

MICHIGAN STATE

U N I V E R S I T Y

Project Plan

Ford Mobility Product Metrics

The Capstone Experience

Team Ford

Yangkai He

Weilin Liang

Samuel Wakeman

Romi Yun

Department of Computer Science and Engineering
Michigan State University

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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

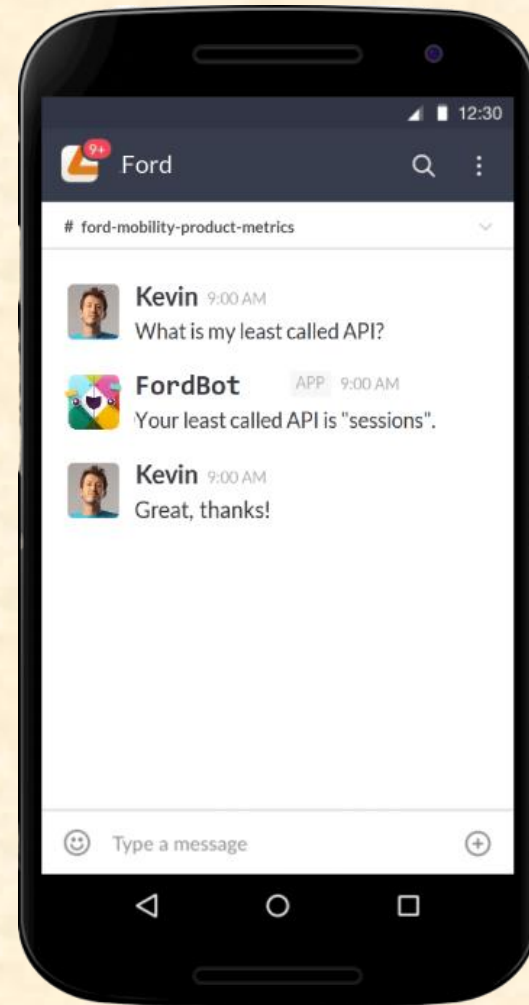
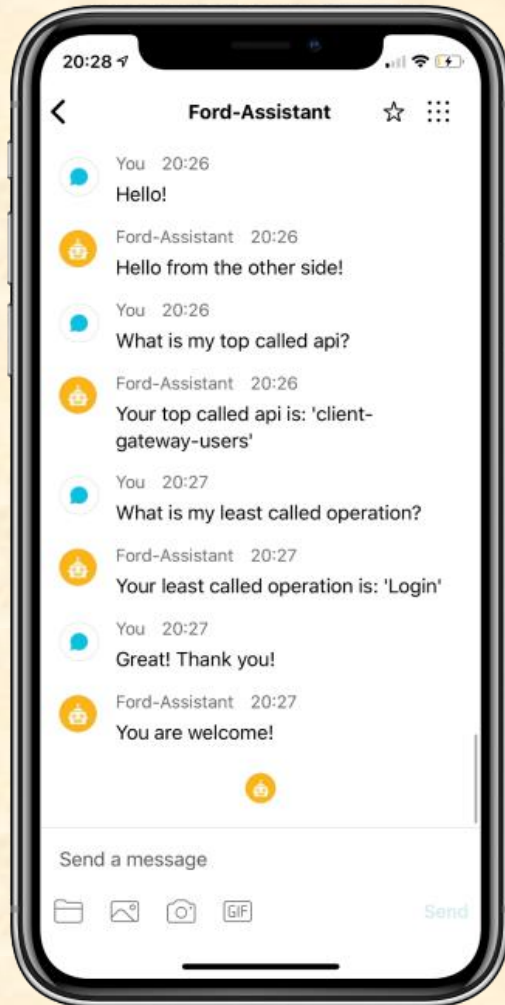


Design Specifications

- 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

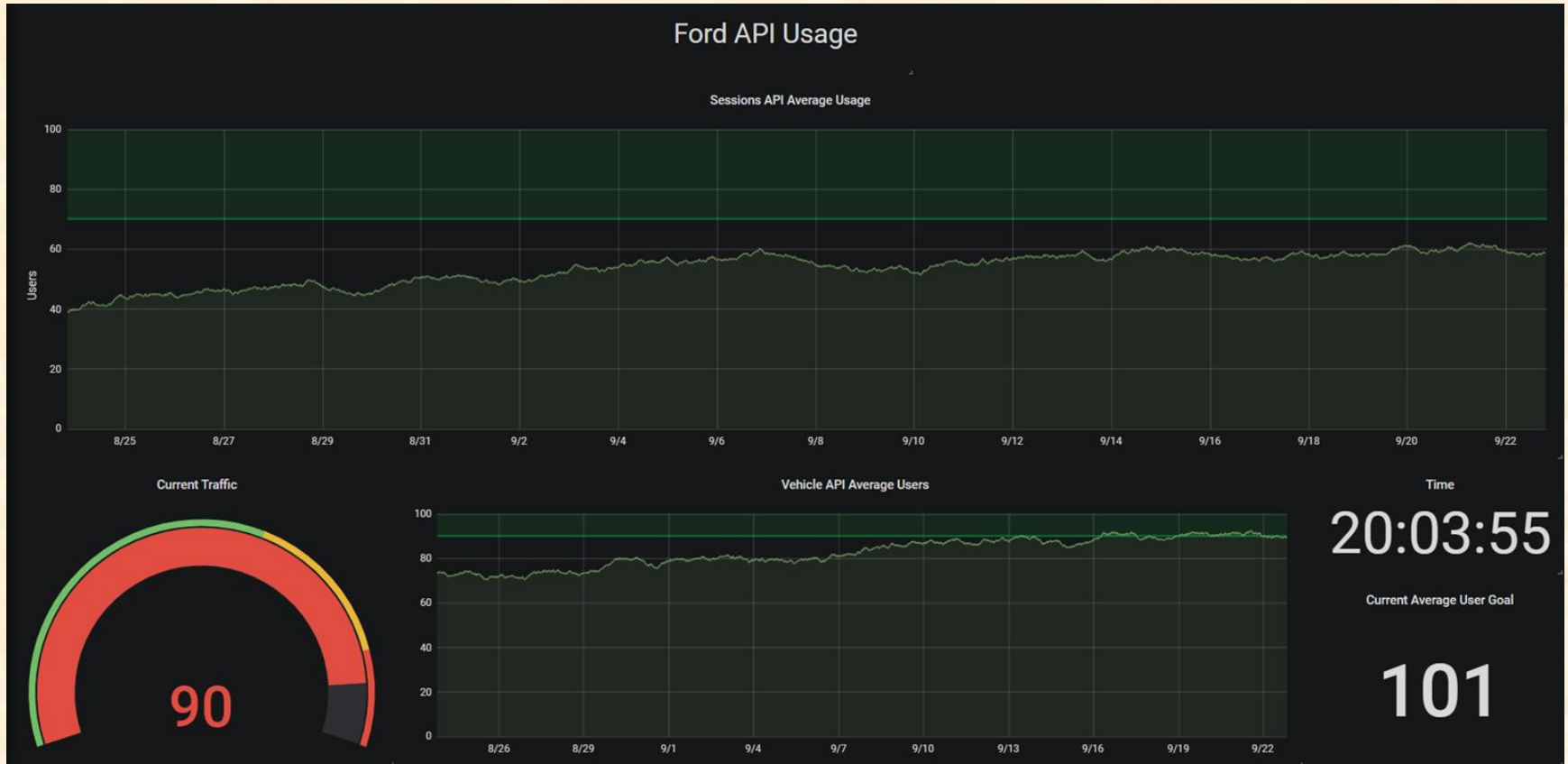
The screenshot shows a Slack chat window. On the left is a dark sidebar with a list of channels. The channel 'Alex (you)' is selected and highlighted in green, with a red arrow pointing to it. The main chat area shows a message from 'FordBot APP' at 12:00 PM. The message content is a 'Daily Report' with the following statistics:

- Sessions: 9,053
- Users: 4,873
- Pageviews: 123,249
- Pages per Session: 15.43
- Average Session Duration: 00:03:35
- Bounce Rate: 1.53%
- % New Sessions: 60.12%

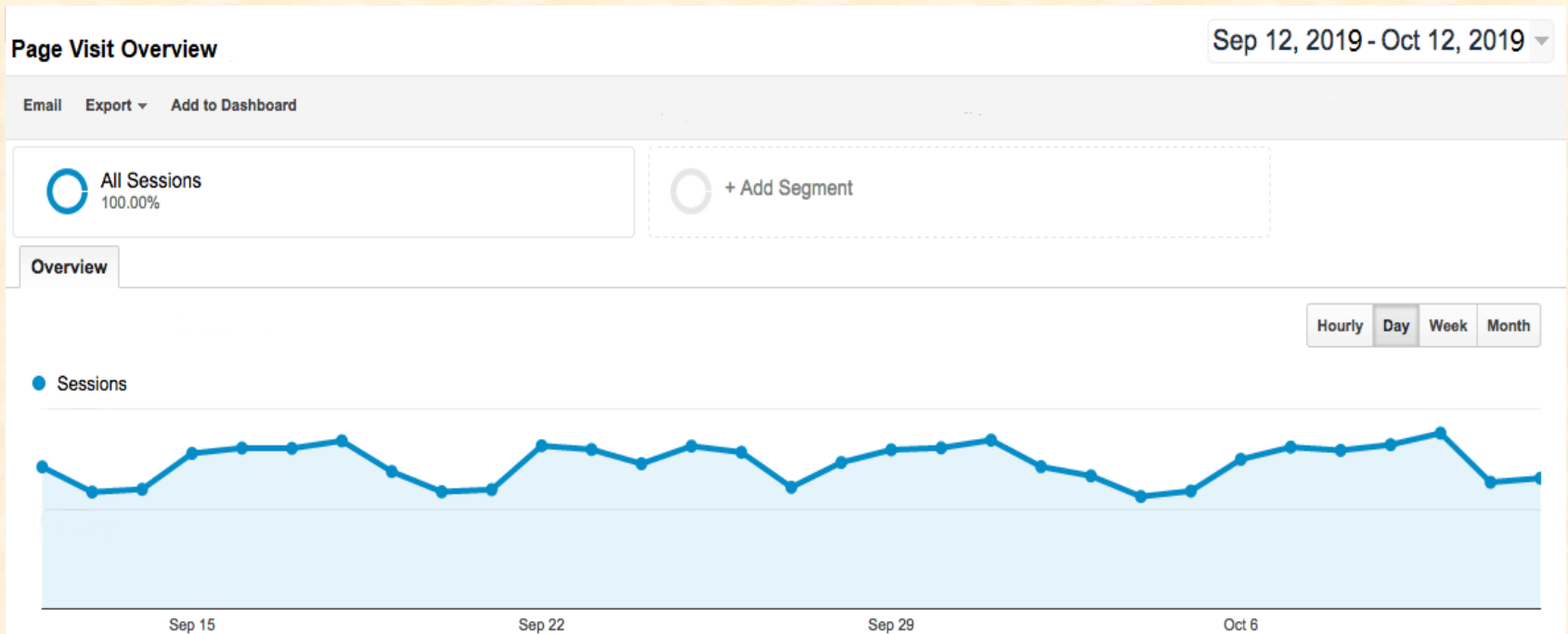
The chat interface includes a top header with the contact name 'Alex (you)', status 'active', and name 'Alexandra Vlad'. It also features a search bar, a 'Today' separator, and various utility icons like info, settings, and search.



Grafana Dashboard



Pixel Tracker Mockup

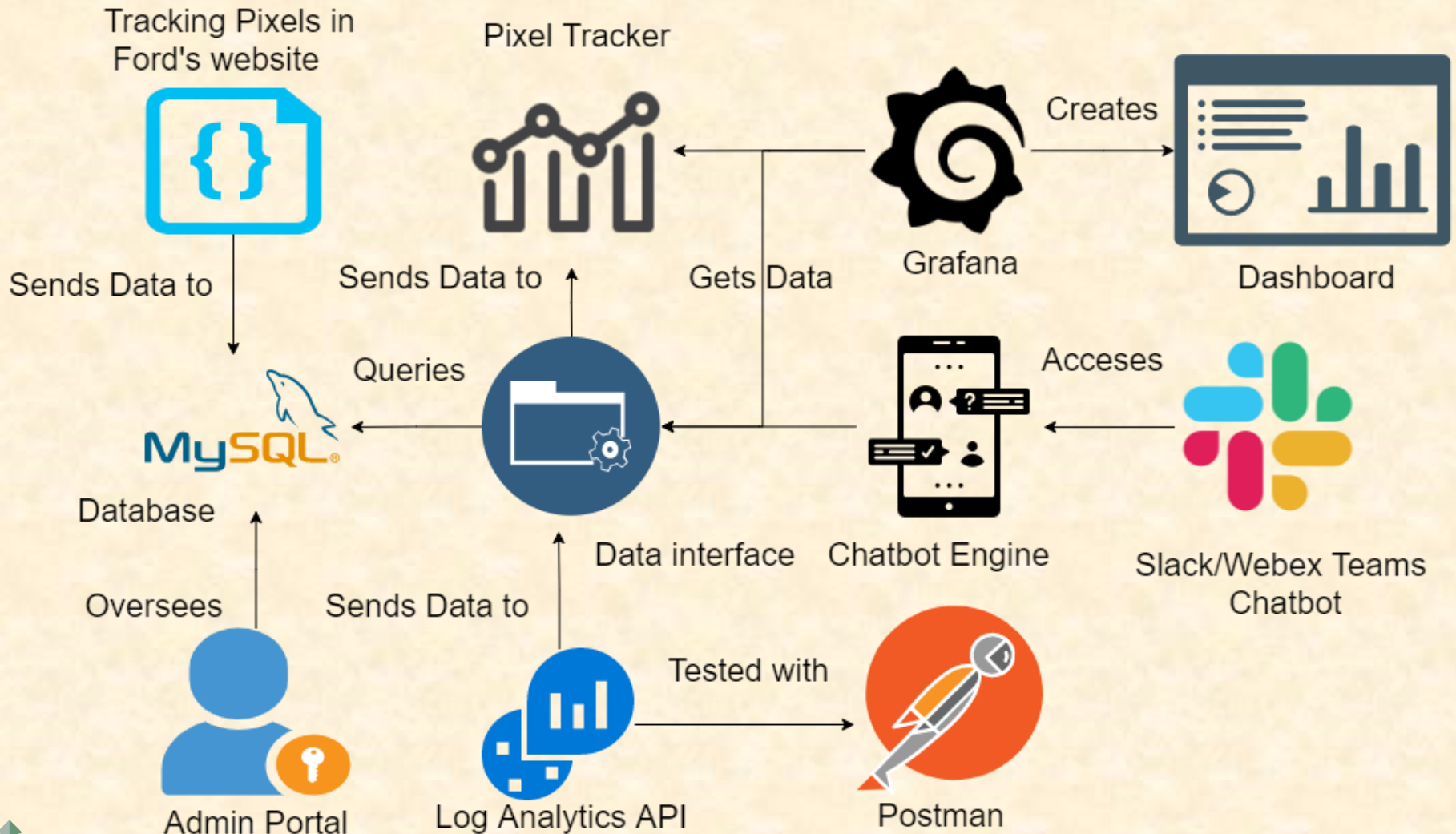


Technical Specifications

- 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?

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