

**MICHIGAN STATE**  
**UNIVERSITY**

# Beta Presentation

# Using Sensors to Study Human Behavior

## The Capstone Experience

Team Michigan State University CSE

Rainier Devolder

Merryn Marderosian

Ben Seeger

Lianghao Shu

Taylor Whitacre



*From Students...  
...to Professionals*

Department of Computer Science and Engineering  
Michigan State University  
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# Project Overview

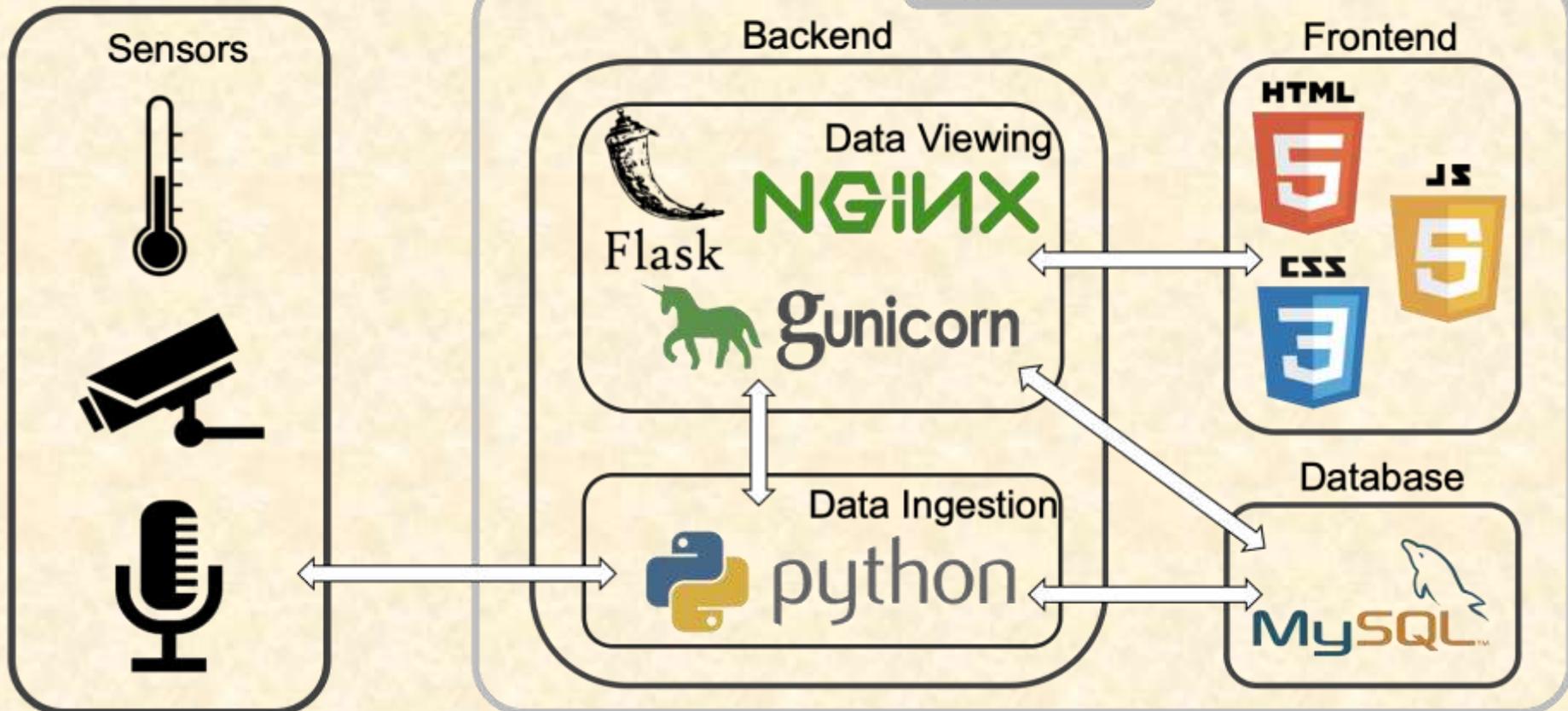
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- Convert Room 3155 EB into a Meeting Space
- Stream Data From Sensors
- View and Store Data on a Single Web Application
- Ability to Trigger Actions
  - Data Thresholds
  - Data Stream Start/Stop

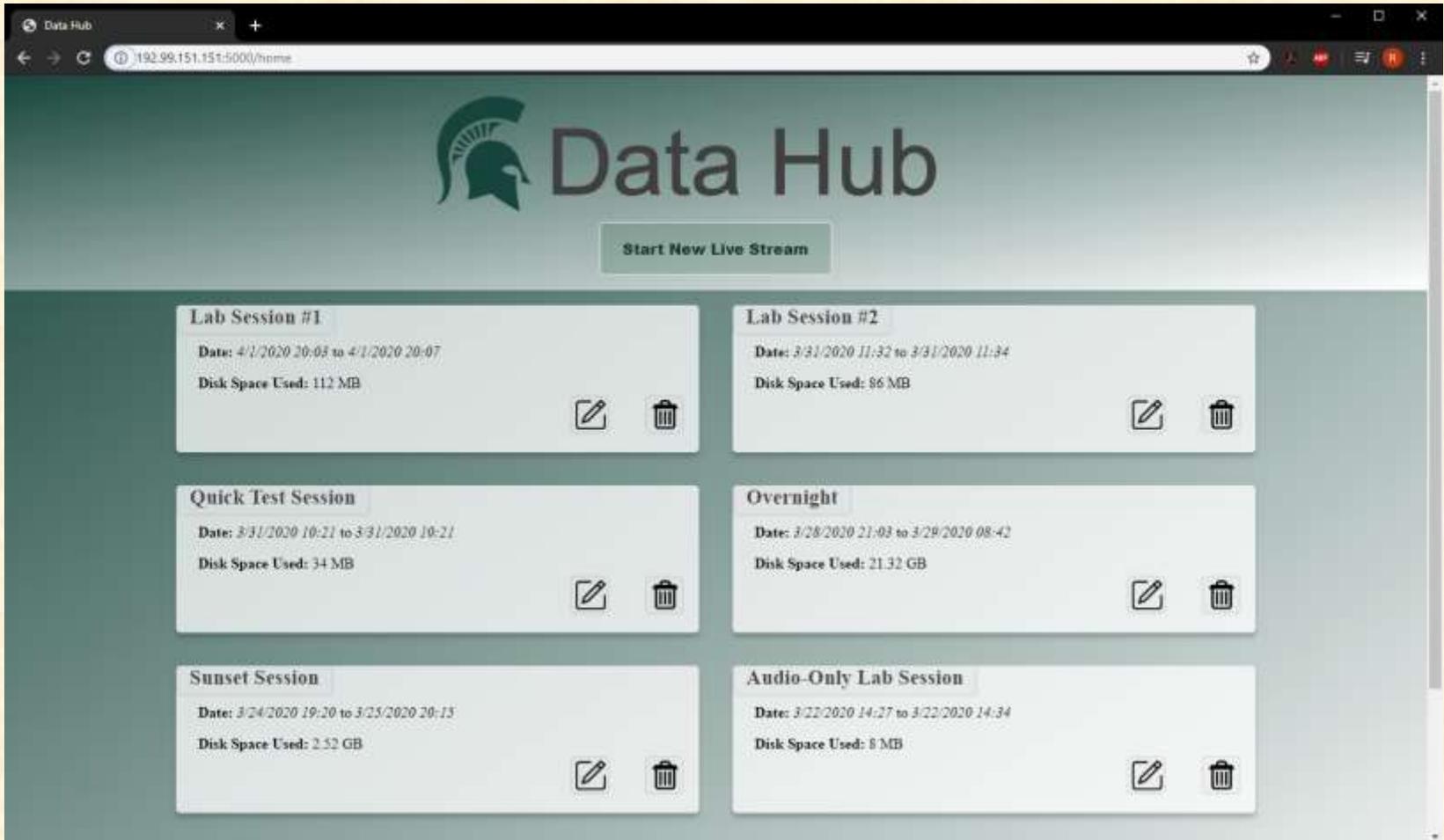


# System Architecture

Human Behavior Lab



# Home Page and Sessions



The screenshot shows a web browser window with the URL `192.99.151.151:5000/home`. The page features the "Data Hub" logo, which includes a green silhouette of a Spartan helmet. Below the logo is a button labeled "Start New Live Stream". The main content area displays six session cards, each with a title, date range, disk space usage, and edit/delete icons.

Session Name	Date	Disk Space Used	Actions
Lab Session #1	4/1/2020 10:03 to 4/1/2020 20:07	112 MB	Edit, Delete
Lab Session #2	3/31/2020 11:32 to 3/31/2020 11:34	86 MB	Edit, Delete
Quick Test Session	3/31/2020 10:21 to 3/31/2020 10:21	34 MB	Edit, Delete
Overnight	3/28/2020 21:03 to 3/29/2020 08:42	21.32 GB	Edit, Delete
Sunset Session	3/24/2020 19:20 to 3/25/2020 20:13	2.52 GB	Edit, Delete
Audio-Only Lab Session	3/22/2020 14:27 to 3/22/2020 14:34	8 MB	Edit, Delete



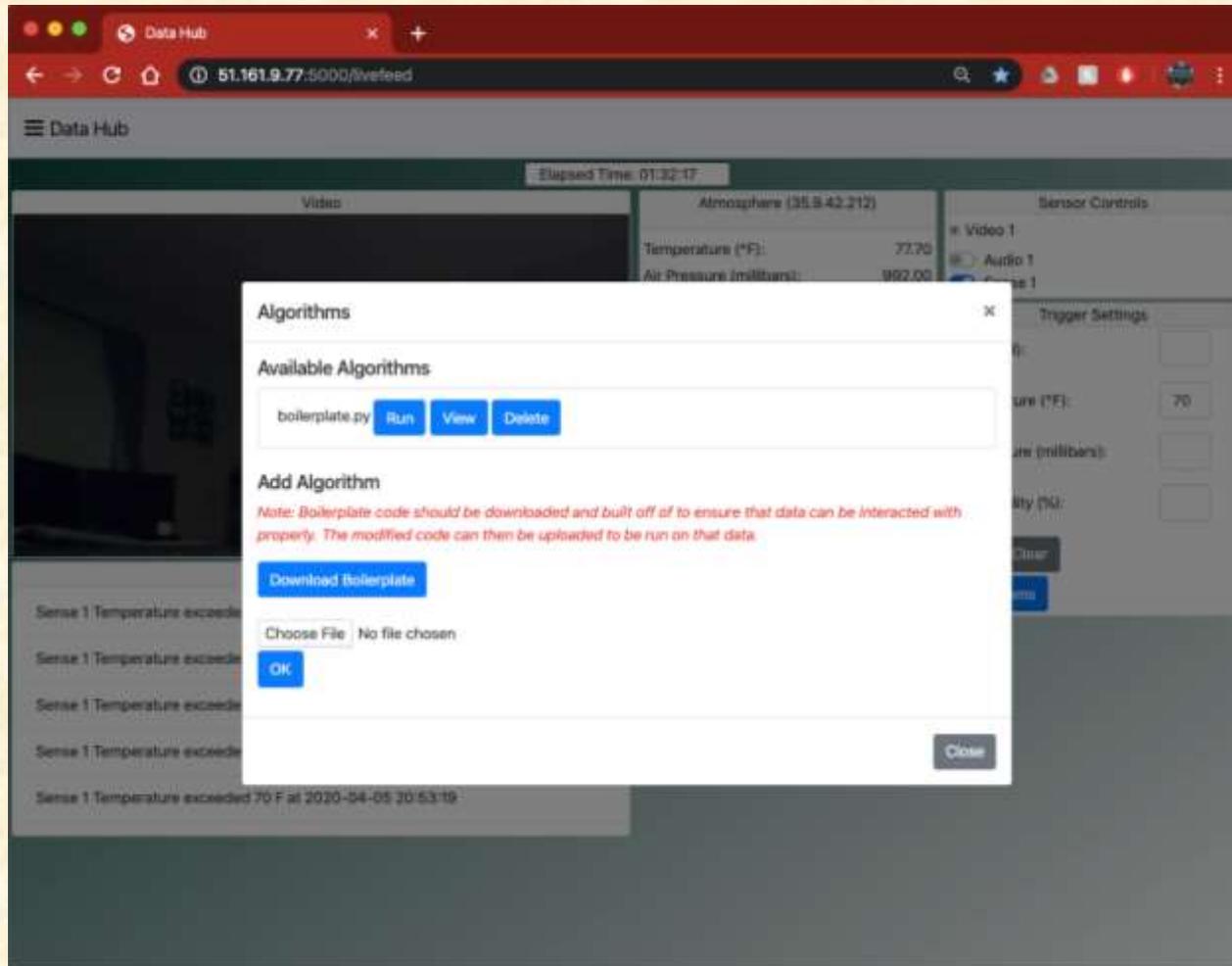
# Live Feed Page

The screenshot shows a web browser window titled "Data Hub" with the URL "51.161.9.77:5000/livefeed". The page content is as follows:

- Header:** "Data Hub" logo and "Elapsed Time: 01:32:17".
- Video:** A live video feed showing a dark interior scene.
- Atmosphere (35.9,42.212):**
  - Temperature (\*F): 77.70
  - Air Pressure (millibars): 992.00
  - Air Humidity (%): 20.00
- Audio:**
  - Volume slider: 0:00 / 0:00
  - Current dB: --
- Sensor Controls:**
  - Video 1:
  - Audio 1:
  - Sense 1:
- Trigger Settings:**
  - Audio (dB):
  - Temperature (\*F): 70
  - Air Pressure (millibars):
  - Air Humidity (%):
  - Buttons: OK, Clear, Algorithms
- Event Log:**
  - Sense 1 Temperature exceeded 70 F at 2020-04-05 20:58:13
  - Sense 1 Temperature exceeded 70 F at 2020-04-05 20:58:12
  - Sense 1 Temperature exceeded 70 F at 2020-04-05 20:58:11
  - Sense 1 Temperature exceeded 70 F at 2020-04-05 20:58:10
  - Sense 1 Temperature exceeded 70 F at 2020-04-05 20:58:09



# Algorithm Upload



# Archives Playback

The screenshot shows a web browser window titled "Data Hub" with the URL `192.99.151.151:5000/archive/56`. The application interface is divided into three main sections:

- Session Selection:** A list of five sessions with timestamps:
  - 04/05/2020 @ 22:07:53
  - 04/05/2020 @ 22:04:54
  - 04/05/2020 @ 21:55:07
  - 04/05/2020 @ 07:45:11
  - 04/05/2020 @ 01:38:40
- Video 1:** A video player showing a dark room with a bed and a window. Below the video, there are two boxes: "Elapsed Time: 00:01:05" and "Archive Time: 04/05/2020 22:08:56". A progress bar is visible at the bottom of the video player.
- Sensor Selection:** A panel on the right with the following controls and data:
  - Sensor Selection:** Checkboxes for "Video 1" (checked), "Sense HAT 1" (checked), and "Audio 1" (checked).
  - Audio 1:** A volume slider set to 0:05 and "Current dB: 0".
  - Sense HAT 1:** Real-time sensor data:

Temperature:	73.2
Air Pressure (millibars):	1013.82
Air Humidity (%):	32.8



# What's left to do?

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- Code Reviews and Refactoring
- Documentation to Allow Project to be Open-Sourced
- Usability Fixes



# Questions?

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