

DIGISURAKSHA PARHARI FOUNDATION

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SunderS: Surveillance Under Surveillance

1. Executive Summary

This report offers a detailed exploration of SunderS, a public, open-source surveillance mapping tool hosted at sunders.uber.space. The platform utilizes OpenStreetMap (OSM) data to provide a visual and statistical representation of surveillance infrastructure worldwide — including CCTV cameras, ALPRs (Automatic License Plate Readers), and security guards.

SunderS aims to make surveillance visible, understandable, and accountable by offering an interactive global map along with filterable analytics. It categorizes devices by type (fixed, dome, panning, etc.) and area (public outdoor, private outdoor, indoor), making it easy to assess how much surveillance exists in a given space.

This Proof of Concept (PoC) demonstrates the tool's potential for citizen awareness, urban research, privacy journalism, and digital rights activism. From understanding surveillance density to mapping camera clusters near protests or urban hotspots, SunderS can be a powerful ally in investigations and public transparency efforts.

It requires minimal technical skill and is accessible to anyone with basic map literacy. The platform's open nature encourages contributions, allowing users to refine or expand surveillance data in their own regions through OpenStreetMap.

While the tool performs strongly in usability and data visualization, certain limitations exist — including data sparsity in some countries, lack of mobile support, and no built-in camera verification system. Future improvements could include better regional outreach, mobile apps, and timeline tracking of surveillance growth.

Overall, SunderS is a unique civic tech platform that empowers users to reclaim awareness of the often-invisible systems watching them daily. Its ethical design, transparency, and strong educational value make it a valuable asset for those concerned with surveillance, civil liberties, and urban data governance.

2. History

SunderS, an acronym for "Surveillance under Surveillance," originated from a collective recognition among privacy advocates in Europe regarding the increasing ubiquity of surveillance technologies and the corresponding need for greater transparency. The project was conceived as a direct response to the escalating presence of surveillance infrastructure in everyday environments. Hosted at sunders.uber.space, SunderS is a testament to the power of community-driven initiatives, maintained by independent developers and contributors who are committed to upholding digital rights, promoting transparency, and advocating for open-source mapping principles.

3. Description

SunderS is an interactive, web-based platform that offers a visual representation of global surveillance devices. It meticulously aggregates and displays data on camera locations, ALPRs, and security guard entries, all sourced from the OpenStreetMap community. This information is presented on a dynamic, searchable, and filterable map interface. The core mission of SunderS is to illuminate the often-hidden layers of surveillance, providing critical insights into "who is surveilled, where, and by what means." This empowers citizens, researchers, journalists, and activists to critically examine and understand the pervasive nature of urban surveillance.

4. Core Functionality

SunderS specializes in mapping physical surveillance infrastructure. It addresses key questions related to surveillance density and types, such as:

- **Neighborhood Surveillance:** Assessing the level of surveillance within specific geographical areas.
- **High-Surveillance Zones:** Identifying regions with the highest concentration of surveillance devices.

- **Device Categorization:** Differentiating between various types of surveillance devices deployed.

Beyond being a mere mapping tool, SunderS serves as a data awareness platform, actively contributing to the defense of civil liberties and the resistance against unaccountable mass surveillance.

5. Key Characteristics and Features

Feature	Description
Global Map	Provides a real-time visualization of surveillance data across the world.
Device Categorization	Differentiates between various device types, including fixed cameras, dome cameras, ALPRs, panning cameras, and security guards.
Area Type Filters	Allows users to filter data based on public outdoor, private outdoor, and indoor categories.
Statistics Page	Presents country-wise statistics, area type breakdowns, and device distribution insights.
Metadata View	Displays relevant metadata for each entry, such as the contributor, timestamp of addition, and associated notes.
OpenStreetMap Integration	Data is directly sourced from OpenStreetMap, ensuring near real-time updates and community-driven accuracy.
Open-Source Philosophy	Operates on an open-source model, fostering transparency, community maintenance, and privacy-friendly practices.

6. Types / Modules Available

SunderS is structured with distinct modules designed for comprehensive analysis and interaction:

- **Map View Module:** An interactive layer overlaying OpenStreetMap that visualizes surveillance points.

- **Stats Dashboard:** Presents data through pie charts and breakdowns, categorized by device type, area type, and country.
- **Data Layers:** Offers filtering options for public/private/indoor areas and specific device types.
- **Contribute Module:** Provides direct links and tools for users to add or edit surveillance data via the OpenStreetMap platform.

7. Operational Benefits

SunderS offers significant operational benefits across various domains:

- **Citizen Empowerment:** Equips individuals with the knowledge to understand surveillance within their daily environments.
- **Research Support:** Provides open-access data and visual analytics for academic and independent researchers.
- **Journalistic Enhancement:** Enables journalists to effectively document instances of surveillance abuse or expansion.
- **Activist Enablement:** Facilitates the development of privacy awareness campaigns and policy resistance movements.
- **Audit Assistance:** Aids auditors in cross-referencing government or corporate surveillance claims against real-world data.

8. Optimal Usage Scenarios

SunderS is particularly valuable in the following scenarios:

- **Urban Privacy Assessments:** Prior to navigating "smart city" zones or areas with advanced technological infrastructure.
- **Journalism and Civic Reporting:** As a foundational tool for investigations and articles concerning surveillance.
- **City Mapping Events (Mapathons):** To facilitate community contributions and audits of surveillance data.
- **Protest and Political Event Planning:** For analyzing and potentially avoiding areas with high surveillance density.
- **University/Campus Audits:** To enable students and faculty to investigate surveillance deployments on educational grounds.

9. Application in Investigations

During investigative processes, SunderS proves instrumental at several key stages:

- **Reconnaissance Phase:** For analyzing surveillance coverage of a target area.
- **Movement Planning:** When strategizing routes for freedom of movement or protest activities.
- **Physical Penetration Testing:** To identify and map external camera threats surrounding a facility.
- **Civil Rights and Digital Privacy Investigations:** As a critical data source for comprehensive analyses.

10. Target User Profile and Skill Requirements

Target Users:

- Privacy-conscious citizens
- Investigative journalists
- Urban researchers and sociologists
- Cybersecurity analysts
- Hacktivists and digital rights advocates

Skill Requirements:

- **Basic Map Navigation:** Familiarity with standard map interfaces (e.g., similar to Google Maps).
- **OpenStreetMap Editing (Optional):** Willingness to learn fundamental OSM editing skills, which are generally user-friendly.
- **Curiosity and Exploratory Mindset:** A proactive approach to data exploration.
- **No Coding or Deep Technical Background:** The tool is designed for accessibility without requiring specialized technical expertise.

11. Identified Areas for Improvement

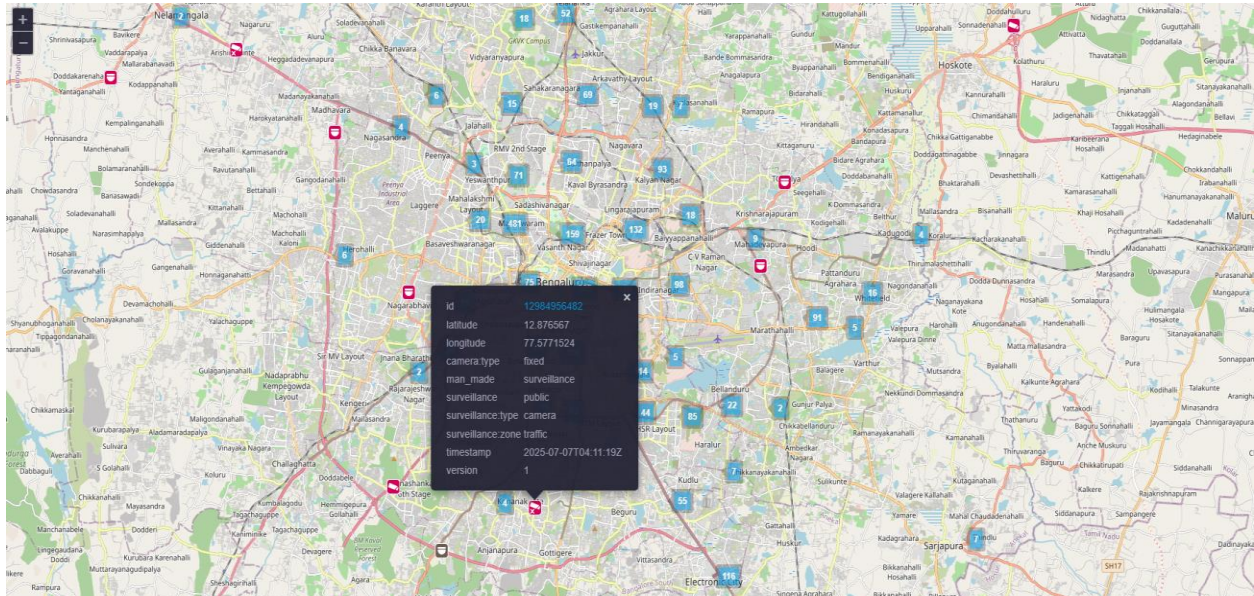
Flaw	Suggestion for Improvement
Data sparsity in some regions	Implement initiatives to actively promote and incentivize community contributions from underrepresented geographical areas.
Absence of historical camera timelines	Develop a feature that allows users to track the evolution of surveillance infrastructure over time, providing historical context.
Lack of photo verification	Integrate a feature enabling users to upload privacy-safe photos as proof of camera existence, enhancing data veracity.
Absence of a mobile-friendly version	Prioritize the development of a responsive web design or a dedicated native mobile application for on-the-go accessibility and auditing.
No direct editing from SunderS	Enable in-site OpenStreetMap editing capabilities within SunderS, coupled with guided tutorials for ease of use.

12. Strengths of the Tool

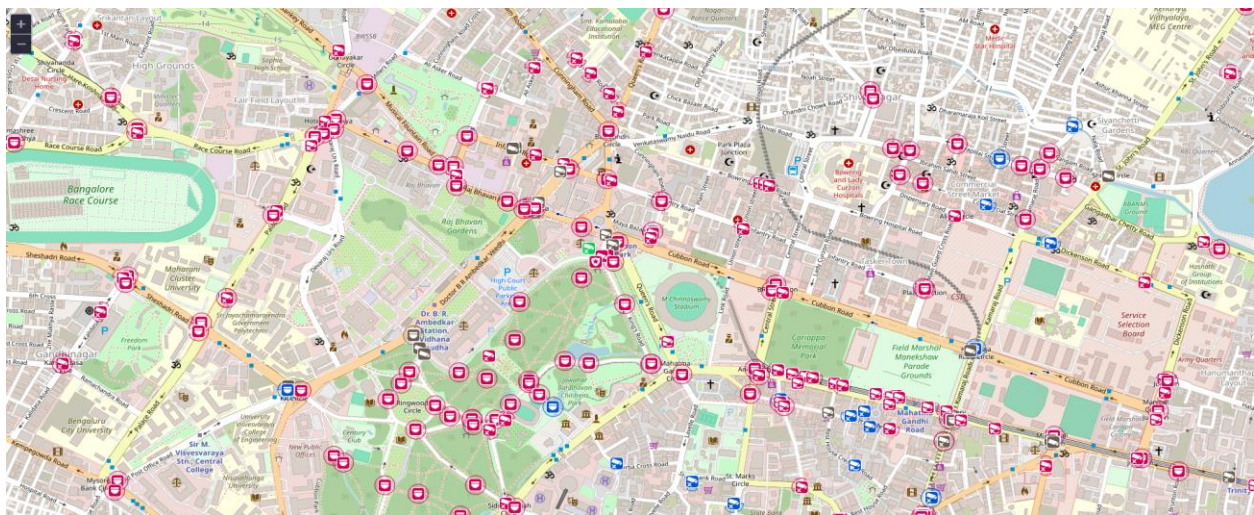
SunderS distinguishes itself with several notable strengths:

- **Fully Open-Source and Community-Driven:** Fosters transparency, collaboration, and continuous improvement through its open model.
- **Privacy-Centric Design:** Requires no user login or personal data, upholding user privacy.
- **Empowering Accessibility:** Enables any individual to analyze surveillance density without specialized knowledge.
- **Intuitive and Educational Interface:** Offers a clean, interactive user experience that promotes learning and awareness.
- **Constructive Awareness:** Raises awareness about surveillance without resorting to alarmist tactics.

13. Proof of Concept (PoC) Images



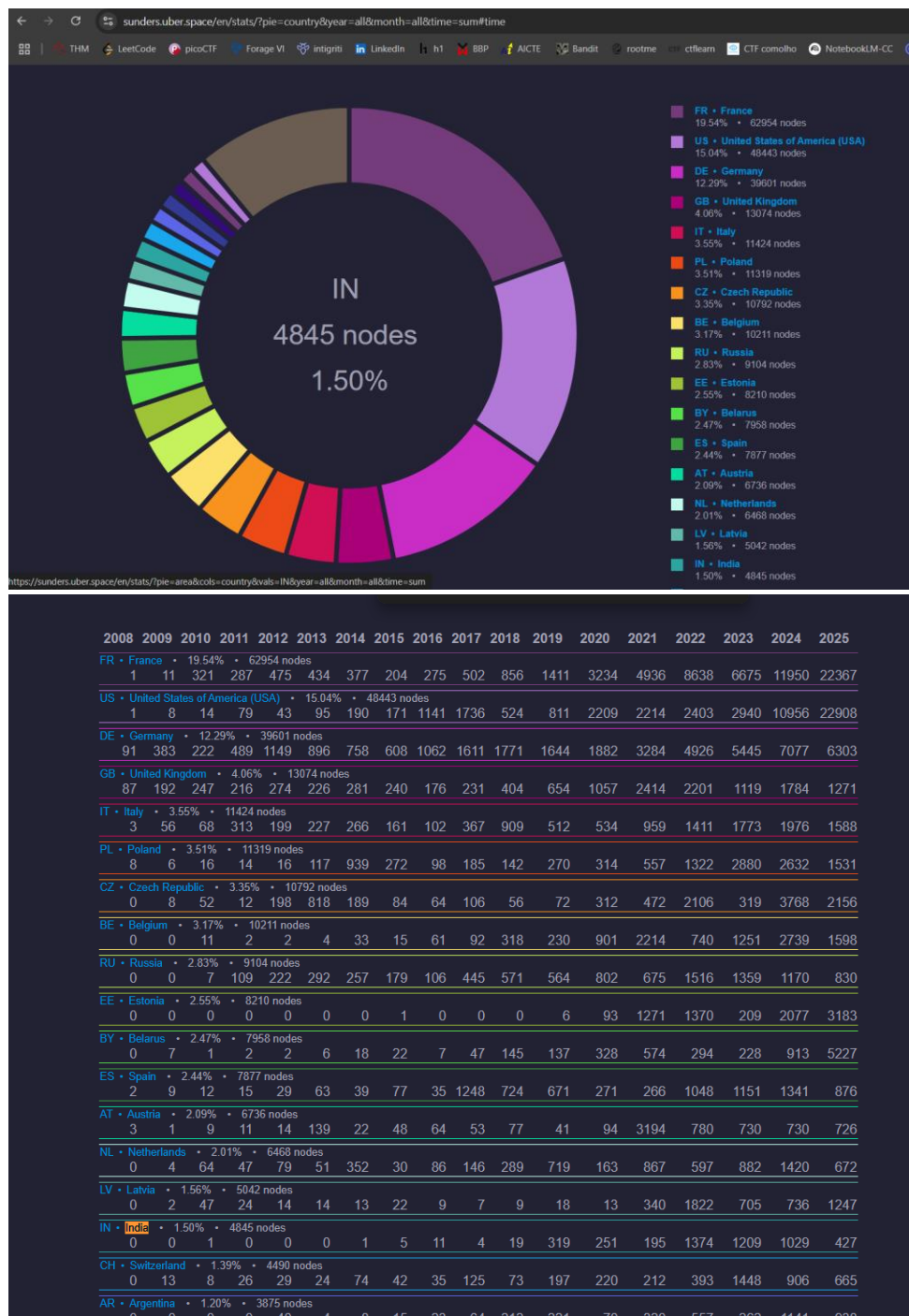
Clicking the camera icon opens a pop-up with details



The map shows the camera and ALPRs.



Different Icons and the Color indications.



Statistical data of **SunderS** showing different country and registered nodes