MICHIGAN STATE UNIVERSITY

Project Plan

Ford Mobility Product Metrics

The Capstone Experience

Team Ford

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From Students…
…to Professionals

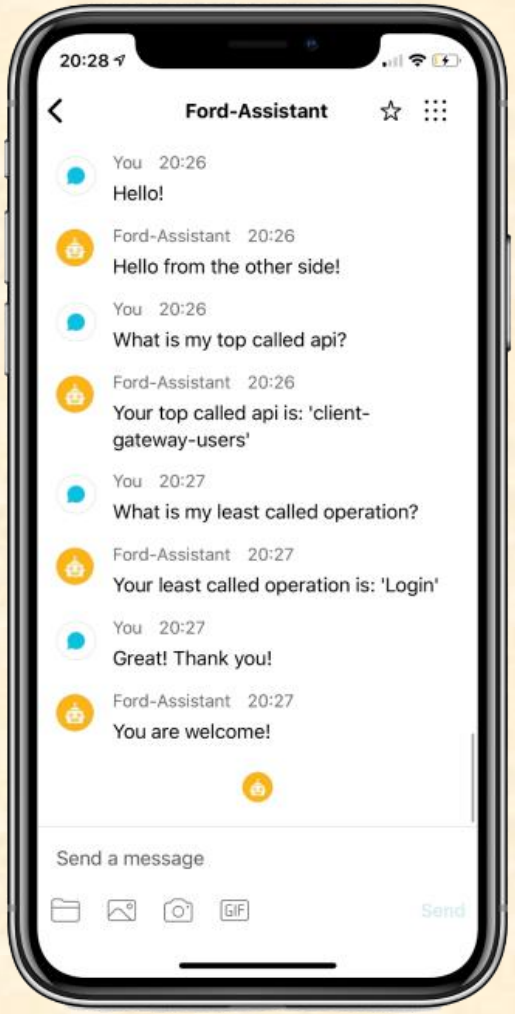
Functional Specifications

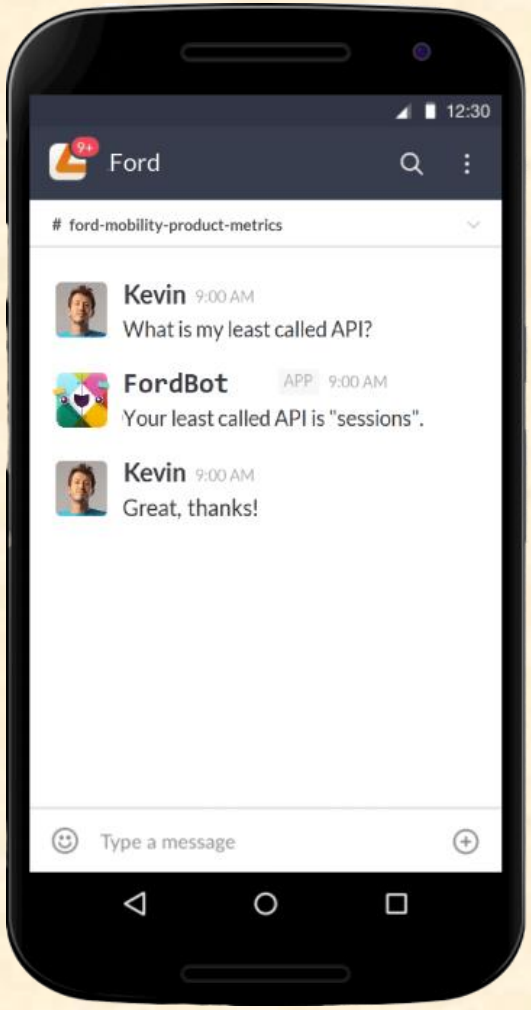
- Deliver Ford developers a convenient way to monitor API and website usage by communicating with a Slack or WebEx Teams chatbot
- Create a pixel tracker to analyze data from tracking pixels on web pages
- Visualize the pixel tracker data to view metrics configurable by product and time periods on a Grafana dashboard

Design Specifications

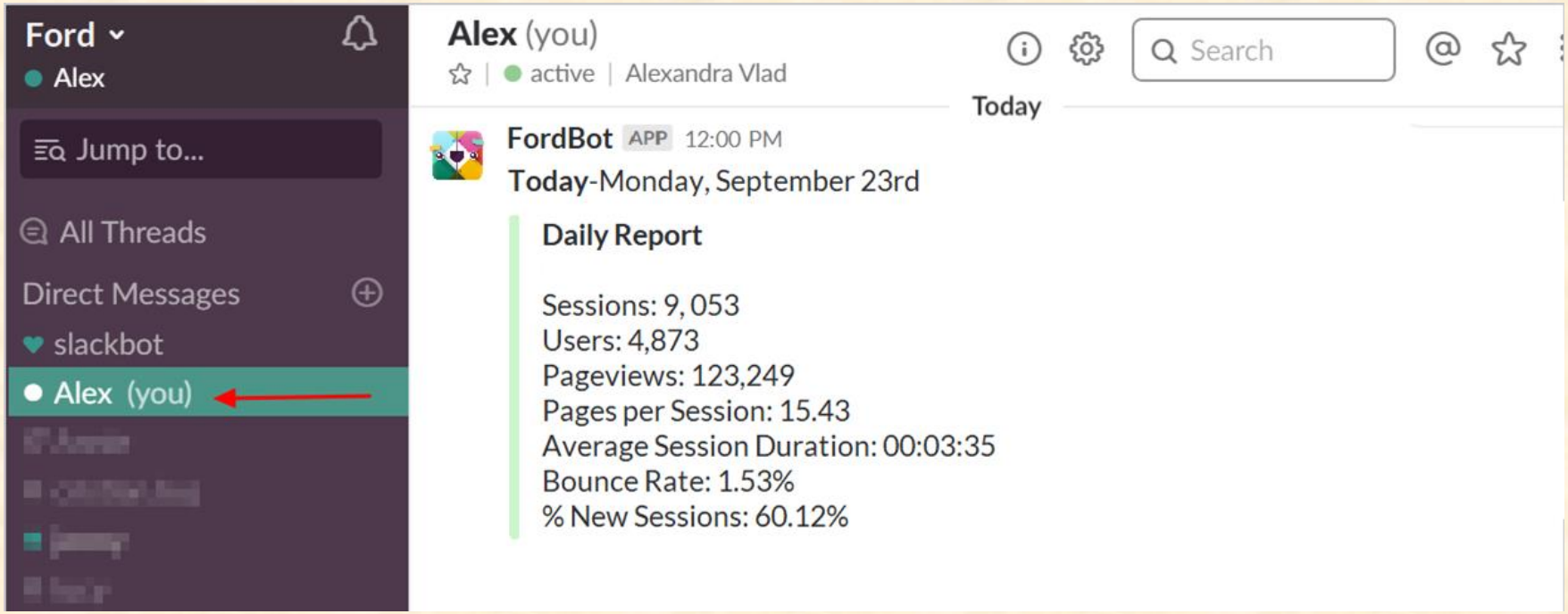
- WebEx Teams & Slack Chatbots
- Pixel Tracker: Analytical tool for tracking pixels
- Metrics Dashboard: Website to display visualized data
- Data Interface: Interface for pulling data from databases

Interactive ChatBot

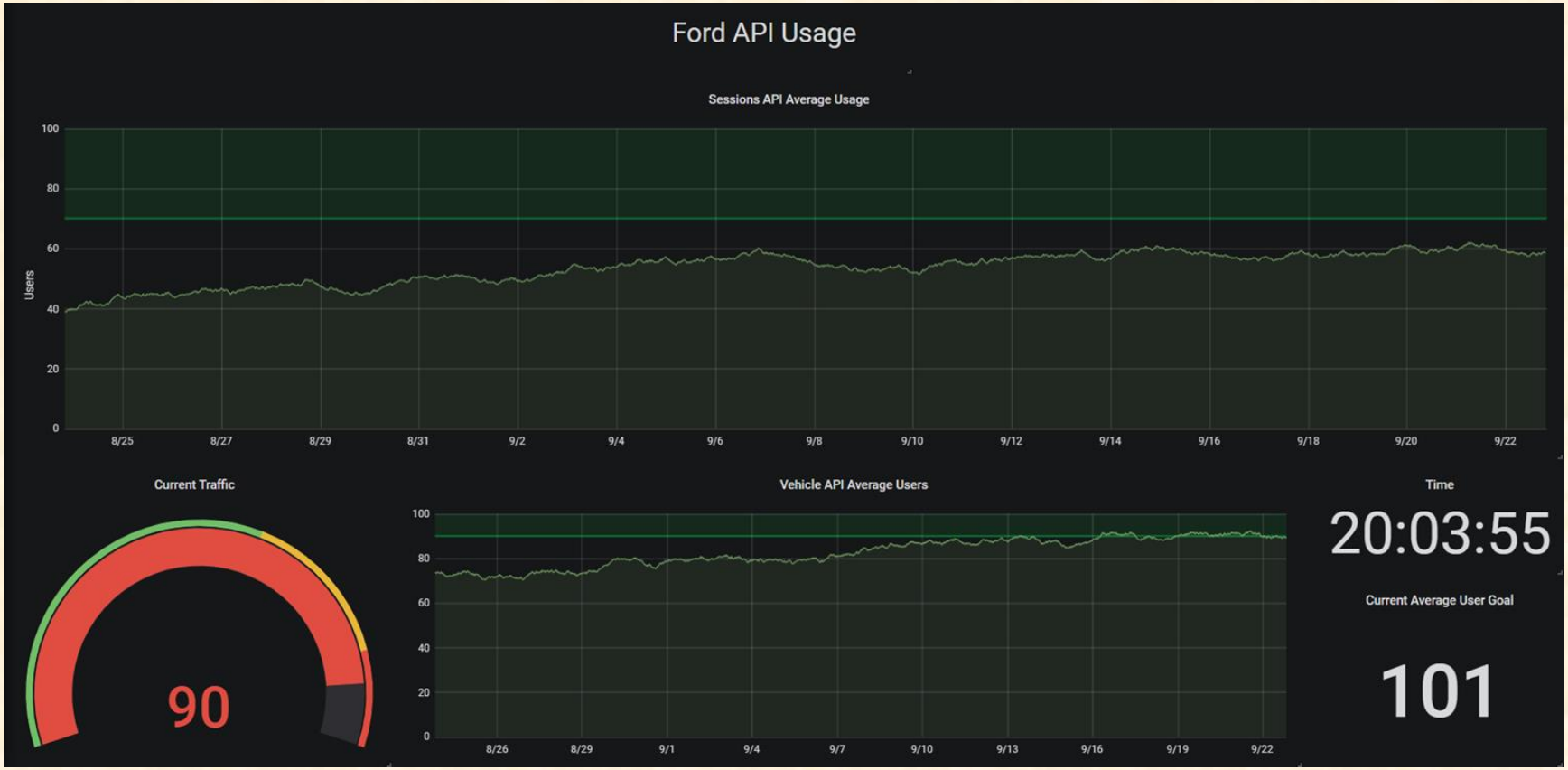




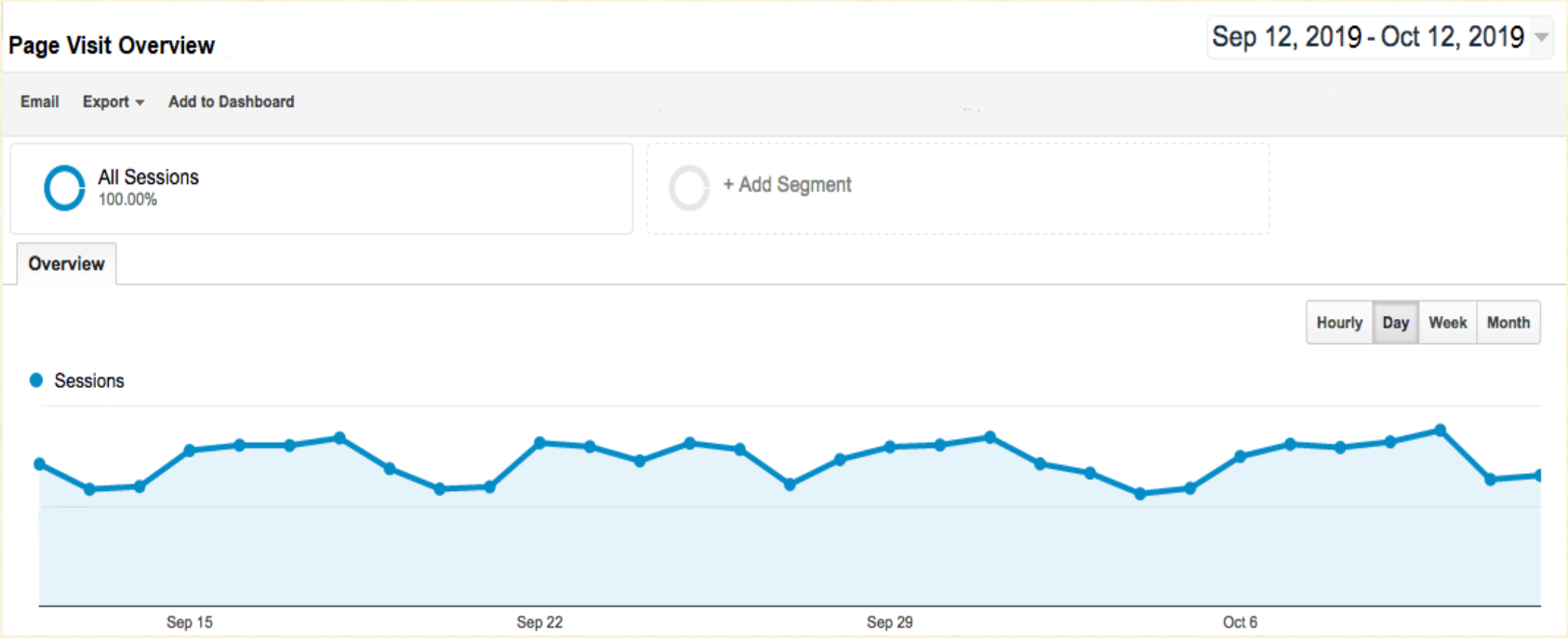
Reports Chatbot



Grafana Dashboard



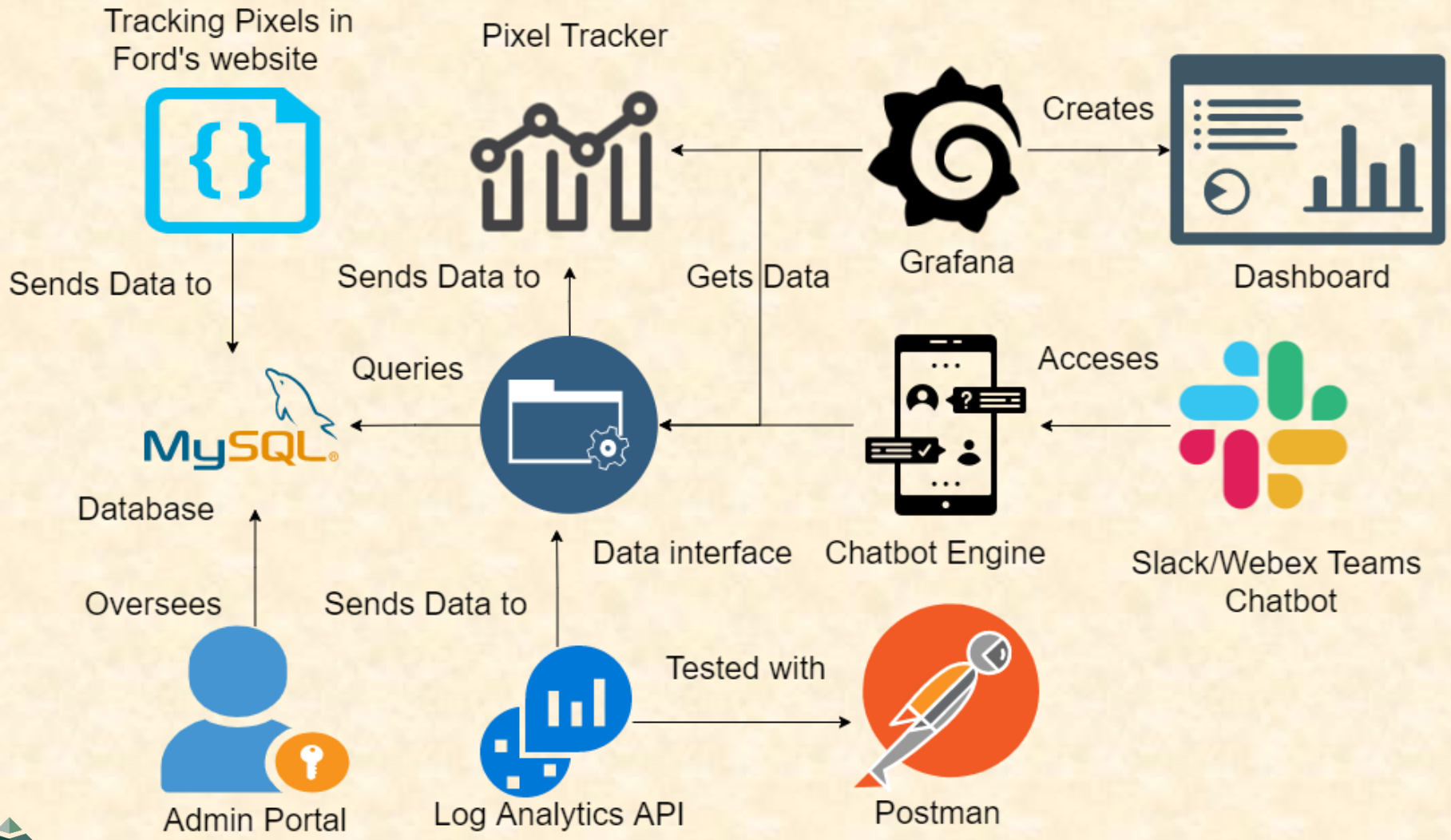
Pixel Tracker Mockup



Technical Specifications

- OpenPixel
- Slack/WebEx Teams API
- Grafana
- MySQL
- Chart.js
- Azure Log Analytics
- Chatbot engine
- Pixel Tracker

System Architecture



System Components

- Hardware Platforms
  - Ubuntu Server(rack)
- Software Platforms / Technologies
  - Ubuntu
  - Azure
  - MySQL
  - MacOS
  - Web platform

Risks

- Risk 1
  - How do we make a chatbot engine?
  - Created a basic chatbot to become familiar with it
- Risk 2
  - The chatbot may not recognize every question the user asks
  - Train and test the chatbot in addition to implementing fuzzy string matching
- Risk 3
  - Collecting bad pixel tracker data (i.e. web crawler)
  - Create a filter to analyze the metadata (i.e. timesamps, UID)
- Risk 4
  - Malicious access of MySQL database through data leaks
  - Create a firewall to limit the IP addresses

Questions?