The first step towards getting somewhere is to decide that you're not going to stay where you are.

– J.P. Morgan

Table Of Content

Editor's **Note**

Soumika Das

Welcome to CONNECT, the reimagined version of our beloved magazine, formerly known as enGAge! It is with great enthusiasm that we unveil this transformation, where we not only adopt a fresh name but also transition to a quarterly format. To our loyal readers, thank you for being an integral part of this journey. Your continued support and engagement inspire us to push boundaries and deliver content that resonates. We are excited to showcase the innovative spirit driving our company, along with thought-provoking perspectives on the ever-evolving tech landscape.

Speaking of innovation, picture this: France's Olympic Aquatics Center, shimmering under the Parisian sun. The water is invitingly warm, heated not by traditional boilers but by a nearby data center. Sounds like science fiction? Welcome to the new reality.

Some cutting-edge data centers are leading a quiet revolution. Instead of venting excess heat into the atmosphere, they're piping it out to heat buildings or in this case, the Olympic pool in Paris. This clever solution reflects a growing trend in Europe. This trend is fueled by two key factors. First, the European Union's ambitious environmental targets are pushing data centers to find ways to reduce their carbon footprint. Second, the recent spike in energy prices has made local governments eager to find affordable heat sources. Data centers consume a massive amount of power, up to half of which is used for cooling purposes. By reusing this waste heat, companies can dramatically slash their energy bills.

Goldman Sachs research estimates that data center power demand will surge by 160% by 2030. Worldwide data centers will likely consume 3-4% of overall power by the end of the decade. The AI revolution is upon us, and it's set to redefine global power consumption. A simple ChatGPT query guzzles nearly ten times the electricity of a Google search.

In this context, reusing the heat generated by data centers seems like a win-win solution. It reduces energy consumption and provides a local, sustainable heat source. Yet, critics argue that this approach merely masks the fundamental problem: the sheer amount of resources data centers consume. The heated Olympic pool might symbolize a greener future, but the debate rages on. Can AI's insatiable hunger for power be truly sustainable?

In this inaugural edition of Connect, we have curated a selection of articles we believe you will find captivating.

Ensuring Stable and Efficient Connectivity: How ZIF Dx+ Prevents Network Outages
by Maryada Kashyap and Nithesh Kumar.

Cutting-Edge Research to an AI Product: A Digital Product Engineering Journey
by Swapnil Warkar.

The Rise of Wearable Tech in Healthcare
by Kunal Shah.

Invisible Design – The Secret of Successful Products
by Team UNBOX.

Happy Reading!

Building a High-Trust, High-Performance Culture

GS Lab | GAVS is one of India's Best Companies to Work For 2024

We are thrilled to announce that GS Lab | GAVS has been recognized by Great Place To Work India as one of India's Top 100 Best Companies to Work For in 2024. This prestigious award is a testament to our exceptional workplace culture, unwavering commitment to employee well-being, and dedication to fostering an inclusive and empowering environment for all.

In this year for India, based on a rigorous evaluation methodology, 100 organizations among India's Best Companies To Work For 2024 have been recognized.

" *Culture and engagement with our colleagues is the soul of the company. It is our sincerest effort to be a purposeful company that offers a platform to our colleagues. This award is a testament to our efforts, but we have miles to go.*

Sumit Ganguli
CEO, GS Lab | GAVS

" *Being recognized as one of India's Best Companies to Work For is a testament to the exceptional individuals who make GS Lab | GAVS what it is today. While our mission is to deliver exceptional value to our customers, our true north star has always been the growth and well-being of our people. We are dedicated to fostering an inclusive, value-driven environment where everyone feels empowered to achieve their full potential. This recognition reaffirms our commitment to building a purposeful organization that puts people first.*

Sangeeta Malkhede
Head of People Practices,
GS Lab | GAVS

This recognition wouldn't be possible without the exceptional individuals who make GS Lab | GAVS what it is today. We extend our heartfelt gratitude to our talented team for their continued dedication and hard work.

What's New in Tech
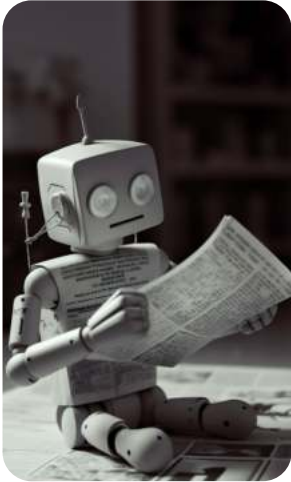
01

Origami inspired Transformer bots

Inspired by the art of paper-folding, North Carolina State University engineers have discovered a way to transform a single plastic cube into over 1,000 configurations using only three motors. This could enable shape-shifting systems that perform multiple functions and carry loads, like versatile robotic structures for space.

02

AI-based video test tracks for Parkinson's disease progression

A video-processing technique using artificial intelligence, developed at the University of Florida, will help neurologists better track Parkinson's disease progression in patients, ultimately improving their care and quality of life.

03

Ant insights lead to robot navigation breakthrough

Inspired by ants' visual recognition and step-counting to navigate home, drone researchers developed an insect-inspired autonomous navigation strategy for tiny robots. This allows the robots to return after long journeys using minimal computation and memory (0.65 kilobytes per 100 meters). Future applications include warehouse inventory monitoring and detecting gas leaks in industrial sites.

04

GenAI to shape the future of children's language learning

Researchers have developed a groundbreaking system for creating personalized storybooks using generative AI and home IoT technology to help children learn languages. Addressing the limitations of traditional, one-size-fits-all methods, this innovative educational system is tailored to each child's unique environment.

Leader's
Perspectives

"The recent Crowdstrike incident that happened on Friday, July 19, 2024, when a faulty content update resulted in crashes for approximately 8.5 million Windows devices. This had an impact on every industry including airlines but Healthcare had to deal with different sets of challenges. It was a race against time to save the lives of many as some hospitals and other medical facilities worldwide canceled patients' procedures and depended on manual processes.

This outage was not a cyberattack Rather, the incident resulted from a defective content configuration update to CrowdStrike's Falcon threat detection platform. A massive cyberattack at Change Healthcare in Feb 2024 resulted in a major outage and again many patients' procedures were impacted.

Organizations should keep in mind that these kinds of outages are bound to happen in future. A robust cyber-resilience process is extremely important to recover and restore the operations with minimal to no impact.

The key principles of cyber resilience include secured data backup, maintain the integrity of data and application, platform recovery (on-prem to cloud or multi cloud environment) and a robust incident response plan.

The best place to start is to do a detailed risk assessment to identify the critical data (PHI and PII) flow and the controls available to protect them, how securely third parties are storing and processing the data. Also, on a periodic basis conduct a tabletop exercise to identify the technical limitations and team's capabilities to restore the systems."

Kannan Srinivasan
Head of Cybersecurity & Data Privacy, GS Lab | GAVS

Ensuring Stable & Efficient Connectivity: How ZIF Dx+ Prevents Network Outages

In today's digital landscape, network outages pose significant risks. It's essential to grasp their causes and consequences to uphold network stability. ZIF Dx+ excels in Network Monitoring, delivering an advanced solution to ensure uninterrupted and efficient network operations. As a leading Digital Experience Management Platform, ZIF Dx+ offers a complete perspective on network well-being, preemptively identifying and resolving issues to safeguard user experience. This comprehensive strategy enhances digital employee experience, fostering higher productivity and organizational effectiveness.

Digital Experience Management Platform

Network disruptions can stem from diverse causes such as hardware malfunctions, software issues, network congestion, configuration errors, human mistakes, cyberattacks, and more. The severity of these interruptions hinges largely on their specific locations within the network.

- **Core Network Paths:** Disruptions in the core network paths can impact several providers and networks, leading to extensive service interruptions. These critical pathways form the foundation of connectivity, and any issues here can cause widespread network disturbances across various regions.

- **End-User Connections:** Issues in the connections that link the network directly to the end-users (i.e., the specific link between the broader network and the end user's device) usually affect only those specific users. Although the disruption may be more localized, the consequences for the affected users can be significant, resulting in substantial inconvenience and operational downtime.

Minimizing Network Outages

Reducing the impact of network outages can be effectively achieved by diversifying internet routes. Implementing multiple data pathways allows traffic to be rerouted if one path fails, minimizing the disruption felt by users. This redundancy ensures stable network performance, even if one route encounters problems.

The Necessity of Network Monitoring

In today's interconnected business environment, maintaining robust network performance is critical for productivity and seamless operations. Frequent wireless disconnections, unmanaged bandwidth usage, network congestion, and undetected issues can severely disrupt business activities. ZIF Dx+ Network Monitoring addresses these challenges head-on, providing a comprehensive solution that ensures continuous network reliability and efficiency.

Core Features of ZIF Dx+ Network Monitoring

- **Regular Monitoring of Wireless Disconnections:**
  ZIF Dx+ provides real-time alerts for any wireless network disconnections, ensuring uninterrupted connectivity and quick resolution of issues.

- **Bandwidth Consumption Tracking:**
  Detailed monitoring of bandwidth usage across specific endpoints allows for customizable alerts for overuse, preventing network congestion and maintaining optimal performance.

- **Detailed Insights into Network Utilization:**
  By analyzing overall network usage, ZIF Dx+ identifies congestion points and optimizes resource allocation, enhancing network efficiency.

- **Detection of Packet Drop:**
  Proactive monitoring to identify and address packet drops that could lead to network performance issues, ensuring smooth data transmission.

- **Alerts for Large File Upload/Download:**
  Notifications for large file transfers that may impact network bandwidth help maintain optimal performance by managing resource allocation effectively.

- **Monitoring of Printer Service:**
  Continuous monitoring of printer services detects and resolves any issues that could affect productivity, ensuring seamless operations.

Root Cause Analysis (RCA) with ZIF Dx+: Detecting Threats Before They Occur

Comprehending various components of a network is crucial for identifying the root cause of outages. The correlation module in ZIF Dx+ excels at this, offering root cause analysis (RCA) with over 95% accuracy. This exceptional precision enables businesses to swiftly detect and address issues, reducing downtime and sustaining productivity.

Distributed systems offer incredible power and flexibility, but their intricate nature also introduces potential vulnerabilities. Outages can cripple operations and damage user experience. ZIF Dx+ steps in as a proactive shield, empowering you to prevent disruptions and maintain smooth system functionality.

ZIF Dx+ goes beyond reactive monitoring. It leverages advanced analytics to continuously scan your system and identify potential weaknesses before they become critical issues. This allows for proactive patching and remediation, preventing outages before they even have a chance to occur. ZIF helps in identifying critical components and ensuring backups are readily available. In case of a primary component failure, ZIF Dx+ can facilitate automatic failover to the backup, minimizing downtime and maintaining seamless service delivery.

ZIF Dx+ assists in optimizing load distribution across your distributed system. By balancing workloads across multiple instances, you can prevent any single component from becoming overloaded and causing a bottleneck. This ensures smooth operation even during periods of high traffic or demanding tasks. ZIF Dx+ doesn't just prevent outages; it empowers you to recover swiftly if one does occur. This Digital Employee Experience Tool offers advanced solutions to address outage challenges and ensures network reliability and efficiency. By providing insights into system health and facilitating communication during critical moments, ZIF Dx+ streamlines disaster recovery efforts.

Optimize IT Operations and Enhance User Experience with ZIF Dx+

Imagine IT and DevOps teams having a clear insight into user experience. ZIF Dx+ serves as that powerful tool, offering extensive data and insights to fine-tune services and quickly address user issues. Here's how ZIF Dx+ empowers your organization:

- **End-to-End Visibility:**

  Gain a panoramic view of the user journey. ZIF Dx+ gathers and integrates data across user devices, applications, and networks, painting a complete picture of their experience.

- **Real-Time Analytics Dashboards:**

  Say goodbye to information silos. ZIF Dx+ delivers real-time insights through intuitive dashboards. IT teams can monitor service delivery from start to finish, including:

  - Network connectivity
  - Application performance
  - Performance issue root cause analysis
  - Automated issue remediation

- **Deeper Observability for Better Decisions:**

  ZIF Dx+ goes beyond basic monitoring. It fosters a deeper understanding of your IT infrastructure, endpoint devices, and employee experiences. This newfound observability empowers data-driven decisions that improve business operations.

- **Identify Bottlenecks and Enhance Productivity:**

  ZIF Dx+ shines a light on performance bottlenecks and issues hindering user experience. You can also leverage it to monitor remote work productivity and ensure seamless access to enterprise IT resources.

- **Improved Business Outcomes:**

  By empowering proactive problem-solving and optimizing user experience, ZIF Dx+ unlocks a chain reaction of benefits. You can expect:

  - Improved product and service offerings
  - Enhanced business outcomes
  - Increased user satisfaction

ZIF Dx+ Prioritizes User-Centric Monitor ing

The platform prioritizes performance metrics that directly impact user experience. This includes monitoring key aspects like.

- Network latency
- Application downtime
- Network gateways
- Web application performance
- Device performance
- Variations in performance
- Performance of SaaS applications

By focusing on these user-centric metrics, ZIF Dx+ ensures your IT teams are constantly working to optimize the user experience, ultimately driving business success.

Conclusion

In conclusion, network outages can significantly disrupt business operations, but the right tools and strategies can mitigate these effects. Every organization should invest in a Digital Experience Management Platform. Understanding the causes and impacts of outages is essential for maintaining network stability and efficiency. ZIF Dx+ Network Monitoring provides a robust solution to ensure continuous network reliability and performance. With real-time monitoring, detailed insights, and highly accurate root cause analysis, ZIF Dx+ helps businesses sustain a stable and efficient network, which is vital for productivity in today's interconnected world.

About the Authors

Nithesh Kumar works as a Lead Consultant at GS Lab | GAVS and is a part of the **ZIF** Product Marketing team. He has a keen eye for detail and a deep understanding of emerging technologies, which enables him to design and execute successful marketing campaigns that deliver results. He is a lifelong learner who is always seeking out new opportunities to expand his skill set and stay up-to-date with the latest industry trends and best practices.

Nithesh Kumar

Maryada Kashyap

Maryada is part of the **ZIF** product marketing team as a lead consultant at GS Lab | GAVS. She has a passion for developing and executing strategic marketing plans that drive growth and engage target audiences, with a focus on digital technologies and delivering user-centric solutions. She always looks for innovative ways to drive business success through effective product marketing. She believes that acquiring knowledge about emerging technological trends is instrumental in fostering a holistic view, thus facilitating preparedness for future changes.

Cutting-Edge Research to an AI Product: A Digital Product Engineering Journey

Digital Product Engineering combined with the power of AI is proving to be an accelerator of innovation for enterprises. It is helping businesses maximize value and improve customer centricity through rapid insight generation, data-driven decision-making, and effective product delivery. GS Lab | GAVS hosted a webinar in association with Sonde Health, a health technology company with a voice-enabled symptom detection and monitoring platform for chronic and mental health conditions. The panel discussed the entire product development journey, architecting a healthcare AI product, intricacies of the Data Science pipeline, and more.

The first panelist for the session was Mr. Yogendra Jain – CTO of Sonde Health, a Boston-based company focused on preventative healthcare; the second panelist was Mr. Srinath Krishnamurthy – Principal Architect at GS Lab | GAVS, with 18 years of experience primarily in data mining, predictive modeling, and analytics across various verticals; and the third panelist was Mr. Swapnil Warkar – Principal Architect at GS Lab | GAVS with over 17 years of experience as a software developer.

Architecting a Showcase App

Developing a new product, especially in the healthcare sector, requires a lot of planning and understanding of the domain. Sonde Health created a new concept in the healthcare screening and monitoring space. The aim was to have a product that screens respiratory health for cognitive impairments and other diseases early - in real time using signal processing techniques with voice activity detection. The product and internal tools focused on five aspects – data capturing tools, signal processing modeling, showcase apps for iOS and Android, API/SDK, and embedded devices support.

Challenges in Building a Healthcare Product during the Pandemic

The sample size for data collection went from 3000 subjects per month to zero during the pandemic. It was cumbersome to collect data amid the chaos and life loss. However, the company built a respiratory model and tested it against COVID-19 Consequently, the model was used to help companies screen their employees returning for work when lockdowns were eased.

Things to Consider while Building a Healthcare App

Serverless architecture to manage cost – Server usage would vary significantly depending on the product and its users. Taking a serverless approach reduces the burden of budget. This also allows the development team to expand the scope of the product to newer areas in the future.

Identifying suitable methods to collect user data is an important point to consider. Sometimes, users might not share the necessary data. In the case of Sonde Health's product, a 30-second voice sample was required to monitor respiratory health. However, users were not meeting this requirement, thus making it difficult to collect reliable data. To mitigate this challenge, Sonde Health collaborated with Qualcomm to embed the vision in every cell phone.

Data privacy is one of the critical areas of concern and consideration while building apps that collect data. Apart from meeting regulatory requirements, having the right algorithms and technology in place is vital to collect such private data. The purpose of the algorithm should be to separate the relevant data points from voice samples or any other form of data collection and process them without storing them in the server. This improves customer faith and ensures the server does not store unnecessary data.

Screening App vs Diagnostic App – The Difference

People are often confused between a screening app and a diagnostic app. A screening app collects user data and presents them in an easily understandable format. A diagnostics app takes the data and makes inferences for medical diagnoses. A screening app does not recommend treatments or medications based on the data collected as it is beyond the realm of its work. However, these apps can be integrated with third-party apps to use the data points collected for further diagnoses and tests.

We periodically organize insightful sessions with our tech leaders and industry thought leaders. While this is only a quick summary, the full session is available here.

We help companies drive innovation at record speed by leveraging R&D driven product engineering and development, with deep understanding of core and emerging technologies. Having developed 350+ technology products and solutions – many of which are first-of-their-kind, we are confident about adding measurable value to your organization. To find out how, please visit https://gavstech.com/services/digital-engineering/digital-product-engineering/

About the Author

Swapnil Warkar is Engineering Head & Principal Architect at GS Lab | GAVS and has an experience of more than 16 years in IT. He leads the Multimedia practice in GS Lab | GAVS on the technology and business front. Apart from this, he also leads research in Voice Processing Domain. Swapnil focuses on addressing challenges around translating early-stage business vision to IT solutions to bring out innovation.

He has won the Intel IoT Roadshow Pune-2015 for developing IoT solution and has been involved in developing IP solutions around voice, video conferencing and AI based solutions for GS Lab | GAVS and its customers. An active contributor in various blogging forums and also written a whitepaper on Physiological Model of Speech Production & Speech Descriptors.

Swapnil Warkar

Environmental, Social and Governance

Giving back to Society

As part of our Corporate Social Responsibility, **Vruksh Special School, Chennai**, is now equipped with much-needed educational equipment and a better space for children with special needs.

We facilitated new classrooms and furniture for the **Panchayath Union Middle School, Chennai**, which is conducive and encouraging for schoolchildren's growth and well-being.

30% of our daily trips in Chennai are powered by **Electric Vehicles**. We aim to completely electrify our employee transportation in phases.

The Rise of Wearable Tech in Healthcare

The wearable market in healthcare is rapidly expanding as technology advances and consumer awareness increases. These devices, which range from fitness trackers to advanced sensors that monitor critical vitals like heart rate, blood glucose levels, and oxygen saturation, are revolutionizing how healthcare is delivered. They offer real-time data that enhances patient monitoring, allows for early detection of potential health issues, and supports chronic disease management. Several factors drive this growth, including an aging population, a rising focus on health and wellness, and technological advancements in biometric sensors and mobile connectivity.

The Benefits of Wearables in Healthcare

Wearables have become an important component of the healthcare industry. There are significant benefits of wearables in health and wellness management. The functionality of these devices is supported by open Application Programming Interfaces (APIs), enabling seamless data integration. Patients can use these devices to set and pursue health goals, while companion apps provide context, customized support, and enhance understanding of health conditions. Wearables implemented in care management and remote

patient monitoring can boost patient engagement in self-care and reduce hospital readmissions for chronic conditions. Healthcare providers can comprehensively view patient health beyond the limited information shared during brief appointments.

The Challenges

The broader adoption of wearables brings significant challenges, particularly in handling the overwhelming data they generate. Healthcare practitioners must emphasize on the need for systems that can automate extracting and analyzing relevant patient trends from the data. Although analytics tools for such purposes exist, their effective use requires substantial computing power, often beyond the capacity of on-premises systems.

Furthermore, the proliferation of wearables, particularly consumer-grade ones, presents another hurdle. Integrating these devices with clinical systems is complex, as no organization can manage all the necessary open APIs or have enough staff to handle such integrations. It also poses the challenge of implementing security measures that must evolve to prioritize device

identity management and verification at the point of care to address these challenges effectively.

Regulatory Frameworks

Regulatory frameworks for wearables in healthcare are crucial for ensuring device safety and efficacy. In the United States, the FDA categorizes health wearables as medical devices, requiring compliance with specific standards before market approval. The regulations focus on accuracy, data security, and patient safety. The EU operates under similar principles, governed by the Medical Devices Regulation (MDR), which ensures wearables meet high-quality standards and clinical safety requirements. Both regions emphasize data protection, especially under the GDPR in Europe, which mandates strict data privacy practices. These frameworks are evolving to keep pace with technological advancements, ensuring wearables benefit users without compromising their safety or privacy.

Medical Device Industry Trends

Artificial Intelligence (AI) is significantly transforming the medical device industry by enhancing data-driven analytics and improving the doctor-patient experience. AI's ability to quickly analyze large volumes of data surpasses human capabilities, facilitating clinical researchers or healthcare data analysts with algorithms that suggest diagnoses or treatment methods. AI technology is pivotal in medical devices that generate extensive data points such as blood pressure and heart rate measurements.

Despite the reliance on doctors for diagnosis and healthcare decisions, human errors, biases, and misjudgments persist, contributing to a notable percentage of preventable adverse medical events during hospital admissions. AI offers a solution by mitigating unconscious biases among doctors, thus fostering equity in healthcare and serving as a safety net to verify data accuracy. The integration of AI extends beyond patient care into manufacturing, where it aids in creating virtual simulations of physical factory environments, optimizing production processes, and enhancing efficiency.

The Internet of Medical Things (IoMT) is another significant trend where connected medical devices facilitate the remote monitoring and management of patient health. This network enables continuous transmission and analysis of health data, enhancing the convenience and effectiveness of medical care through technologies like telemedicine. IoMT devices, such as blood sugar monitors, allow doctors to detect critical changes in patient conditions promptly, improving responsiveness and potentially expanding treatment windows in urgent scenarios.

Future of Wearable Tech in Healthcare

The healthcare sector is transforming, primarily driven by integrating wearable technology into medical devices. Wearable technology is leading the transition from reactive to preventative healthcare by offering detailed insights into health statuses and habits. This enhanced patient monitoring ability combined with real-time data is crucial for managing chronic conditions, refining treatment plans, and predicting potential health issues before they escalate.

Artificial intelligence will also be crucial in transforming the large volumes of data collected by wearables into actionable insights. Enhanced sensor technology and AI are poised to improve the precision and functionality of wearable medical devices, broadening the range of health metrics they can monitor.

However, as wearable technology becomes more embedded in medical devices, regulatory bodies will also face the challenge of ensuring patient safety without hindering innovation. Regulatory frameworks must adapt to the unique characteristics of wearable medical devices, including software components, data security, and the accuracy of health monitoring features.

GS Lab | GAVS is a global technology partner for healthcare organizations with the unique ability to craft end-to-end digital technology solutions. We offer a range of healthcare services and solutions from healthcare strategy consulting, cybersecurity, AI-led infrastructure management, data management, data integration and interoperability, advanced analytics, EHR/EMR implementation, and much more. To learn more on how we can help transform your healthcare organization, please visit https://gavstech.com/industries/healthcare/.

About the Author

Kunal Shah is a seasoned marketing professional with over 12 years of experience in the healthcare industry, currently serving as the Dynamic 360 Marketer for the Healthcare Business Unit at GS Lab | GAVS. With a unique background as a Microbiologist and Alcohol Technologist, Kunal transitioned into marketing after completing his MBA, bringing a distinct perspective on the intersection of science and business.

In his role, Kunal contributes to the advancement of healthcare technology by creating thought leadership content that engages industry leaders and promotes innovation. His expertise allows him to work closely with CTOs and CIOs, understanding their challenges and offering tailored technology solutions. This combination of industry insight and technical knowledge positions Kunal as a valuable asset in driving the digital transformation of partner healthcare organizations.

Kunal Shah

Upcoming Webinar

Exploring Opportunities for IT to Help the Enterprise Reduce Costs, Increase Value & Improve Margins

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Tanya Townsend
Chief Information & Digital Officer, Stanford Children's Health

Speaker
Sumit Ganguli
CEO, GS Lab | GAVS

Speaker
Anthony Guerra
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August 13, 2024 | 12 PM ET | 9.30 PM IST

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Upcoming Webinar

In today's healthcare landscape, severe financial pressures are pushing health systems to their limits. As organizations battle shrinking margins, IT-driven strategies for cost reduction and value enhancement have become more critical than ever. Join the conversation as they explore how IT can play a vital role in keeping organizations financially stable. You'll hear from leaders who are leveraging technology to optimize budgets, eliminate redundancies, and drive operational excellence.

Moreover, our panel will discuss how IT is emerging as a key driver for health systems to achieve the Quadruple Aim:

- Enhancing patient experience
- Improving population health
- Reducing costs
- Boosting team well-being

Register here.

Invisible Design - The Secret of Successful Products

UX design involves conducting user research, creating user personas, designing user flows, and iterating on prototypes to ensure a seamless and intuitive user journey. Design is an integral part of the overall user experience, and its impact can be seen in user engagement, satisfaction, brand perception, and, ultimately, in the product's monetization potential. While aesthetics is essential to UX design, user experience design goes beyond visual elements. It encompasses understanding user needs, behaviors, and preferences to create designs that are not only visually appealing but also functional and user-friendly.

Design decisions are driven by a deep understanding of users, their goals, and the context in which they interact with the product. Addressing user pain points and providing solutions that align with their needs, UX designers contribute to a product's overall success and effectiveness. GS Lab | GAVS recently conducted a webinar, 'Everything Products Episode 8: Invisible Design – Secrets of Intuitive Usable Products'. Mr. Omkar Chogale, Lead UX Designer

at GS Lab | GAVS and Mr. Akshay Potnis, Head of Design, MessageBird empaneled the webinar.

What is invisible Design?

Invisible design involves unpacking the hidden layers between humans and products to bring them closer together. The goal is to move beyond creating a minimum viable product to crafting a minimum lovable product. This concept emerged from recognizing that product design should consider the nuanced aspects of human behavior and culture that may not be immediately apparent. For instance, the invisible design of roads in the United States, where small ridges on the side create a loud sound if a driver starts drifting into another lane. This simple yet effective design prevents accidents and saves lives by addressing human behavior.

Empathy and Design Process

When it comes to the design process, designers must take a route that intersects business requirements and human factors, categorizing essential human factors as 'must' considerations and additional factors as those that can enhance

the product further. To that end, simplifying user flows is an essential driving factor in the user journey. However, simplification doesn't always mean reducing steps but modifying them based on user context. The power of simplified interfaces gives users greater control. In recent times, design is moving away from the sole focus on technicalities towards more focus on understanding the human aspects of the problem. The shift involves looking at users as individuals with specific needs, behaviors, and cultural contexts rather than as just product consumers. Considering user demographics, such as age, gender, income and education levels, geographic location, etc. is critical.

This shift has led to a more user-centric design approach, where the goal is to create products that meet technical specifications and more importantly, resonate with users on a personal level. The transition from a technical-centric approach to a human-centric one has brought about a deeper connection between users and the products being designed. Users feel understood and valued, creating a stronger affinity for the products. The 'minimum lovable product' concept reflects this shift, emphasizing users' emotional connection and positive experience with a product beyond its basic functionality.

Invisible Design Process

The framework considers human nature, behavior, and culture in design to create products that resonate with users. The layers, including nature, nurture (behavioral and altruism connection), and culture, contribute to a more comprehensive understanding of user needs.

The first layer to unpack is the 'nature' layer, which encompasses biological and psychological factors inherent to individuals, such as eye color and cognitive load. Adding color to the interface immediately enhances its accessibility and user-friendliness. Invisible design goes beyond surface-level features, delving into the deeper layers of human cognition and behavior to create more intuitive and user-friendly products.

The 'nurture' part consists of behavioral aspects that are not innate but have evolved over time.

There are two sections – behavioral traits and the connection to altruism. The behavioral section addresses the fear of the unknown, a common human trait, using examples like joining a new job or exploring an unfamiliar AI interface. By providing users with familiar starting points, such as prompts for email content, the design alleviates the fear of the unknown and facilitates user engagement.

The second aspect, the altruism connection, taps into the human tendency to feel good when helping others. In the context of AI, which is often perceived as a threat, creating opportunities for users to contribute and help the system improve the connection between humans and the technology. Adding prompts like "Help us get better" fosters collaboration, breaking down the perceived barrier between humans and AI. This illustrates how incorporating human behavioral traits into design can enhance user experience and build a positive relationship between users and the system.

The third part is the 'cultural' layer. Geographical locations, countries, histories, and cultural nuances significantly impact how people use products. Cultural factors, such as privacy concerns and attitudes toward technology, also shape user behavior and preferences. Language is also a crucial cultural element, and providing language options allows users to express themselves comfortably in their preferred language.

This blog offers only a high-level gist of the webinar. Here, you can watch the entire discussion, where industry leaders share valuable insights. For more such videos, you can visit https://gavstech.com/insights-trends/webinar/

To learn more about our User Experience Design services, please visit https://gavstech.com/services/digital-engineering/user-experience-design/.

About the Author

Team **UNBOX**

U : Usability
N : Next Generation Media
B : Branding
O : Optimized Solutions
X : Experience

Unbox is a User Experience team at GS Lab | GAVS. The team prides itself on being the experience strategists who elevate their client's digital growth and add to their business value. Focus areas of the team being Branding, User Research, Visual Design and User Testing. Team has a mix of skills like Researcher, Information Architect, Interaction Designer, Brand Designer and Visual Designer. Team specializes in user research, working on new product concepts, redesign/revamp of existing products and feature enhancements. Team also helps in discovery phases involving UX for early product validation from business users. Agile collaboration with UI development teams to ensure the required product experience.

GS Lab | GAVS bags **Gold** at the **iNFHRA Workplace Excellence Award**

We are delighted to have won Gold in the ESG category at the iNFHRA Workplace Excellence Awards 2023-2024, held for the Chennai region. This recognition underscores our organization's commitment to Environmental, Social, and Governance (ESG) principles, which are integral to our ethos.

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