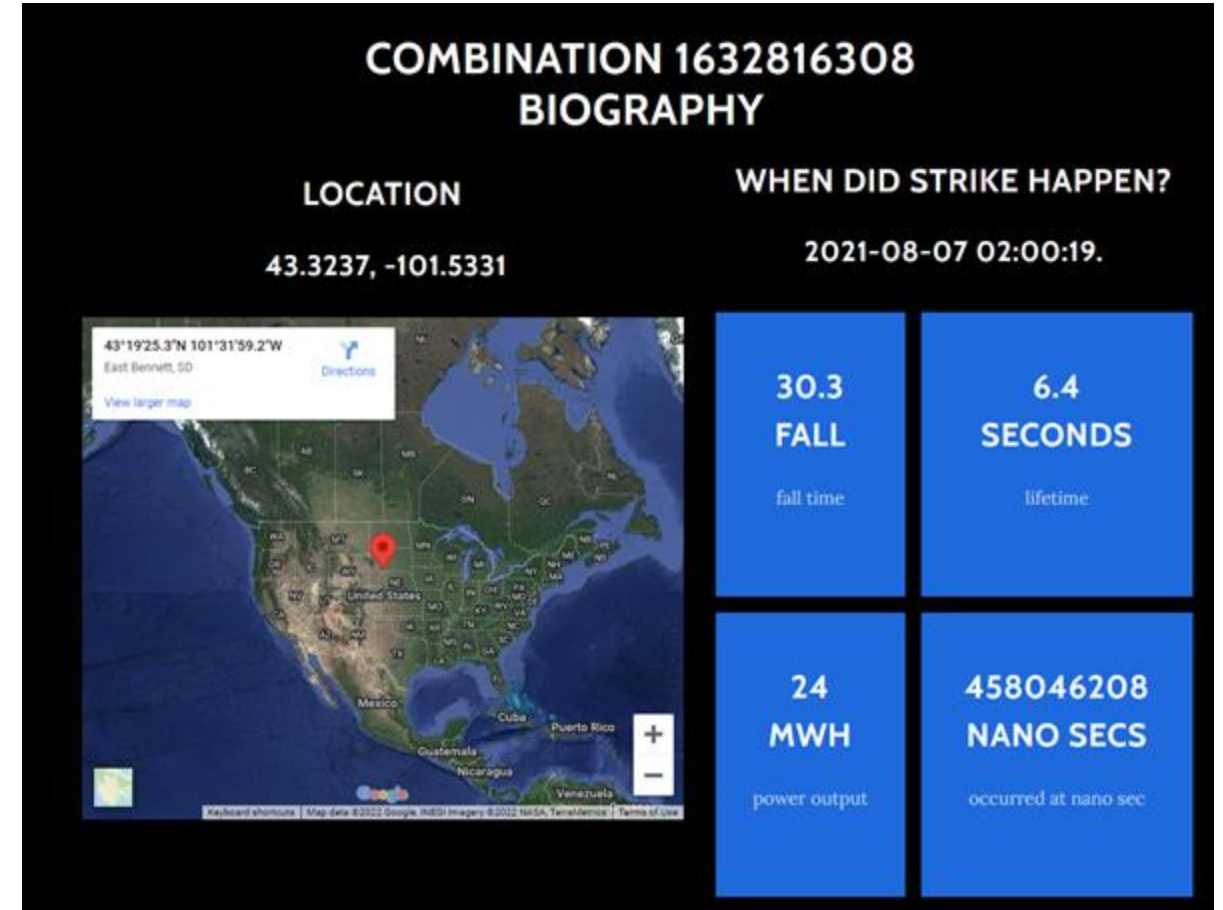
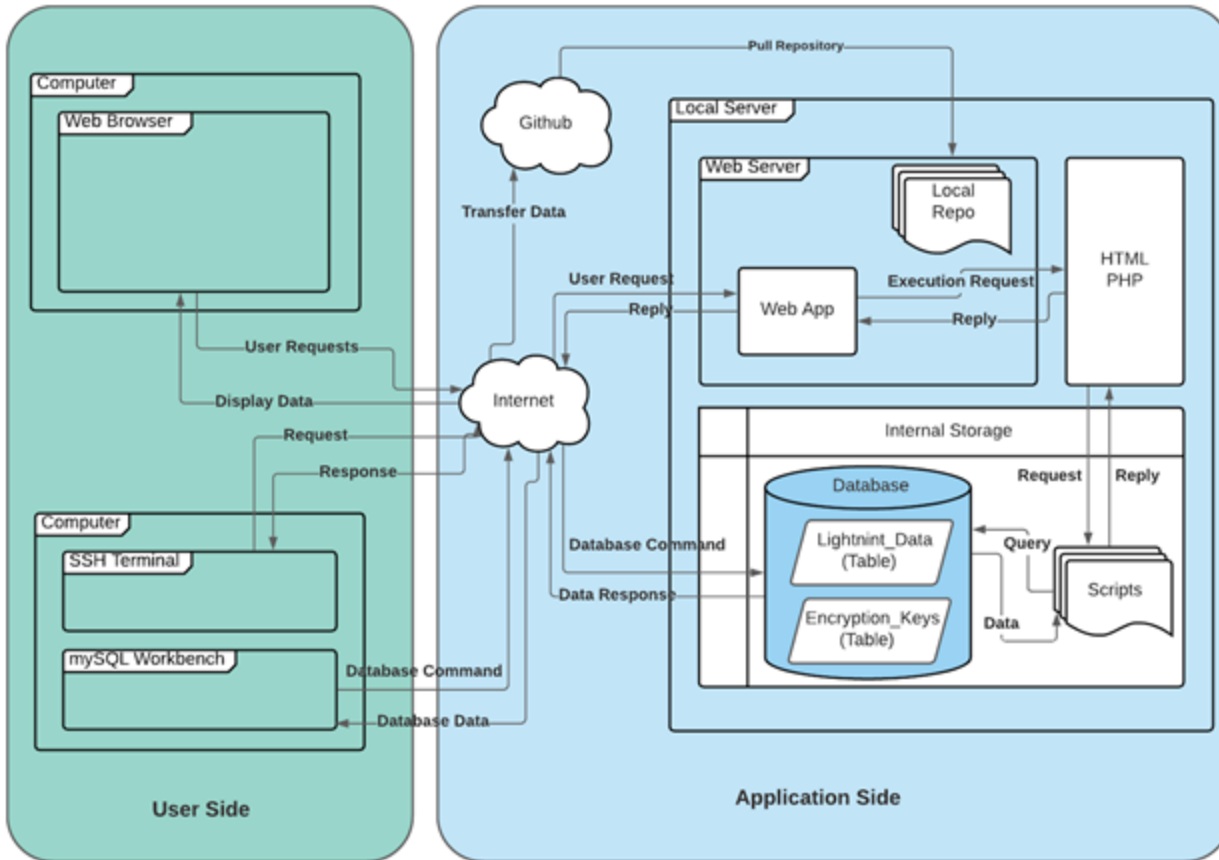


Project Cybersecurity with Lightning data

Present status

Random unique key is generated for encryption



Possible extensions

- Provide our random number generators via a python library instead of a web application. This would allow for easier implementation and use of our generated seed values.
- Include a dropdown list of encryption algorithms to be utilized from our web application that would be seeded by our weighted lightning data.
- Implanting a rolling data base of constantly updating lightning strikes.
- Implementing a rest API for our web application for easier pulling of keys.
- Optimizing key generation process through more in-depth hashing algorithms through the data base as well as implementing a more efficient duplicate key prevention system.

Project
Autonomous Cognitive Agent
Flying Aircraft in Xplane

Intelligent Cognitive Agent for handling contingencies for autonomous aircrafts

- Learning enabled autonomous agents are controlling or coordinating autonomous systems in collaboration with humans to execute day-to-day activities
 - There is a need to characterize the human contribution to safety and identify key safety parameters for agents to address new potential failure modes.
- Agents need to be designed to maneuver both weather, population density for rerouting
 - Extend the present framework by learning pilot preferences based on context to decide which feature to give more weight?

