Project Plan Presentation
Evo Observability Platform

The Capstone Experience

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Project Sponsor Overview

• Mission: Bring visibility, simplicity, and usability to a client’s complex platform

• Four specialized practices:
  ▪ Observability, Security, Data Science & Analytics, and Automation

• Utilizes industry-leading technologies to address business challenges
“Evolutio plans on developing a holistic solution that utilizes contemporary Observability tools and leverages them with APM practices to create a complete tool for their clients”

- Tracing backend
- Trace metric derivation
- Dependency mapping
- Error Tracking and Exception Handling
- Alerts and Notifications
- User-friendly Web Based Interface
Project Design Specifications

• Main page of dashboard allows for:
  ▪ The ability to observe error events
  ▪ Visual organization of the call stack
  ▪ Application process timeline tracking

• A dependency map visualizing the current state of the application

• Application specific settings allowing for the customization of notifications to the user
Screen Mockup: Application Search
Screen Mockup: Home Page Dashboard
Screen Mockup: Dependency Mapping
Screen Mockup: Application-Specific Settings
Project Technical Specifications

- Cloud-based infrastructure provided by AWS
- Kubernetes cluster used for container management
- OpenTelemetry (OTel) central to the data collection process for microservices
  - OTel uses an in-built exporter to Apache Kafka
    - Exports to our database, Apache Druid
- Python Flask utilized for backend framework
- Web interface developed through React framework
Project System Architecture

- Back End
  - OpenTelemetry
  - Kafka
  - Database: Druid

- Web Application
  - Flask
  - Python

- Front end
  - React

- Microservices

- AWS

- Kubernetes
Project System Components

• Hardware Platforms
  ▪ None

• Software Platforms / Technologies
  ▪ AWS – A cloud computing platform that allows easy deployment of enterprise software on remote servers
  ▪ Kubernetes – Used to orchestrate deployment, scaling, and management of our application
  ▪ OTel – Telemetry tool utilized for collecting traces/metrics/logs data
  ▪ Kafka – Used to write and read streams of events, store, and process them
  ▪ Druid – An Online Analytical Processing Database
  ▪ React & Flask – Frameworks for web application
Project Risks

• Risk 1
  ▪ Establishing data pipelines from collector to storage backends
  ▪ Close contact with client’s infrastructure team

• Risk 2
  ▪ OTel is a continuously developed open-source tool
  ▪ Navigating versions of the tool to seek accurate processes

• Risk 3
  ▪ Automating thresholds for sending alerts
  ▪ Find the patterns that system should deem sufficient to send notifications

• Risk 4
  ▪ Processing continuous streams of high volumes of data
  ▪ Flatten and compress the data to the best of our abilities for Druid and seek alternatives (Neo4J)
Questions?