SecuShare

Revolutionizing Venue Security and Management
through Trusted Data Sharing

Smart Logistics

SecuShare: Revolutionizing Venue Security and Management through Trusted Data Sharing

With the contribution of:

Caboto

BI-REX

WeAR

Exwayz

Intrasecur

Challenge & Context

Organizing large events, like trade fairs or concerts, or just managing large facilities, is not just about ensuring everyone has a good time. Behind the scenes, there is a complex dance of coordination that happens. Several teams and companies, each with their unique roles, come together. These can range from venue managers, security teams, and ticket sellers to local authorities and event organizers. Here is the challenge: these groups often change with every event or facility, and they might not always be familiar with one another or the venue.

Imagine a scenario: an event organizer prefers a specific security team they have worked with before. But this security team is not familiar with the venue's layout or the local protocols. Such mismatches can cause overlaps in roles, potentially leading to disputes or even security lapses.

Our project is about streamlining this behind-the-scenes dance. We aim to create a unified platform where every involved party can access and share critical data seamlessly. Having a single, reliable source of information can significantly reduce misunderstandings and inefficiencies.

But how do we ensure this information is accurate and timely? By integrating tools like sensors, robots, and artificial intelligence, we can automate the collection of real-time data. For instance, security personnel can instantly know crowd densities in different parts of the venue or spot potential trouble areas. In more pressing situations, like health emergencies, our system's predictive capabilities can aid in quick and effective response, potentially saving lives.

In essence, we are not just trying to make event management smoother; we are aiming to revolutionize it. By creating a bridge of information between all parties involved, we hope to foster better collaboration, ensuring events are not only enjoyable but also safer and more efficiently run.

Solution

In the dynamic world of event management, achieving seamless coordination is akin to striking the right note in a grand symphony. The challenge, however, is dealing with an orchestra that changes its members with each performance. Our solution aims to become the masterful conductor of this intricate orchestra, bringing harmony to every performance.

A Unified Platform for Everyone

At the heart of our solution is a versatile framework designed to bridge the information gap between various stakeholders. Think of it as a digital backstage pass that provides everyone - from venue managers and security teams to local authorities and ticketing companies - with the same up-to-date, reliable data. This ensures everyone is on the same page, reducing the chances of misunderstandings or conflicts.

Beyond Data Sharing: Insightful Predictions

While sharing data is the primary objective, our platform goes a step further by turning this data into actionable insights. Through advanced AI algorithms, we can forecast potential issues during an event. Imagine knowing the likelihood of a certain entrance becoming overcrowded or predicting which areas might require extra security presence based on past patterns. Our solution offers not just information, but foresight, enabling event organizers and support teams to act proactively rather than reactively.

A Modern Approach to Data Collection

To provide real-time and accurate data, our system leverages cutting-edge technologies. From sensors that monitor venue conditions to robots that assist in logistics and LIDARs that map out 3D point cloud data, we've incorporated the best of modern tech to ensure our data is both precise and timely. Manual data

collection, with its potential for errors and inconsistencies, becomes a thing of the past.

Tailored Representation for Enhanced Clarity

We understand that raw data can be overwhelming. That's why our platform also focuses on data representation, offering an immersive interface for data sharing. This allows stakeholders to gain an in-depth understanding of the situation at a glance. Visual representation, like heatmaps and flow diagrams, can immensely enhance situational awareness, making decision-making faster and more informed.

Research, Realization Partners, and Investors

Our project has been fortunate to receive support and collaboration from various european SMEs:

- Exwayz: Focused on integrating LIDAR technology, Exwayz has been instrumental in providing accurate 3D point cloud analysis of event venues.
- Intrasecur Group: This security firm brings ground-level insights to our solution, ensuring our platform addresses real-world challenges faced by security teams during events. Their contribution to real-time event signaling has been invaluable.
- Caboto: Specializing in data stream management and visualization, Caboto enriched our platform's capability to analyze and represent data in an intuitive manner.
- Investors: Our endeavor has received generous funding and support from venture capital. Their belief in our vision has been the backbone of our project, allowing us to turn our concepts into a tangible solution.

In conclusion, our solution does not just address the existing challenges in event management; it reimagines the entire process. By embracing modern technology and fostering collaboration, we aim to set a new standard for how events are organized and managed.

How it works

Harnessing the capabilities of FIWARE and iSHARE, the solution integrates the FIWARE's offerings related to IoT, Data Context, and Big Data services with

iSHARE's robust protocol for sharing data. This integration creates a unified platform where data can be easily accessed, processed, and shared while ensuring security, compliance, and real-time updates.

For a detailed visual representation of how the various components interact, please refer to the architectural diagram below. This diagram illustrates the high-level interplay between the i4Trust framework's components and the roles of FIWARE and iSHARE in this synergy.
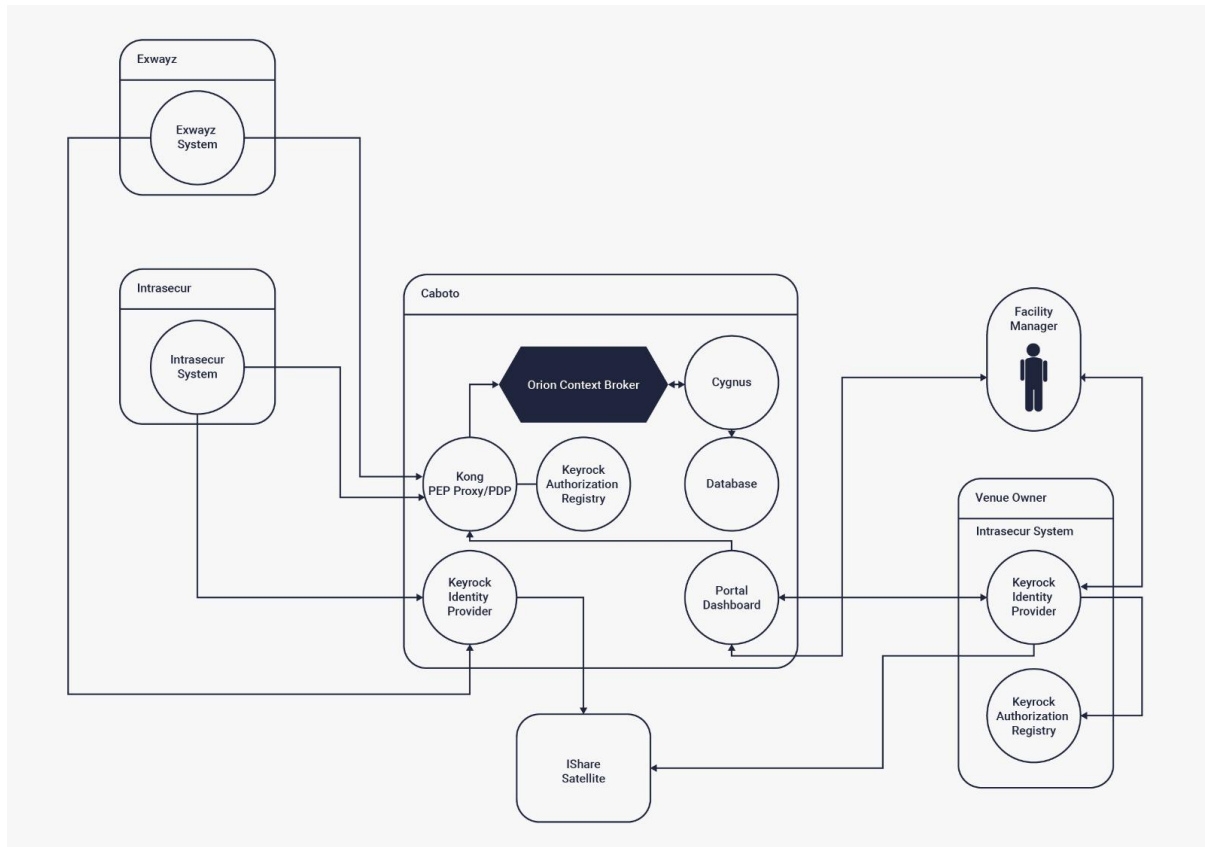
Exwayz - Intruder Detection (M2M Flow):

Role: Primary focus on the automated detection of intruders or anomalies within the venue's infrastructure.

Data Capture via Fixed Lidar Sensors: Sensors placed at strategic points capture 3D point cloud data.

Edge Computing Analysis: The captured 3D point cloud data is immediately processed on-site using Exwayz's algorithm on an edge computing device. Here, the Exwayz algorithm identifies potential intruders by analyzing the point cloud data and extracts only the x, y, z location of potential intruders.

Transmission to Caboto's Orion Context Broker: Once the algorithm determines potential intruder locations, this streamlined data (x, y, z coordinates) is sent automatically to Caboto's Orion Context Broker for further processing and potential alerting.

IntraSecur - Security Operators Application (M2M Flow):

Role: Platform for on-field security personnel to manually report and send contextual events.

Incident Reporting: On-field operators interact with the application, inputting incident details like fire alarms, vandalism, and other events.

Data Transmission to Orion Context Broker: Post reporting, the incident details are automatically transmitted to the Orion Context Broker for integration with other data sources.

Caboto - Visualization Portal (H2M Flow):

Role: Service Provider. Tailored for venue owner employees and external affiliated entities to visualize security insights and access relevant data.

Data Access and Authorization: Users utilize the portal interface, choosing datasets and accessing insights. Their access is authenticated and authorized via Keyrock.

Visualization of Insights: The insights are presented in a user-centric manner, facilitating humans in decision-making based on the analyzed data.

Interactivity: A two-way communication channel allows users to engage with the portal, with the system responding by presenting specific data.

Our dataspace serves as a secure vault and a hub where data can be ingested, processed, and shared with authorized stakeholders. The integration of FIWARE ensures real-time context data management, while iSHARE's inclusion guarantees that data sharing follows a standardized protocol ensuring security and adherence to stipulated agreements.

Lessons Learnt:

Integration Complexity: The technical challenge of integrating two distinct platforms (FIWARE and iSHARE) can be daunting. However, with the right expertise and continuous iteration, it can be seamlessly achieved.

Security is Paramount: It's essential to never compromise on the data's security, especially when sharing across multiple stakeholders.

Stakeholder Engagement: Ensuring that all stakeholders, from the technical teams to the end-users, are on the same page is vital. Their feedback and inputs were invaluable in refining the solution.

In conclusion, this solution represents a significant leap forward in the realm of secure data management and sharing. With the combined capabilities of FIWARE and iSHARE, businesses and organizations can now operate in a truly digital ecosystem, ensuring efficiency, security, and future-readiness.

Benefits & Impact

Current and Future User Landscape:

- Number of Users: As a budding venture, our user base is modest but steadily growing. Current users, primarily early adopters, are experimenting with the system and are providing invaluable feedback.
- Expected Users Looking at the Future: With an aggressive outreach strategy and refining our offering based on early feedback, we anticipate our user base to grow threefold within the next year.

Client Perspective:

- Number of Customers: We are in active discussions with several potential customers, some of which are prominent players in the trade fair and events domain.
- Number of New Potential Clients: We've identified a pool of 20+ potential clients we aim to approach over the next two years, targeting those who would most benefit from our system. These prospect clients are both from the trade fair and the retail sector, as our solution could be easily scaled to it.
- Investments, Savings, and Efficiency Growth:
- Investments: With an initial seed funding, we've been able to bring our prototype to life. As we seek additional funding rounds, we aim to accelerate our go-to-market strategy.
- Savings and Efficiency Growth: By utilizing our solution, event organizers can expect up to a 20% reduction in security-related overheads over three years, primarily due to enhanced automation and efficient anomaly detection.

- Sales/Revenue Impact: For Caboto it is essential to guarantee untampered data and access management protocols. The adoption of iShare and FIWARE technology basically allow Caboto to enter a significant market, as this is a much needed feature in our technology stack. For this reason, we expect to increase sales/revenue by 30% over the next three years.

Operational Efficiency and Cost Savings:

- One of the standout benefits of our solution is its impact on operational efficiency and cost management for venue owners. With everything meticulously monitored through our dashboard, there's a significant shift in the way security and maintenance are approached:
- Reduced On-field Patrols: The need for continuous on-field patrolling diminishes. Our system's real-time data analysis provides comprehensive insights into venue activity, allowing for proactive interventions only when necessary. This results in potential manpower savings of up to 25% for venue owners.
- Streamlined Communication: The dashboard isn't just a monitoring tool; it's a communication hub. Events, anomalies, or maintenance needs are flagged instantly, ensuring that on-ground teams receive timely notifications. This reduces communication lags, allowing for faster response times.
- Maintenance Savings: A reactive maintenance approach, characterized by responding to issues as they arise, often results in higher costs. Our solution pivots venue owners to a proactive stance. By identifying potential trouble spots or anomalies in real-time, they can address issues before they escalate, potentially saving up to 20% in maintenance costs.
- Enhanced Decision Making: Armed with actionable insights from our dashboard, venue owners can make informed decisions regarding resource allocation, security measures, and event management. This not only improves the event experience but also contributes to better resource utilization and waste reduction.

Target Group Impact:

- Trade Fair Organizers: They will likely see the highest impact. With our solution, not only can they bolster the safety and security of their events, but they can also position themselves as frontrunners in adopting cutting-edge technologies, making their venues more attractive to high-profile exhibitors and attendees.

Societal Importance:

- Our solution plays a pivotal role in bolstering security at public events, ensuring safer experiences for attendees. Beyond the direct implications for event organizers, the city and society benefit from enhanced safety standards, ensuring public gatherings remain joyful and incident-free.

Sustainability Alignment:

- Being in line with sustainability deliverables, our solution emphasizes efficient resource utilization. By preventing wastage in manpower and time through proactive threat detection, we contribute to a greener, more sustainable future for the event industry.

Added value through i4Trust

- i4Trust has provided us with valuable experiences in several areas:

- i4Trust opened doors to new data-driven possibilities for businesses. It's a platform that helps businesses find innovative solutions.

- The program connected companies with experts, potential partners, and clients. This has made finding the right collaborations easier.

- Many businesses saw growth using i4Trust. Its flexibility allows companies to adapt to market changes quickly.

- The regular mentoring and training offered by i4Trust are practical. They help businesses understand how to use digital tools better.

- Value-Adds in the Project/Solution:

- The project made data more accessible to businesses of all sizes.

- i4Trust brought in strong digital security measures, making online business activities safer.

- The tools provided helped streamline business processes.

- Why i4Trust for Future Projects:

- i4Trust can be used in many different industries and applications.

- The technology is built for the changing digital world, which means it's likely to be useful as new challenges arise.

- i4Trust focuses on collaboration. As projects increasingly need cooperation, a platform that supports it will be essential.

- To sum it up, i4Trust provides a mix of technology and networking opportunities. It's a practical choice for both current and future projects.

Next steps

As we build upon our achievements with i4Trust, our focus remains on creating sustainable solutions that can foster both economic and environmental growth. Here's a concise roadmap of our next steps:

While our initial project harnessed a segment of available data, the next milestone will see integration of more diversified datasets, enhancing the quality of insights for our clients.

A system will be implemented to gather feedback from users, ensuring continuous improvement and alignment with their evolving needs.

Given the positive results thus far, preliminary discussions are underway for an extension of the project.

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