Outline

› Project Background
› Back-End Implementation
› Front-End Implementation
› Job Execution
› Challenges
› Acknowledgements
Project Background

› Create tool to visualize FACS emotion data

Back-End Implementation

› Source code: [Python](#)

› Execution framework: [PySpark](#)

› Graphing library: [plotly](#)
Back-End Features

- FACS data time adjustments
- Data persistence
- Spark cluster integration
- Extensible design of code
- Multiple visualization types
Heat Maps

Student 1 Emotions By Millisecond
Radar Charts
Ribbon Plots
Front-End Implementation

› User interface:

› Server-side PHP scripts interact with user interface:
Front-End Features

› Dynamic data file selection
› PHP built-in web server
› Form validation
› Interactive visualizations
› Export to .png
Error: You have selected too many data files for the Radar Visualization. Please select 1-5 data files and try again.
Steps for Execution
Steps for Execution

1. Data keys selected for processing
Steps for Execution

1. Data keys selected for processing
2. Check local index for existing python object
Steps for Execution

1. Data keys selected for processing
2. Check local index for existing python object
3. If not found, search for match in /data directory
Steps for Execution

1. Data keys selected for processing
2. Check local index for existing python object
3. If not found, search for match in /data directory
4. Process match as python object and write to index
Steps for Execution

1. Data keys selected for processing
2. Check local index for existing python object
3. If not found, search for match in /data directory
4. Process match as python object and write to index
5. Objects converted to spark dataframe for plotting
Challenges

› Cross-platform compatibility
› Limited communication with client
› Unable to map timestamps to deception cues
› Testing on foreign systems
Acknowledgements

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Questions?