

MICHIGAN STATE
UNIVERSITY

Alpha Presentation

Using Sensors to Study

Human Behavior

The Capstone Experience

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From Students...
...to Professionals

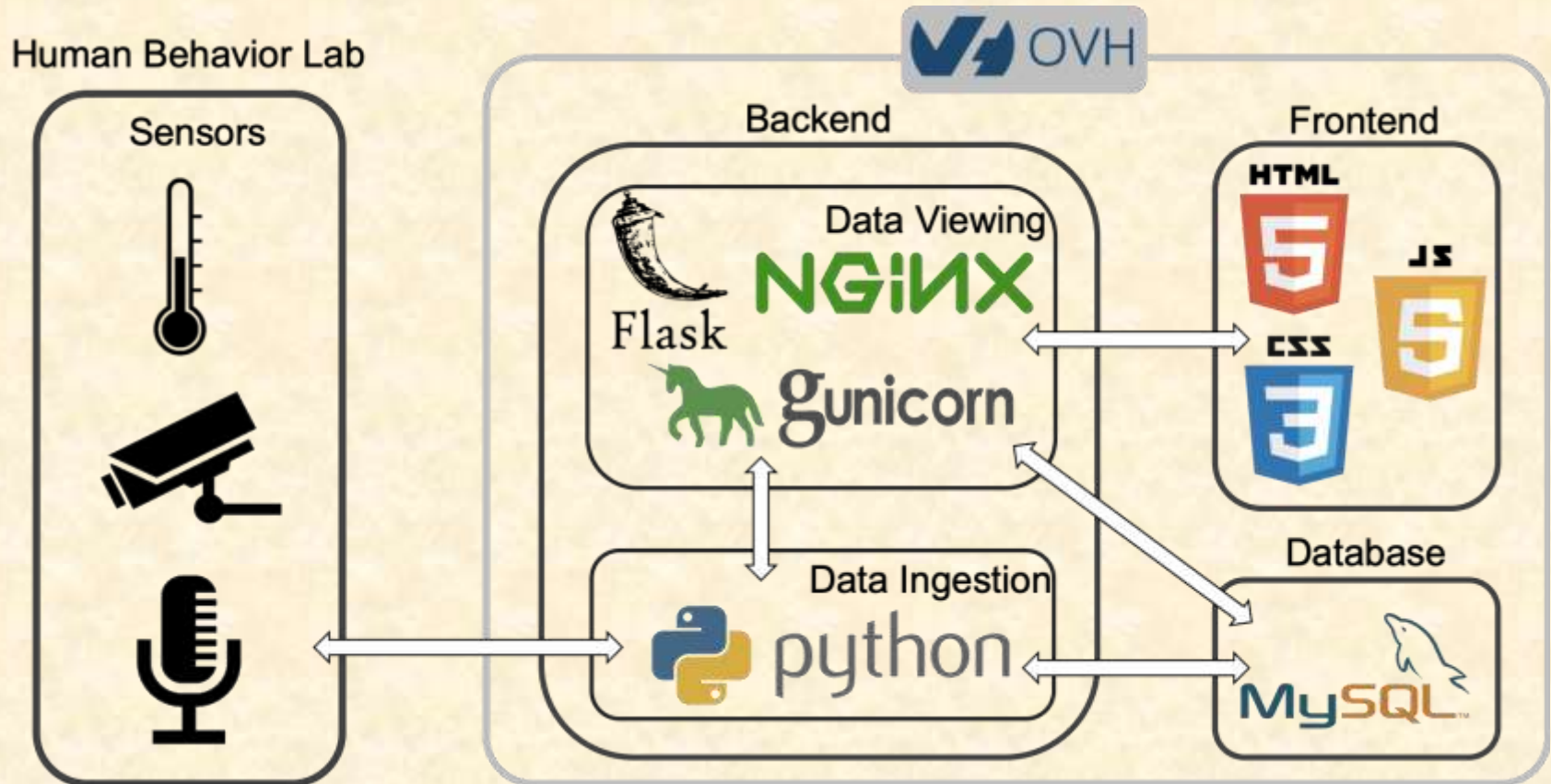
Department of Computer Science and Engineering
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Project Overview

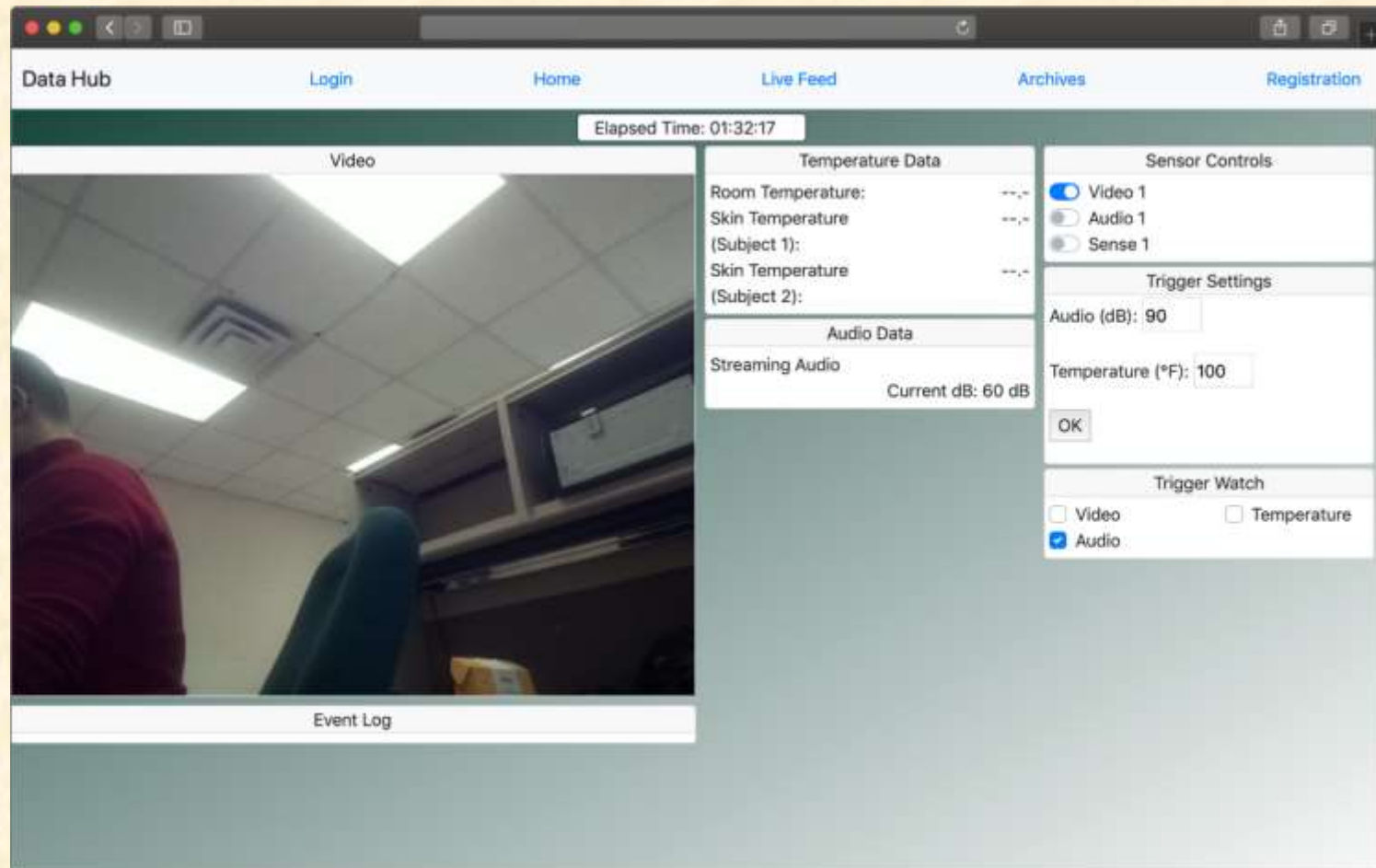
- Convert Room 3155 EB
- Stream Data From Sensors
- View and Store Data
- Ability to Trigger Actions
 - Data Thresholds
 - Data Stream Start/ Stop



System Architecture



Live Feed



Live Feed Event Log

The screenshot displays a web application interface for a 'Live Feed Event Log'. The interface is organized into several sections:

- Navigation Bar:** Located at the top, it includes links for 'Data Hub', 'Login', 'Home', 'Live Feed' (the active page), 'Archives', and 'Registration'.
- Elapsed Time:** A status bar at the top of the main content area shows 'Elapsed Time: 01:32:17'.
- Video Feed:** On the left, a large video window shows a live camera feed of a person in a red shirt in a room with a drop ceiling.
- Temperature Data:** A panel on the right displays real-time temperature readings:
 - Room Temperature: --. --
 - Skin Temperature (Subject 1): --. --
 - Skin Temperature (Subject 2): --. --
- Audio Data:** Below the temperature data, it shows 'Streaming Audio' with a 'Current dB: 97 dB'.
- Sensor Controls:** A panel on the right with toggle switches for 'Video 1' (checked), 'Audio 1' (unchecked), and 'Sense 1' (unchecked).
- Trigger Settings:** A panel on the right with input fields for 'Audio (dB): 90' and 'Temperature (°F): 100', and an 'OK' button.
- Trigger Watch:** A panel on the right with checkboxes for 'Video' (unchecked) and 'Audio' (checked).
- Event Log:** A section at the bottom left of the video feed area showing a log entry: 'Audio Trigger 1: 90 dB exceeded @ 13:56:21 01/03/2020'.



Archives Date Selection

The screenshot displays the 'Data Hub' application interface, specifically the 'Archives' section. The navigation bar at the top includes 'Data Hub', 'Login', 'Home', 'Live Feed', 'Archives' (highlighted), and 'Registration'. The main content area is divided into three panels:

- Date Selection:** A list of timestamps for selection:
 - 02/17/2020 @ 12:06:03
 - 02/17/2020 @ 12:05:28
 - 02/17/2020 @ 12:03:39
 - 02/17/2020 @ 11:55:01
 - 02/17/2020 @ 11:54:38
- Video Data:** A central video player showing a black and white feed of a room with a person's back visible. Below the video, it indicates 'Elapsed Time: 00:34:27'.
- Sensor Selection:** A panel on the right with the following options:
 - Sensor Selection:** ☐ All, ☒ Video, ☒ Audio, ☐ Temperature
 - Audio Data:** Streaming Audio, Current dB: 87 dB
 - Temperature Data:** Room Temp: --, Skin Temp (Subject 1): --, Skin Temp (Subject 2): --



Archives Data Replay

The screenshot displays a web application interface titled "Data Hub" with a navigation bar containing "Login", "Home", "Live Feed", "Archives", and "Registration". The "Archives" tab is active. The interface is divided into three main sections:

- Date Selection:** A list of timestamps for data playback:
 - 02/17/2020 @ 12:06:03
 - 02/17/2020 @ 12:05:28
 - 02/17/2020 @ 12:03:39
 - 02/17/2020 @ 11:55:01
 - 02/17/2020 @ 11:54:38
- Video Data:** A central video player showing a room with a person in a red shirt and a blue chair. Below the video, it indicates "Elapsed Time: 00:34:27".
- Sensor Selection:** A panel on the right with the following controls:
 - Sensor Selection:** ☐ All, ☒ Video, ☒ Audio, ☐ Temperature
 - Audio Data:** Streaming Audio, Current dB: 87 dB
 - Temperature Data:** Room Temp: ~, Skin Temp (Subject 1): ~, Skin Temp (Subject 2): ~



What's left to do?

- Implement Multi-Streaming
- Support Visualizations of Different Data
- Install Sensors
- Support Third-Party Hardware
- Support Trigger Definition



Questions?

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