for patients generally, while **33%** say it would lead to **worse outcomes** and 27% say it wouldn't make much difference.
- a larger share of Americans think the use of **AI in health and medicine** would **reduce** rather than increase the number of **mistakes** made by health care providers (**40% vs. 27%**).
- AI implementation in healthcare often costs between **\$20,000 and \$1,000,000**
- The daily cost of filling the position ranges from **\$600 to \$1500**.

DESIGN

- Can increase people usability of healthcare
- Create greater relationship with healthcare
- Make healthcare to Easily navigate

Micro level

- Private Practices (During Beta Testing)
- Angel Funding
- Government Funding
- Purchase/ Partnership of Large Power House
- Entry into the creation of the database with the forfron or accessibility will lead to the creation of new segments of AI and how we view a designers roll in digital design.

- Benefits:

- Doctors caring for patients (more access)
- Relieve in-person strain
- Hospital's (Insure that patient's can not return to hospital and be pennizilised)
- Device Companies have greater reach for their devices despite if covered by insurance
- Free to Patients (only for providers at first)
- **Provider Logins -> Patient Independence**

Target segment benefits & attractiveness

Industry attractiveness

- The global market for **at-home medical devices** was projected to reach over **\$41 billion by 2025**, with a compound annual growth rate (CAGR) of around **6.5%** from 2020 to 2025.
- The global **therapeutic medical device** market was valued at over **\$100 billion in 2020**, with an expected CAGR of around **5%** from **2021 to 2026**.

- Digital Healthcare
- TellHealth
- UX Design
- Graphic Design

HIPAA: Protects patients' health information.

GDPR: Regulates processing and protection of personal data.

FDA Regulations: Governs medical devices and software, including AI.

CLIA: Oversees clinical laboratory testing standards.

Cybersecurity Regulations: Ensures data security and privacy.

Telemedicine Regulations: Guides licensure, reimbursement, and privacy.

Ethical Guidelines: Provide principles for responsible AI use in healthcare.

1. AI streamlines design tasks, enhances user experiences, and generates insights.
2. Personalization, predictive analytics, and generative design are key AI-driven trends.
3. Ethical considerations include privacy, bias, and transparency in AI design.
4. Social acceptance depends on user experiences and trust in AI systems.
5. Human-AI collaboration empowers designers to innovate and create more intelligently.

- Greater Trust when not a corporation that is directly linked to our politians
- Grant funding, and Angel investors, donations and internationals affairs, Subscription model by practices.
- Set contracts with companies who want to keep their devices a part of the database (pay a monthly fee to be accessible)
- Must get IP in order to avoid power house taking advantage of this sector of freedom of choice

- Research and Planning: 1-3 months

- Development: **6 months to 2 years**

- Training and Testing: **3 months to 1 year**

- Evaluation and Iteration: Ongoing, with initial iterations taking several months

- Deployment and Maintenance: Ongoing, with initial deployment taking **3-6 months**

- Overall, the entire process from research and planning to deployment and maintenance could take anywhere from **1.5 to 5 years** or more, depending on the complexity and scope of the project. It's essential to allocate sufficient time and resources and to plan for iterative development and refinement to ensure the success of the new GPT platform.

- mid-sized project with moderate complexity and a team of developers, engineers, and data scientists working over a period of **2-3 years**, the total cost of creating a new GPT platform could range from **\$500,000 to \$5 million** or more

Competitive & economic sustainability

Problem

Target Problem

- Inaccessibility of Class I and II medical device information for the general public, especially underserved populations
- Overwhelming complexity of existing databases and lack of integration with healthcare systems
- Barriers to accessing healthcare, such as affordability and physical proximity
- No proper accessibility of entirety of digital platforms and websites (accountability)

Secondary Problem

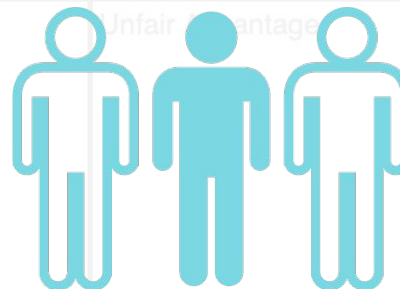
- 98.1% of home pages had detectable WCAG 2 failures
- 90% of websites are inaccessible to people with disabilities who rely on assistive technology ([AbilityNet](#)).
- Number of adults with accessibilities
 - By 2060 the number of people 65 or older is expected to double to 98 million
- estimated that companies without accessible sites are [losing \\$6.9 billion](#) a year to competitors whose sites are accessible
- Approximately 6.5 million people in the United States and 1-3% of the global population has an intellectual disability (American Association of Intellectual and Developmental Disabilities)
- In the US, about 74.6 million people have some type of physical disability (John Hopkins Medicine. "Statistics of Disability." 2013)
- The population of people with different disabilities in the United States. Hearing Difficulty: 316,450,569; Vision Difficulty: 316,450,569; Cognitive Difficulty: 296,658,475; Ambulatory Difficulty: 296,658,475; Self-Care Difficulty: 296,658,475; Independent Living Difficulty: 242,958,638 (Census Bureau)

Solution

1/3 of people avoid going to the doctor because of fear and anxiety attacks



Value Proposition



At-home medical devices was projected to reach over **\$41 billion by 2025**, with a **compound annual growth rate (CAGR) of around 6.5% from 2020 to 2025.**

Unfair Advantage

Channels

Customer Segments

Early Adopter

- Healthcare professionals
- Highly Profitable Medical device manufacturers
- Current AI platforms wanting greater reach
- Chronic Disease Management Programs
- Healthcare Giants
- VA

Late Adopters

- Underserved populations individuals and those with disabilities
- Small stage Medical device manufacturers
- Insurance
- Medical Practices

Cost Structure

Revenue Streams

AI in health and medicine would reduce rather than increase the number of mistakes made by health care providers (40% vs. 27%)

Intellectual Property

Innovation:

Adaptive Interface Design - AI powered database that provides easy understandable access to Class II at-home Medical and Therapeutic Devices

What is your intellectual property?

- Software Architecture and Algorithms, data collection of integration of Class II medical devices
- User Interface Design and data collection
- Personalization and Customization Features
- Healthcare Analytics and Insights
- User Engagement and Behavior Modification Techniques

How are you protecting it (to gain competitive advantage)?

- Software Architecture and Algorithms
- User Interface Design
- Data Collection and Analysis Methods
- Personalization and Customization Features
- Integration with Medical Devices
- Regulatory Compliance Solutions
- Data Security and Privacy Measures
- User-Specific Profiles and Preferences
- Healthcare Analytics and Insights
- User Engagement and Behavior Modification Techniques

What are results of the Freedom to Operate search?

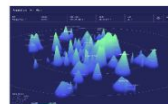
There is currently no one who has any IP or trade secret specifically around the metrics I have chosen to use with the integration of designers to create such adaptable site, furthermore there are not databases or IP around specifically AI using and creating a easy access point for Class II at home medical devices



Redefining Digital Interaction: The Future of Adaptive Interface Design

Adaptive Interface Design (AID) promises a future where interfaces adapt in real-time to individual needs. As AI and machine learning evolve, interfaces may not just adapt, but anticipate user needs, ushering in unprecedented personalization in digital ...

There are however writings and documents around the integration of adaptive interfaces, however these practices rely on the User as a base make not the utilization of designers.



Shaping the Future of AI Interfaces

The rise of generative artificial intelligence represents a seismic shift for the creative fields. In this article, I will explore how AI...



Designing Adaptive User Interfaces: Leveraging Machine Learning and User Modeling

In the realm of Human-Computer Interaction (HCI), user interface (UI) design is a critical factor in creating engaging and effective digital experiences. Traditionally, UI designs have followed a one...

Intellectual Property

Innovation:

Adaptive Interface Design - AI powered database that provides easy understandable access to Class II at-home Medical and Therapeutic Devices

What is your intellectual property?

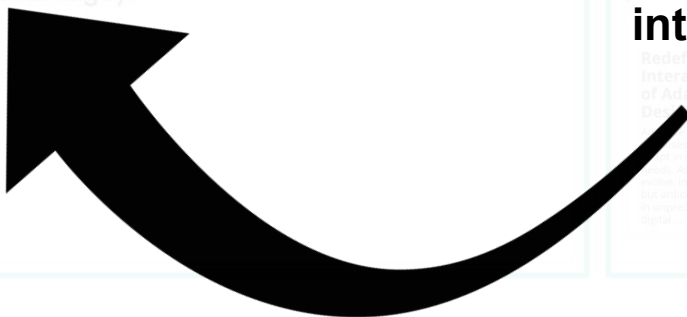
- Software Architecture and Algorithms, data collection of integration of Class II medical devices
- User Interface Design and data collection
- Personalization and Customization Features
- Healthcare Analytics and Insights
- User Engagement and Behavior Modification Techniques

How are you protecting it (to gain competitive advantage)?

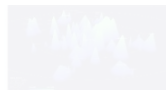
- Software Architecture and Algorithms
- User Interface Design
- Data Collection and Analysis Methods
- Personalization and Customization Features
- Integration with Medical Devices
- Regulatory Compliance Solutions
- Data Security and Privacy Measures
- User-Specific Profiles and Preferences
- Healthcare Analytics and Insights
- User Engagement and Behavior Modification Techniques

What are results of the Freedom to Operate search?

**Intellectual Property:
Innovative integration of
Class II medical devices
with AI, focusing on
personalized user
interfaces and analytics.**



Redefining Digital
Interaction: The Future
of Adaptive Interface
Design



Shaping the Future of
AI Interfaces

HCI

Designing Adaptive
User Interfaces:
Leveraging Machine
Learning and User
Modeling

Exploring the Potential of
AI in Healthcare: From
Diagnosis to Treatment
Optimization

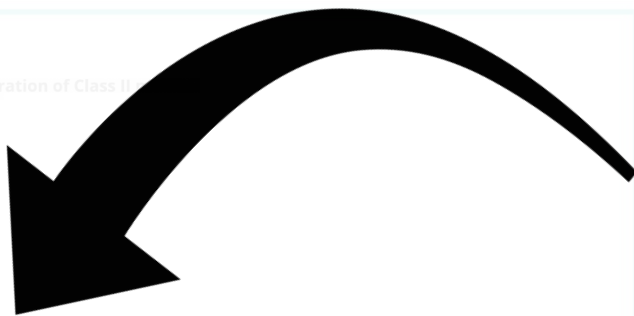
Intellectual Property

Innovation:

Adaptive Interface Design - AI powered database that provides easy understandable access to Class II at-home Medical and Therapeutic Devices

What is your intellectual property?

- Software Architecture and Algorithms, data collection of integration of Class II devices
- User Interface Design and data collection
- Personalization and Customization Features
- Healthcare Analytics and Insights
- User Engagement and Behavior Modification Techniques

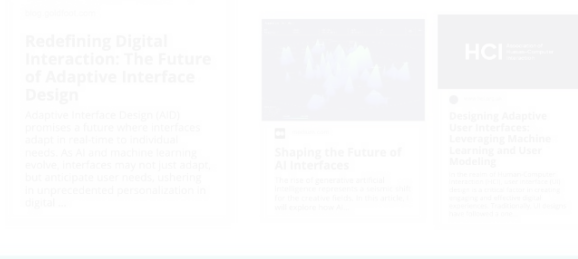


What are results of the Freedom to Operate search?

Protecting IP: Proprietary software, stringent security, and regulatory adherence safeguard the competitive edge.

How are you protecting it (to gain competitive advantage)?

- Software Architecture and Algorithms
- User Interface Design
- Data Collection and Analysis Methods
- Personalization and Customization Features
- Integration with Medical Devices
- Regulatory Compliance Solutions
- Data Security and Privacy Measures
- User-Specific Profiles and Preferences
- Healthcare Analytics and Insights
- User Engagement and Behavior Modification Techniques



Intellectual Property

Innovation:

Adaptive Interface Design - AI powered database that provides easy understandable access to Class II at-home Medical and Therapeutic Devices

What is your intellectual property?

- Software Architecture and Algorithms
 - User Interface Design and data collection
 - Personalization and Customization Features
 - Integration with Medical Devices
 - Regulatory Compliance Solutions
 - Data Security and Privacy Measures
 - User-Specific Profiles and Preferences
 - Healthcare Analytics and Insights
 - User Engagement and Behavior Modification Techniques
- Freedom to Operate: No competing IP detected, validating a clear path for the unique use of AI in medical device accessibility, and design AID getting metrics through designers**

How are you protecting it (to gain competitive advantage)?

- Software Architecture and Algorithms
- User Interface Design
- Data Collection and Analysis Methods
- Personalization and Customization Features
- Integration with Medical Devices
- Regulatory Compliance Solutions
- Data Security and Privacy Measures
- User-Specific Profiles and Preferences
- Healthcare Analytics and Insights
- User Engagement and Behavior Modification Techniques



What are results of the Freedom to Operate search?

There is currently no one who has any IP or trade secret specifically around the metrics I have chosen to use with the integration of designers to create such adaptable site, furthermore there are not databases or IP around specifically AI using and creating a easy access point for Class II at home medical devices

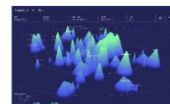


blog.goldfoot.com

Redefining Digital Interaction: The Future of Adaptive Interface Design

Adaptive Interface Design (AID) promises a future where interfaces adapt in real-time to individual needs. As AI and machine learning evolve, interfaces may not just adapt, but anticipate user needs, ushering in unprecedented personalization in digital ...

There are however writings and documents around the integration of adaptive interfaces, however these practices rely on the User as a base make not the utilization of designers.



Shaping the Future of AI Interfaces

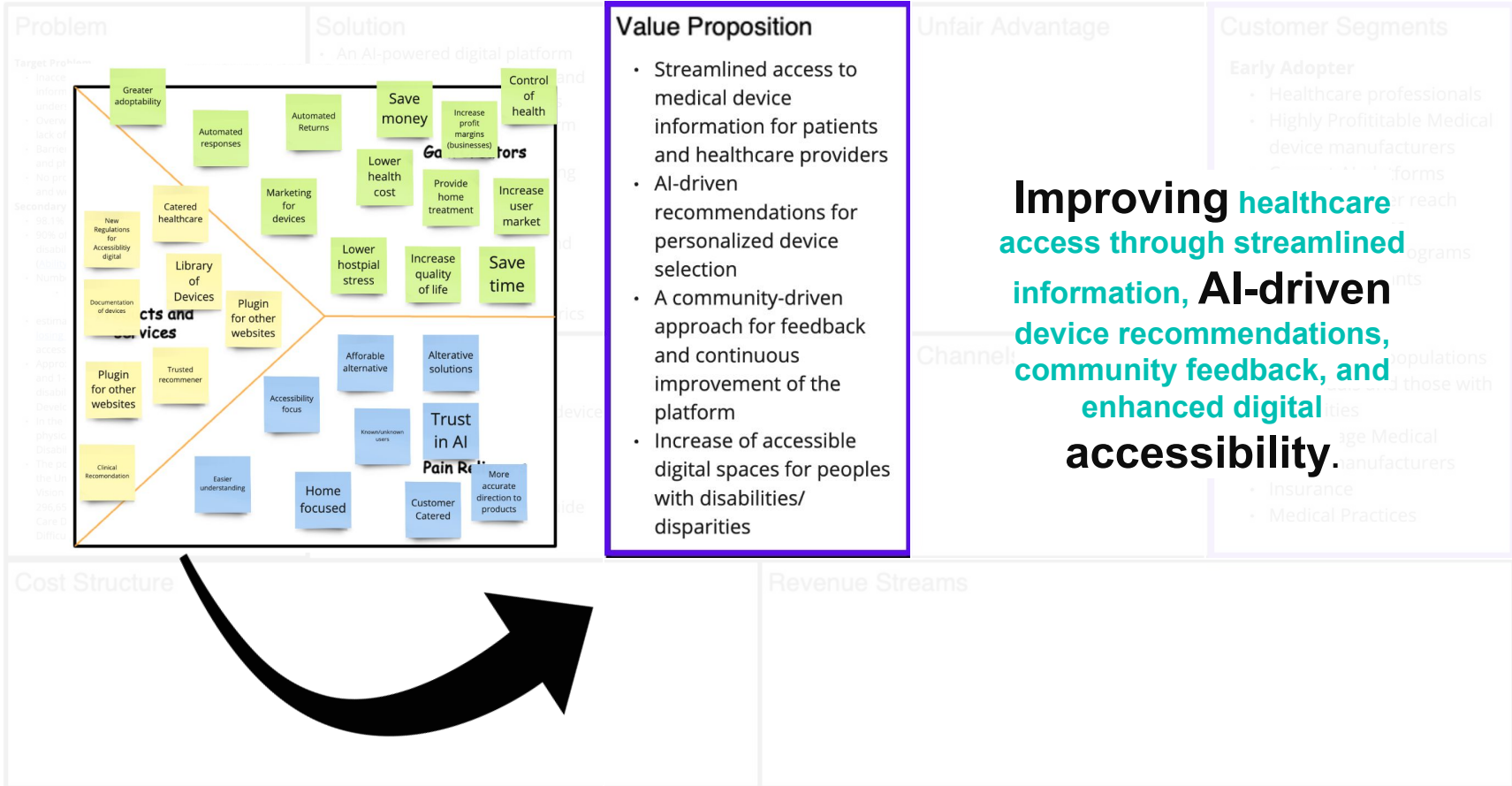
The rise of generative artificial intelligence represents a seismic shift for the creative fields. In this article, I will explore how AI...



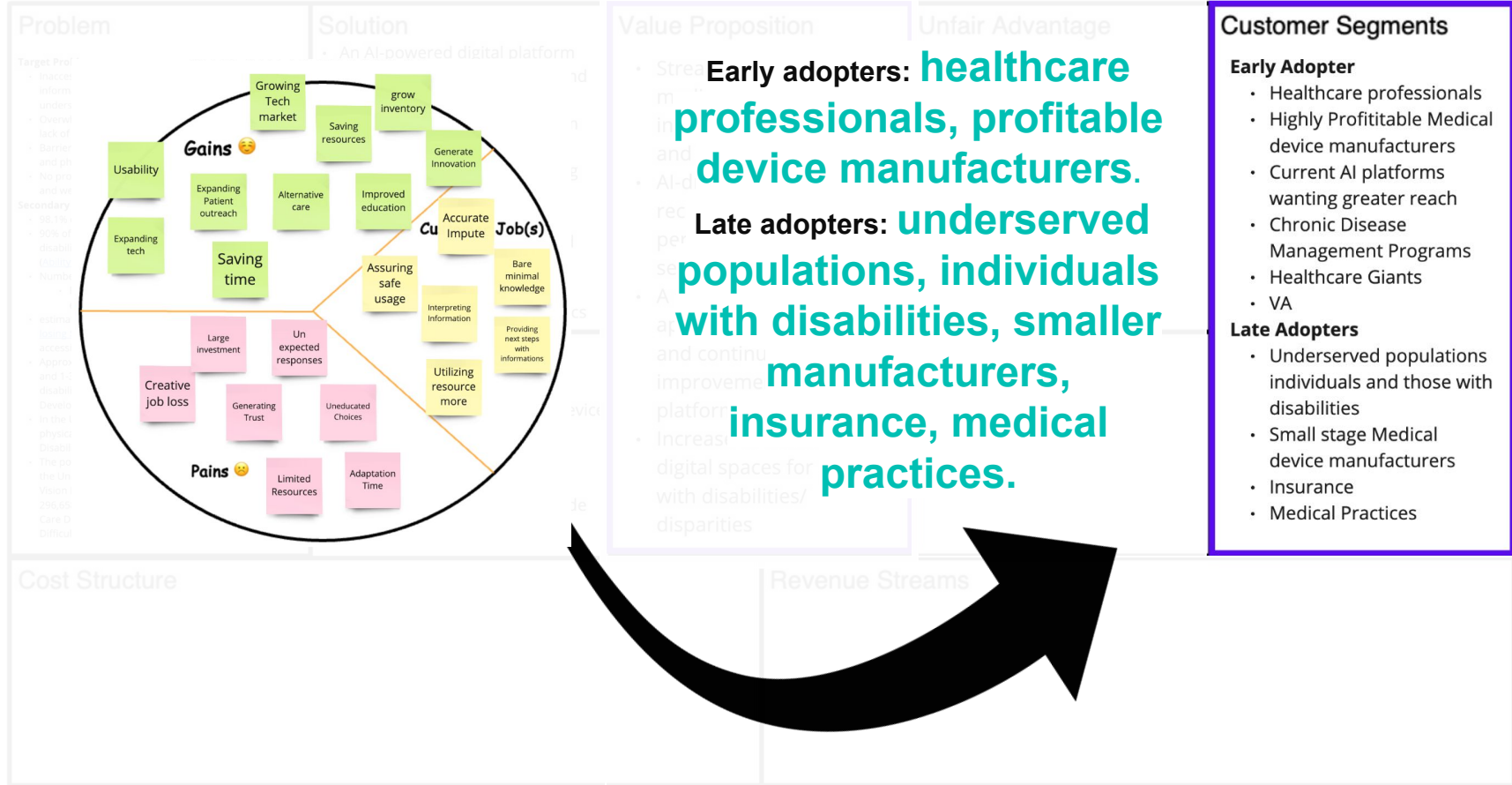
Designing Adaptive User Interfaces: Leveraging Machine Learning and User Modeling

In the realm of Human-Computer Interaction (HCI), user interface design is a critical factor in creating engaging and effective digital experiences. Traditionally, UI designs have followed a one...

Value Proposition - Design Solution



Value Proposition - Observe Customer



TAM SAM SOM

Total Available Market: US Citizens trying to access alternative treatment and care through digital platforms.

Serviceable Addressable Market: US citizens between the Age of 26-60 who have trouble navigating the current healthcare systems who want to obtain treatment through digital healthcare options

Serviceable Obtainable Market: US citizens between the age of 26-60 who have trouble navigating the current healthcare system and can have easy and greater trust in turning to digital healthcare options for their accessibility and ease of use and understanding.



Adaptive Interface Design - AI powered database that provides easy understandable access to Class II at-home Medical and Therapeutic Devices

Geoffrey Moore, Inside the Tornado (1995)

Customer Analysis: Whole Product

Anxious Person

- **Extreme Champion**
- **Value**
- **Open up market**



Techie

- **Early Champion**
- **Can provide feedback**
- **Word of mouth**



Company

- **Early investment**
- **Product Promotion**
- **Cash Flow for innovation**

Finances

Innovation:

Adaptive Interface Design - AI powered database that provides easy understandable access to Class II at-home Medical and Therapeutic Devices

List of Main Costs:

- IP/Partner/Legal/Patent
- **AI Platform Engineer/Developer (2)**
- UX Designers
- QA Software Engineer
- Graphic Designers
- Marketing
- **Data Engineers (3)**
- Marketing Ads
- **Legal Advisor**
- Security Experts
- Regulatory Experts
- Work Space
- Travel
- Misc
- **Development Tools**
- **AI/ML Frameworks**
- **Data Analytics and Visualization**
- **Database and Backend Infrastructure**
- UX Design Tools
- Project Management Tools
- **Regulatory Compliance Software**
- Security Tools
- **Legal Contact Management Software**
- Marketing Campaign

Investment Options (organic, loan, equity, ideal investor)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Venture Capital (VC) Funding 2. Angel Investors 3. Strategic Partnerships 4. Corporate Venture Capital (CVC) 5. Government Grants and Funding Programs 6. Accelerator Programs 7. Crowdfunding 8. Bank Loans or Lines of Credit 9. Private Equity 10. Revenue-Based Financing 11. Initial Coin Offerings (ICOs) or Token Sales 12. Strategic Alliances and Joint Ventures 13. Convertible Notes or Convertible Debt 14. Equity Crowdfunding 15. Grants and Awards 16. Strategic Investments from Customers or Partners 17. Royalty Financing 18. Revenue Sharing Agreements 19. Pre-Sales or Licensing Agreements 20. Bootstrapping | <p>IDEAL INVESTORS</p> <ol style="list-style-type: none"> 1. Industry Expertise 2. Strategic Alignment 3. Value-Added Resources 4. Long-Term Perspective 5. Track Record of Success 6. Reputation and Credibility 7. Flexibility and Supportive Attitude 8. Compatibility and Chemistry |
|---|--|

Potential Revenues:

1. Subscription Fees
2. Per-User Licensing Fees
3. Transaction Fees
4. Data Licensing and Analytics Services
5. Custom Development and Consulting Services
6. Training and Certification Programs
7. Premium Support and Services
8. Partnerships and Integration Fees
9. Advertising and Sponsorship
10. Compliance and Certification Services

Finances

Innovation:

Adaptive Interface Design - AI powered database that provides easy understandable access to Class II at-home Medical and Therapeutic Devices

List of Main Components:

Key Investment would need to start with angel investors, strategic partnerships, government funding and venture capital

Potential Revenues:

1. Subscription Fees
2. Per-User Licensing Fees
3. Transaction Fees
4. Data Licensing and Analytics Services
5. Custom Development and Consulting Services
6. Training and Certification Programs
7. Premium Support and Services
8. Partnerships and Integration Programs
9. Advertising and Sponsorship
10. Compliance and Certification Services

Investment Options

(organic, loan, equity, ideal investor)

- | | |
|--|--|
| 1. Venture Capital (VC) Funding | IDEAL INVESTORS |
| 2. Angel Investors | 1. Industry Expertise |
| 3. Strategic Partnerships | 2. Strategic Alignment |
| 4. Corporate Venture Capital (CVC) | 3. Value-Added Resources |
| 5. Government Grants and Funding Programs | 4. Long-Term Perspective |
| 6. Accelerator Programs | 5. Track Record of Success |
| 7. Crowdfunding | 6. Reputation and Credibility |
| 8. Bank Loans or Lines of Credit | 7. Flexibility and Supportive Attitude |
| 9. Private Equity | 8. Compatibility and Chemistry |
| 10. Revenue-Based Financing | |
| 11. Initial Coin Offerings (ICOs) or Token Sales | |
| 12. Strategic Alliances and Joint Ventures | |
| 13. Convertible Notes or Convertible Debt | |
| 14. Equity Crowdfunding | |
| 15. Grants and Awards | |
| 16. Strategic Investments from Customers or Partners | |
| 17. Royalty Financing | |
| 18. Revenue Sharing Agreements | |
| 19. Pre-Sales or Licensing Agreements | |
| 20. Bootstrapping | |

2024 Financial Highlights for Human Factr

Total Investment
\$756,468

Core Areas

Engineering Talent: \$510,000 in AI development and data engineering, emphasizing innovation and technical excellence.

Product Quality: \$105,000 towards quality assurance and user experience, ensuring reliability and user-friendliness.

Security and Compliance: \$48,400 to uphold stringent security standards and regulatory compliance.

Marketing Initiatives: \$14,700 allocated for enhanced marketing efforts to boost visibility and engagement.

Cost Structure

- IP/Partner/Legal/Patent
- AI Platform Engineer/Developer (2)
- UX Designers
- QA Software Engineer
- Graphic Designers
- Marketing
- Data Engineers (3)
- Marketing Ads
- Legal Advisor
- Security Experts
- Regulatory Experts
- Work Space
- Travel
- Misc
- Development Tools
- AI/ML Frameworks
- Data Analytics and Visualization
- Database and Backend Infrastructure
- UX Design Tools
- Project Management Tools
- Regulatory Compliance Software
- Security Tools
- Legal Contact Management Software
- Marketing Campaign

Revenue Streams

- Subscription Fees
- Per-User Licensing Fees
- Transaction Fees
- Data Licensing and Analytics Services
- Custom Development and Consulting Services
- Training and Certification Programs
- Premium Support and Services
- Partnerships and Integration Fees
- Advertising and Sponsorship
- Compliance and Certification Services

<div>factr™</div>	Finances: Year One													
IP/Partner/Legal/Patent	(8,000.00)													(8,000.00)
AI Platfrom Engineer/Developer (2)	32,000.00	32,000.00	32,000.00	32,000.00	32,000.00	32,000.00	32,000.00	32,000.00					32,000.00	288,000.00
UX Designers	7,500.00	7,500.00	7,500.00	7,500.00								7,500.00	7,500.00	45,000.00
QA Software Engineer							10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	60,000.00
Graphic Designers	4,000.00	4,000.00	4,000.00	4,000.00						4,000.00	4,000.00	4,000.00	4,000.00	28,000.00
Marketing			1,000.00			1,000.00			1,000.00				1,000.00	4,000.00
Data Engineers (3)							37,000.00	37,000.00	37,000.00	37,000.00	37,000.00	37,000.00	37,000.00	222,000.00
Marketing Ads						200.00								200.00
Legal Advisor	400.00					400.00							400.00	1,200.00
Security Experts							8,000.00		8,000.00			8,000.00		24,000.00
Regulatroy Experts								8,000.00		8,000.00			8,000.00	24,000.00
Work Space									400.00	400.00	400.00	400.00	400.00	1,600.00
Travel						1,000.00							1,000.00	2,000.00
Misc	500.00		500.00		500.00		500.00		500.00			500.00		3,000.00
Development Tools	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	840.00
AI/ML Frameworks	1,000.00	1,000.00	1,000.00	10,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	21,000.00
Data Analytics and Visualization	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	600.00
Database and Backend Infrastructure	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00								24,000.00
UX Design Tools	100.00	100.00	100.00	100.00	100.00	100.00							100.00	700.00
Project Management Tools						25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	175.00
Regulatory Compliance Software	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	2,400.00
Security Tools								200.00	200.00	200.00	200.00	200.00	200.00	1,000.00
Legal Contact Managment Software							50.00	50.00	50.00		50.00	3.00	50.00	253.00
Marketing Campaign										3,500.00	3,500.00	3,500.00		10,500.00
TOTAL CASH OUT	41,820.00	48,920.00	50,420.00	57,920.00	37,920.00	40,045.00	88,895.00	88,595.00	58,495.00	64,495.00	72,448.00	106,495.00		756,468.00



Finances: Year One

Milestone

- Beta Development
- Early Market
- Licensing and Subscriptions
- Consultations
- First Champion Testing

IP/Partner/Legal/Patent	(8,000.00)												(8,000.00)
AI Platfrom Engineer/Developer (2)	32,000.00	32,000.00	32,000.00	32,000.00	32,000.00	32,000.00	32,000.00	32,000.00				32,000.00	288,000.00
UX Designers	7,500.00	7,500.00	7,500.00	7,500.00							7,500.00	7,500.00	45,000.00
QA Software Engineer							10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	60,000.00
Graphic Designers	4,000.00	4,000.00	4,000.00	4,000.00						4,000.00	4,000.00	4,000.00	28,000.00
Marketing			1,000.00			1,000.00			1,000.00			1,000.00	4,000.00
Data Engineers (3)							37,000.00	37,000.00	37,000.00	37,000.00	37,000.00	37,000.00	222,000.00
Marketing Ads						200.00							200.00
Legal Advisor	400.00					400.00						400.00	1,200.00
Security Experts							8,000.00		8,000.00		8,000.00		24,000.00
Regulatroy Experts								8,000.00		8,000.00		8,000.00	24,000.00
Work Space									400.00	400.00	400.00	400.00	1,600.00
Travel						1,000.00						1,000.00	2,000.00
Misc	500.00		500.00		500.00		500.00		500.00		500.00		3,000.00
Development Tools	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	840.00
AI/ML Frameworks	1,000.00	1,000.00	1,000.00	10,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	21,000.00
Data Analytics and Visualization	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	600.00
Database and Backend Infrastructure	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00							24,000.00
UX Design Tools	100.00	100.00	100.00	100.00	100.00	100.00						100.00	700.00
Project Management Tools						25.00	25.00	25.00	25.00	25.00	25.00	25.00	175.00
Regulatory Compliance Software	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	2,400.00
Security Tools								200.00	200.00	200.00	200.00	200.00	1,000.00
Legal Contact Managment Software							50.00	50.00	50.00	50.00	3.00	50.00	253.00
Marketing Campaign										3,500.00	3,500.00	3,500.00	10,500.00
TOTAL CASH OUT	41,820.00	48,920.00	50,420.00	57,920.00	37,920.00	40,045.00	88,895.00	88,595.00	58,495.00	64,495.00	72,448.00	106,495.00	756,468.00

Valuation between
\$50 million to
\$150 million
after five years of
operation.

1. **Market Demand:** A thorough analysis of the market demand for medical device information and accessibility solutions, considering factors such as demographic trends, healthcare regulations, and technological advancements.
2. **User Growth:** Projected growth in the number of users accessing the platform over the five-year period, based on marketing strategies, user acquisition channels, and retention efforts.
3. **Revenue Streams:** Estimation of revenue from various sources such as licensing fees for the adaptive platform, subscription models, partnerships with healthcare providers, and potential revenue-sharing arrangements.
4. **Cost Structure:** Analysis of operational costs including development, marketing, personnel, and infrastructure expenses, to determine profitability and cash flow projections.
5. **Competitive Landscape:** Evaluation of competitors and differentiation factors that set the platform apart, influencing market share and pricing strategies.
6. **Technology and Innovation:** Assessment of the effectiveness and scalability of AI-driven algorithms in providing personalized recommendations and enhancing accessibility, as well as potential for further innovation and technological advancements.

Investors would see a
return of **\$49.2 million**

1. Investors own **50%**
2. Final valuation of **\$100 million** for the company after five years. Investors own 50% of the company, the stake in the valuation would be **\$50 million**.
3. **\$50 million** (final stake) - \$800,000 (initial investment) = **\$49.2 million**

Adaptive Interface Design - AI powered database that provides easy understandable access to Class II at-home Medical and Therapeutic Devices

<h2>Problem</h2> <p>Target Problem</p> <ul style="list-style-type: none">• Inaccessibility of Class I and II medical device information for the general public, especially underserved populations• Overwhelming complexity of existing databases and lack of integration with healthcare systems• Barriers to accessing healthcare, such as affordability and physical proximity• No proper accessibility of entirety of digital platforms and websites (accountability) <p>Secondary Problem</p> <ul style="list-style-type: none">• 98.1% of home pages had detectable WCAG 2 failures• 90% of websites are inaccessible to people with disabilities who rely on assistive technology (AbilityNet).• Number of adults with accessibility<ul style="list-style-type: none">• By 2060 the number of people 65 or older is expected to double to 98 million• estimated that companies without accessible sites are losing \$6.9 billion a year to competitors whose sites are accessible• Approximately 6.5 million people in the United States and 1-3% of the global population has an intellectual disability (American Association of Intellectual and Developmental Disabilities)• In the US, about 74.6 million people have some type of physical disability (John Hopkins Medicine, "Statistics of Disability," 2013)• The population of people with different disabilities in the United States. Hearing Difficulty: 316,450,569; Vision Difficulty: 316,450,569; Cognitive Difficulty: 296,658,475; Ambulatory Difficulty: 296,658,475; Self-Care Difficulty: 296,658,475; Independent Living Difficulty: 242,958,638 (Census Bureau)	<h2>Solution</h2> <ul style="list-style-type: none">• An AI-powered digital platform that simplifies the discovery and navigation of medical devices• Personalization of the platform based on user behavior, preferences, and abilities using AI• Integration with healthcare systems for real-time data and compliance with medical regulations• Accessibility Regulations Metrics <h2>Key Metrics</h2> <ul style="list-style-type: none">• Conversion rate of recommendations to actual device inquiries or purchases• User satisfaction scores and accessibility ratings• Web Content Accessibility Guide• Designer and Doctor Intervention	<h2>Value Proposition</h2> <p>A platform offering streamlined access to class II medical devices and information, AI-driven personalized recommendations, community-driven feedback for continuous improvement, and increased accessibility for people with disabilities/disparities.</p>	<h2>Unfair Advantage</h2> <ul style="list-style-type: none">• Formed partnerships with patient advocacy groups, universities, and pharmacies.• Prioritized usability and design for enhanced user experience.• Secured intellectual property for conductive ink in MCCAs.• Backed by a multidisciplinary expert panel for development and support. <h2>Channels</h2> <ul style="list-style-type: none">• Word of mouth• Local Practices• Social media advertisements• Published user stories• Tradeshows	<h2>Customer Segments</h2> <p>Early Adopter</p> <ul style="list-style-type: none">• Healthcare professionals• Highly Profitable Medical device manufacturers• Current AI platforms wanting greater reach• Chronic Disease Management Programs• Healthcare Giants• VA <p>Late Adopters</p> <ul style="list-style-type: none">• Underserved populations individuals and those with disabilities• Small stage Medical device manufacturers• Insurance• Medical Practices
<h2>Cost Structure</h2> <ul style="list-style-type: none">• IP/Partner/Legal/Patent• AI Platform Engineer/Developer (2)• UX Designers• QA Software Engineer• Graphic Designers• Marketing• Data Engineers (3)• Marketing Ads• Legal Advisor• Security Experts• Regulatory Experts• Work Space• Travel• Misc• Development Tools• AI/ML Frameworks• Data Analytics and Visualization• Database and Backend Infrastructure• UX Design Tools• Project Management Tools• Regulatory Compliance Software• Security Tools• Legal Contact Management Software• Marketing Campaign	<h2>Revenue Streams</h2> <ul style="list-style-type: none">• Subscription models for premium features and device listings• Partnership agreements with healthcare providers and device manufacturers• Potential government or non-profit funding for increasing accessibility features• Kickstarter/ campaigns• Subscription Fees (early beta)• Data Licensing and Analytics Services• Consulting Services• Premium Support and Services• Partnerships and Integration Fees• Software Development Kit (SDK) Sales• White-Labeling• Training and Certification Programs• Premium Support and Services• Integration Fees• Advertising and Sponsorship• Compliance and Certification Services			

**THANK
YOU**

Kristen Karlovich, Module 7, MRes Healthcare and Design 2024

Appendix

<https://blog.goldfoot.com/adaptive-interface-design-aid/>

<https://medium.com/schemadesignstudio/shaping-the-future-of-ai-interfaces-f23882100aef>

<https://www.hci.org.uk/article/designing-adaptive-user-interfaces-leveraging-machine-learning-and-user-modeling/>

<https://monsido.com/blog/accessibility-statistics>

<https://my.clevelandclinic.org/health/diseases/22191-iatrophobia-fear-of-doctors>

<https://www.forbes.com/home-improvement/internet/internet-statistics/#:~:text=As%20of%202024%2C%2094.6%25%20of.have%20access%20to%20the%20internet.&text=As%20of%202024%2C%20the%20internet.according%20to%20a%20U.S.%20Census.>

<https://abilitynet.org.uk/news-blogs/inaccessible-websites-keep-disabled-people-out-work-abilitynet-tells-government-taskforce>

<https://cdn2.hubspot.net/hubfs/153358/Nucleus-The%20Internet%20is%20unavailable.pdf>

<https://www.statista.com/outlook/hmo/medical-technology/medical-devices/worldwide>

<https://www.fortunebusinessinsights.com/industry-reports/medical-devices-market-100085>

<https://www.ama-assn.org/press-center/press-releases/ama-president-sounds-alarm-national-physician-shortage>

<https://www.kff.org/racial-equity-and-health-policy/issue-brief/health-coverage-by-race-and-ethnicity/>