HITLAB

Quai.MD

Shaping the Future of Emergency Medicine with Quai.MD's Clinical GPS

AN EVALUATION BY HITLAB

This report presents HITLAB's independent evaluation of Quai.MD, an AI-driven clinical navigation platform embedded in the EHR for emergency and acute care.

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Executive Summary

This report presents HITLAB's independent evaluation of Quai.MD, an AI-powered clinical navigation platform designed to serve as a "clinical GPS" for physicians working in high-acuity settings. Integrated directly within the electronic health record (EHR), Quai.MD delivers real-time, evidence-based pathways, transparent recommendations through explainable AI, and automated documentation features that streamline workflows, reduce errors, and support billing accuracy.

HITLAB conducted heuristic evaluation of Quai.MD platform, applying Jakob Nielsen's Ten Usability Heuristics as the guiding framework. The assessment focused on usability, clinical workflow alignment, and how effectively the system supports decision-making and care-team collaboration in emergency and acute care contexts. Findings show that Quai.MD offers a well-designed user experience tailored to the unique pressures of high-acuity care. Patient-specific MetaPathways™ organize information in a clear, structured manner that facilitates rapid clinical decisions. Embedded documentation tools reduce the burden of data entry, while shared care pathways create transparency and enhance collaboration across providers.

The broader implications are significant. For clinicians, Quai.MD reduces cognitive load and accelerates decision-making. For patients, this translates into more consistent care and improved outcomes. For health systems, the platform helps reduce care variation, strengthens documentation, and supports value-based care and sustainable financial performance.

Overall, HITLAB's evaluation underscores Quai.MD's strong potential to transform emergency and acute-care delivery by enhancing safety, efficiency, and collaboration, while setting a benchmark for the responsible application of explainable AI in everyday clinical practice.

Introduction

Current challenges in emergency and acute care

In the U.S. alone, there are over 145 million emergency visits each year, and research shows that about 6% of these cases involve missed diagnoses, especially for high-risk conditions like stroke or sepsis.[1] These errors don't just affect patients, this leads to an added increased costs and stress on healthcare systems.

Emergency departments and acute-care units operate at the intersection of time pressure, clinical complexity, and incomplete information. That environment creates four interrelated challenges that undermine patient safety, clinician well-being, and system performance: diagnostic error, operational inefficiency and overuse, clinician burnout driven by administrative burden, and wide variation in guideline adherence.

Diagnostic error in time-critical settings

Emergency care concentrates high-risk presentations where atypical symptoms and rapid turnover increase the likelihood of missed or delayed diagnoses. Systematic evidence indicates measurable rates of diagnostic error and misdiagnosis-related harm in emergency settings: one large synthesis estimated diagnostic errors in ED care at roughly 5–6% of visits, with a non-trivial fraction producing patient harm. These errors are concentrated in a relatively small set of conditions (for example, vascular events, infections, and cancers) and are often linked to cognitive and workflow failures that decision-support tools are designed to interrupt.[2,]

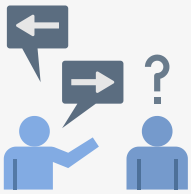
Inefficiencies and overuse of low-value services

Emergency clinicians commonly order tests and imaging under uncertainty and medico-legal pressure; this results in measurable overuse and the downstream costs and patient harms associated with unnecessary testing and admissions. Studies and reviews of ED practice document pervasive overuse of diagnostic tests and highlight opportunities to reduce low-value care while maintaining safety—both through better decision support at the point of care and through clearer shared care pathways.[4, 5]

Administrative burden and clinician burnout

A growing body of research links EHR-driven administrative work to clinician stress and reduced time for direct patient care. Detailed time-motion and EHR event-log studies show clinicians spend several hours per workday interacting with the EHR—much of it on documentation, order entry, inbox management, and coding tasks—contributing substantially to work-life imbalance and professional dissatisfaction. The COVID-era surge in clinical demand exacerbated these trends, with several studies documenting sharp increases in physician burnout and declines in work-life integration in recent years. In a study, over 60% of physicians reported symptoms of burnout in 2021.[6-8]

Variation in guideline adherence and inconsistent care pathways



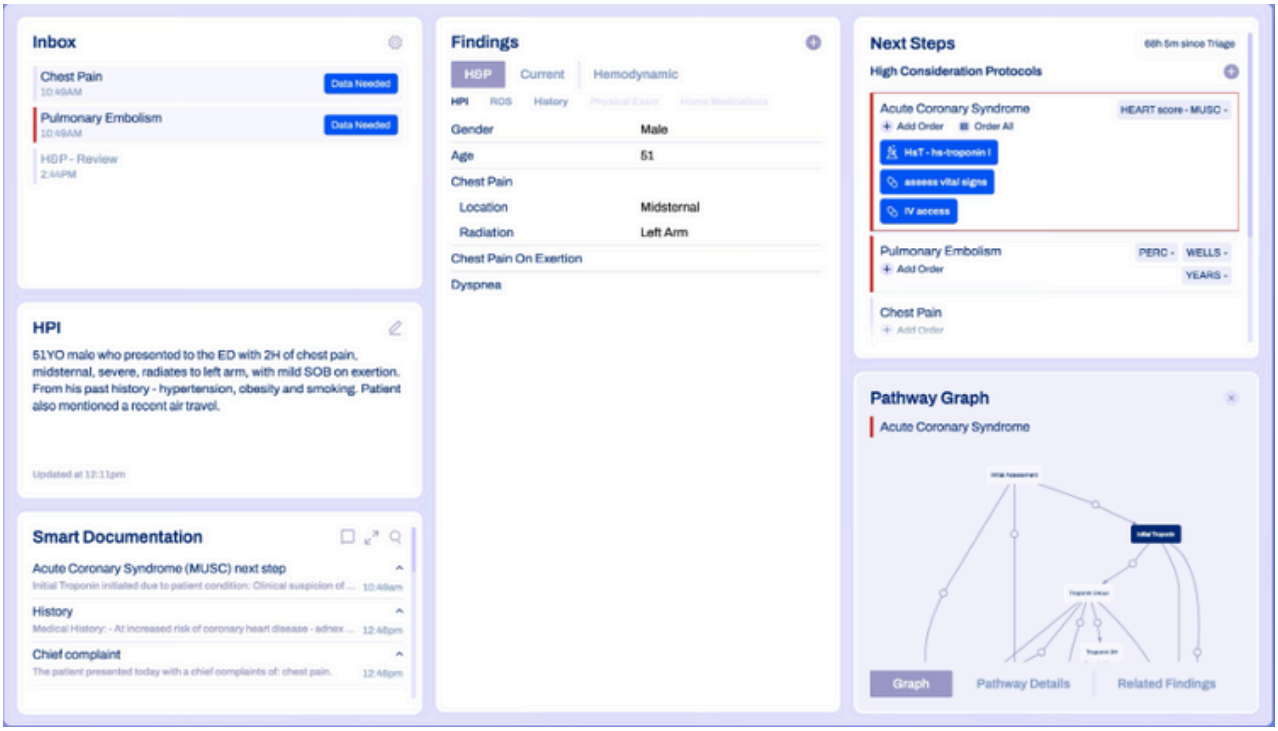
Even when high-quality clinical guidelines exist, adherence in emergency and prehospital settings is variable. Research demonstrates wide heterogeneity in the use of guideline-directed protocols across sites and clinicians—driven by factors such as local workflows, knowledge gaps, uncertainty under time pressure, and system incentives—producing unwarranted variation in care and outcomes. Interventions that embed evidence-based pathways into routine workflows can reduce this variation and improve consistency of care. [9,10]

Together, diagnostic errors, inefficiencies, burnout, and guideline variation can produce tangible harms: avoidable patient morbidity, higher cost of care, slower throughput, and lower clinician retention. They therefore represent both a quality problem and an operational priority for health systems pursuing safer, more efficient, and value-oriented care delivery.

Quai.MD Platform

Redefining Decision Support for High-Acuity Care

Quai.MD is an AI-powered clinical workflow platform that embeds evidence-based, patient-specific clinical pathways (MetaPathways™) into the EHR, pairing explainable AI recommendations with automated, structured documentation. The platform's core value proposition is to reduce care variation, accelerate time-to-decision, and reduce documentation burden while preserving clinician autonomy and transparency.



Key features

- **Real-time, workflow-embedded guidance:** Quai.MD operates inside the EHR as an integrated advisor, delivering context-aware recommendations at the point of care to support rapid clinical decisions.
- **Explainable AI that builds clinical trust:** Rather than offering black-box outputs, the platform surfaces the reasoning and evidence behind each suggested pathway, enabling clinicians to understand and validate recommendations in real time.
- **Patient-specific, dynamic clinical pathways:** The MetaPathways™ model personalizes care trajectories based on the patient's presentation, labs, and history—transforming static guidelines into actionable, data-driven workflows.

- **MDM documentation:** Structured note generation focused on Medical Decision Making (MDM) reduce time spent on administrative tasks while improving the completeness and billability of clinical records.
- **Team alignment and transparency:** Shared pathways create a single source of truth for multidisciplinary teams, improving communication and ensuring consistent handoffs across care settings.
- **Operational and financial upside:** By guiding evidence-based testing and disposition decisions, the platform is positioned to reduce unnecessary resource utilization and strengthen revenue capture through accurate documentation.
- **Usability strengths:** Seamless in-EHR embedding, dynamic patient-specific pathways, and smart documentation are notable strengths that align with operational priorities (efficiency, documentation accuracy).

Why Quai.MD matters

- **For clinicians:** Quai.MD reduces cognitive load and supports situational decision-making under pressure by providing immediate, evidence-backed options tailored to the patient in front of them. This supports faster diagnosis, greater diagnostic confidence, and more efficient use of clinician time through automated documentation.

- **For patients:** Faster, more consistent clinical decisions translate into timelier care, and fewer unnecessary tests or admissions—improving patient experience, trust, and potentially clinical outcomes.
- **For healthcare systems:** Embedding explainable decision support into routine workflows supports quality improvement and standardization across providers, reduces variability in care, and aligns with value-based care objectives by lowering avoidable utilization while improving documentation and billing accuracy. These efficiencies can contribute to measurable cost savings and stronger operational performance.

Quai.MD's Achievements to Date

Quai.MD has built a strong foundation of recognition and success in the clinical decision-support space:

- **Competitive grant funding:** The company has secured highly selective awards from both the Israel Innovation Authority and the U.S.-based Bird Foundation, underscoring the promise of its health technology innovation.

- **Clinical adoption and partnerships:** Quai.MD's solution is already in commercial use across four Emergency Departments at the Medical University of South Carolina (MUSC) following a successful design partnership, and is moving toward a pilot integration with Mayo Clinic, among others.

- **Recognition for innovation:** The platform earned the Presidential Solution Innovation Award from Mayo Clinic — an honor reserved for companies with significant potential to transform clinical care.

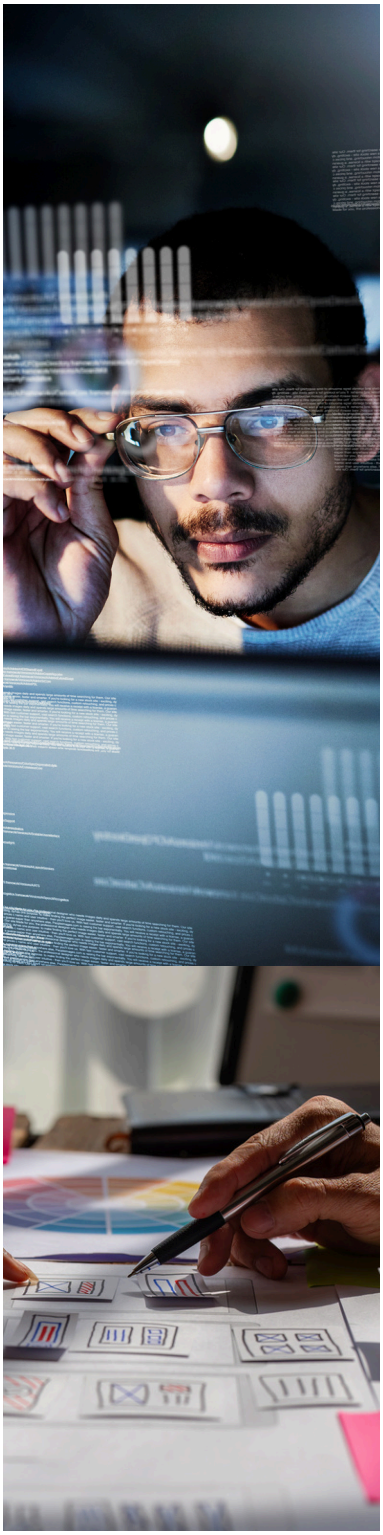
- **Expert advisory support:** Quai.MD is guided by leading clinicians and healthcare executives who provide strategic input on product refinement and adoption pathways.

These milestones reflect Quai.MD's progress in bringing explainable AI into real-world clinical workflows and advancing decision-support tools that address frontline needs.

Heuristic Evaluation

Conducted by HITLAB

HITLAB conducted a heuristic evaluation of the Quai.MD clinical navigation platform, applying structured usability inspection methods to assess its effectiveness, efficiency, and alignment with clinician workflows in high-acuity care environments.



Methodology

The evaluation was designed to simulate the perspective of end-users—particularly emergency physicians—while providing expert analysis of the platform's design and functionality.

The assessment was guided by Jakob Nielsen's Ten Usability Heuristics, a globally recognized framework for evaluating interface design. Each heuristic principle—visibility of system status; match between system and the real world; user control and freedom; consistency and standards; error prevention; recognition rather than recall; flexibility and efficiency of use; aesthetic and minimalist design; help users recognize, diagnose, and recover from errors; and help and documentation—was systematically applied to identify strengths and areas for refinement.

The evaluation involved a multi-day review of the Quai.MD web platform, desktop (Windows and iOS browser) versions. Scenarios were developed to reflect the workflows of Emergency Medicine clinicians, focusing on time-sensitive activities such as patient intake, diagnostic decision-making, care coordination, and documentation.

Evaluation Persona

Two expert evaluators from HITLAB conducted the review by simulating the role of a 39-year-old Emergency Medicine physician managing a high patient load in a high-pressure environment.

Adam Richard

Occupation: EM Physician

Age: 39

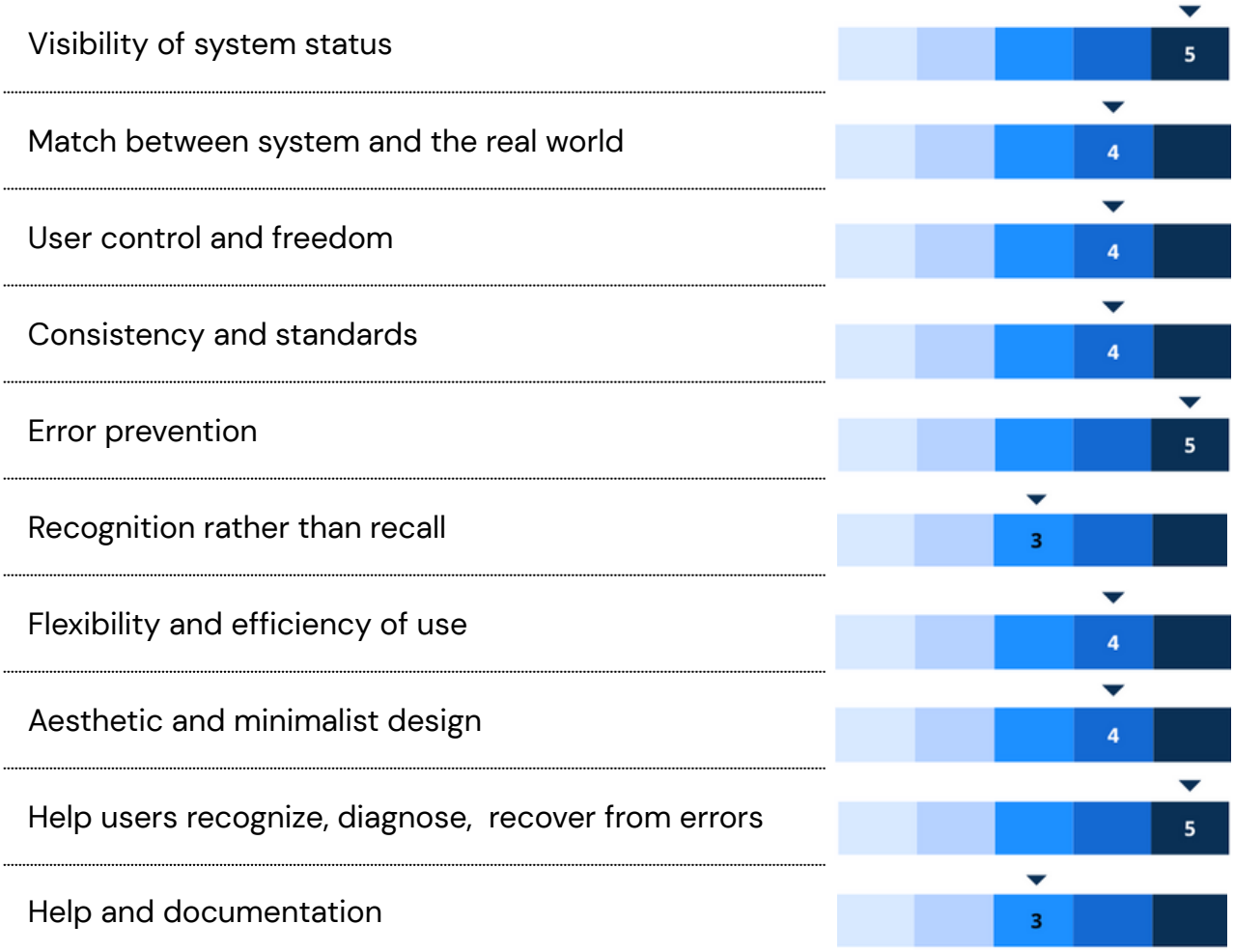
> *After 15 years in the ER, I've learned to move fast and lead with empathy. I'm here to save lives—not wrestle with software. The pace is relentless. Some days, I feel like five people at once—treating patients, managing the EMR, talking to families, coordinating workflows, and trying to keep up.*

Background	Goals	Challenges
Adam is a seasoned ER physician managing high patient loads and juggling multiple systems. The constant multitasking leads to cognitive overload. He needs a smart, streamlined solution to ease documentation and free him to focus on fast, high-quality care.	• Deliver safe, timely care and make sound decisions under pressure • Document accurately without slowing patient flow • Stay organized and focused amid constant multitasking	• Juggling work, life, and a fast-paced, unpredictable environment • Making quick, accurate decisions under tight time constraints • Coping with stress and fatigue from limited time and energy • Balancing patient care with heavy admin and documentation demands
Motivations	**Frustrations**	**Needs**
• Empowered to make confident clinical decisions • Driven to deliver high-quality care under pressure • Committed to improving patient safety and reducing clinician burden	• Can't prioritize personal health due to demanding shifts • Wastes time switching between disconnected tools • Poor system integration slows work and adds mental strain	• Intuitive platform for real-time documentation • Visual summaries, alerts, and customizable interface for better decisions • Seamless integration with EMR, imaging, labs, and vitals to streamline workflow

Findings

Quai.MD scored consistently well across HITLAB's heuristic dimensions, with most ratings in the 4–5 range, underscoring a strong, clinician-oriented design. Importantly, no critical-severity issues were identified, and all areas requiring refinement are implementation-level adjustments rather than structural concerns. This positions Quai.MD as a well-built, adoption-ready platform with only minor refinements recommended before scale-up.

Heuristic Ratings



Strengths Identified

- **Clarity of navigation:** Primary pathways mirror ED workflows, allowing clinicians to reach functions quickly under time pressure.
- **Error prevention:** The platform demonstrates strong attention to error prevention by structuring clinical inputs within clear, predefined pathways, thus significantly reducing the chances of making an error in high-pressure situations.
- **Workflow integration:** Embedded directly within existing Electronic Health Records, minimizing workflow disruptions and avoiding the need to switch platforms.
- **AI-powered recommendations:** Decision support is timely, actionable, and adds clinical value by reducing care variation.
- **Adaptability to best practices:** The system is trained to reflect the protocols of individual health systems, with AI surfacing recommendations rooted in established clinical guidelines—ensuring it facilitates rather than replaces clinician judgment.
- **Documentation efficiency:** The platform supports streamlined automatic documentation, reducing administrative burden and helping clinicians capture critical information without disrupting care delivery.
- **Information hierarchy:** Screen layouts support scanning and rapid comprehension.

Minor Opportunities for Improvement

HITLAB's evaluation confirmed Quai.MD is a strong, adoption-ready platform, with only a few refinements suggested to further elevate clinician experience:

- **Performance**: Shorten server loading times to meet the urgency of ED workflows.
- **Clarity & safety**: Provide clearer error messages, confirmations, and consistent clinical labels/icons.
- **Visual design:** Optimize field and button sizes, improve contrast, and expand diagnosis color-coding with tooltips for clarity.
- **Support & flexibility:** Add a dedicated help hub with searchable FAQs and tutorials and allow limited personalization of layouts to reduce cognitive load.

Recommended Next Steps

To maximize impact, HITLAB recommends a focused, staged approach:

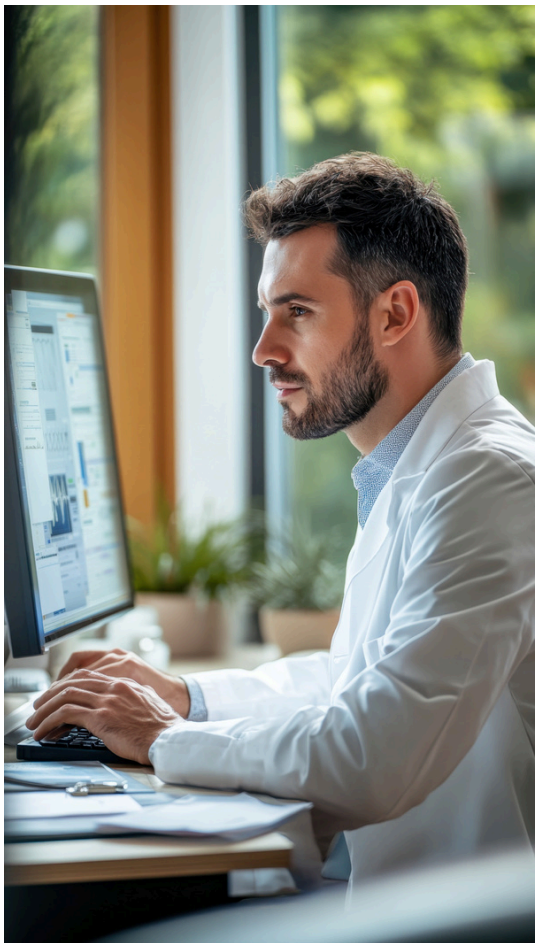
- Quick wins (0–2 months): Implement performance improvements, error handling, and minor UI adjustments.
- Adoption readiness (2–4 months): Conduct structured stakeholder interviews and gather clinician feedback to validate real-world fit and refine support resources.
- Pilot validation (4–6 months): Deploy in select EDs, track time-to-decision and satisfaction metrics, and refine based on pilot insights.

Conclusion

The heuristic evaluation conducted by HITLAB highlights Quai.MD as a forward-looking clinical workflow platform with significant potential to transform decision-making in emergency and acute care. By embedding evidence-based pathways into existing workflows and streamlining documentation, the platform supports clinicians in making faster and more confident decisions. These strengths position Quai.MD as a valuable tool to reduce care variation, enhance diagnostic confidence, and alleviate some of the administrative and cognitive burdens contributing to clinician burnout.

While every digital solution requires ongoing refinement, Quai.MD demonstrates a strong foundation in usability, workflow integration, and clinical relevance. The evaluation confirms that its design is well suited to the fast-paced, high-stakes environment of acute care, where clarity, efficiency, and reliability are essential.

For healthcare providers, patients, and health systems alike, Quai.MD represents more than a technological advancement—it is a pathway toward safer, smarter, and more sustainable care delivery. With continued user-centered improvements and the collection of real-world outcome data, Quai.MD is poised to play a pivotal role in shaping the future of clinical decision support and value-based care.



> *"What stands out about Quai.MD is its practicality for clinicians. Rather than overwhelming providers with data, it offers clear, step-by-step guidance supported by transparent reasoning. This combination not only accelerates decision-making but also builds confidence at the point of care. Quai.MD has the potential to meaningfully improve how care is delivered."*
> **— *Stan Kachnowski, Chair, HITLAB***

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