AWS re:Invent

AUT401

Building AR/AI automotive owner applications with AWS

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Agenda

Manuals of today and manuals of the future

Architecture

Demo

Build

Potential improvements

Q&A

Manuals of today and manuals of the future

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“160+ pages, 6+ languages, often black and white, no updates, rarely opened, low-quality paper.”

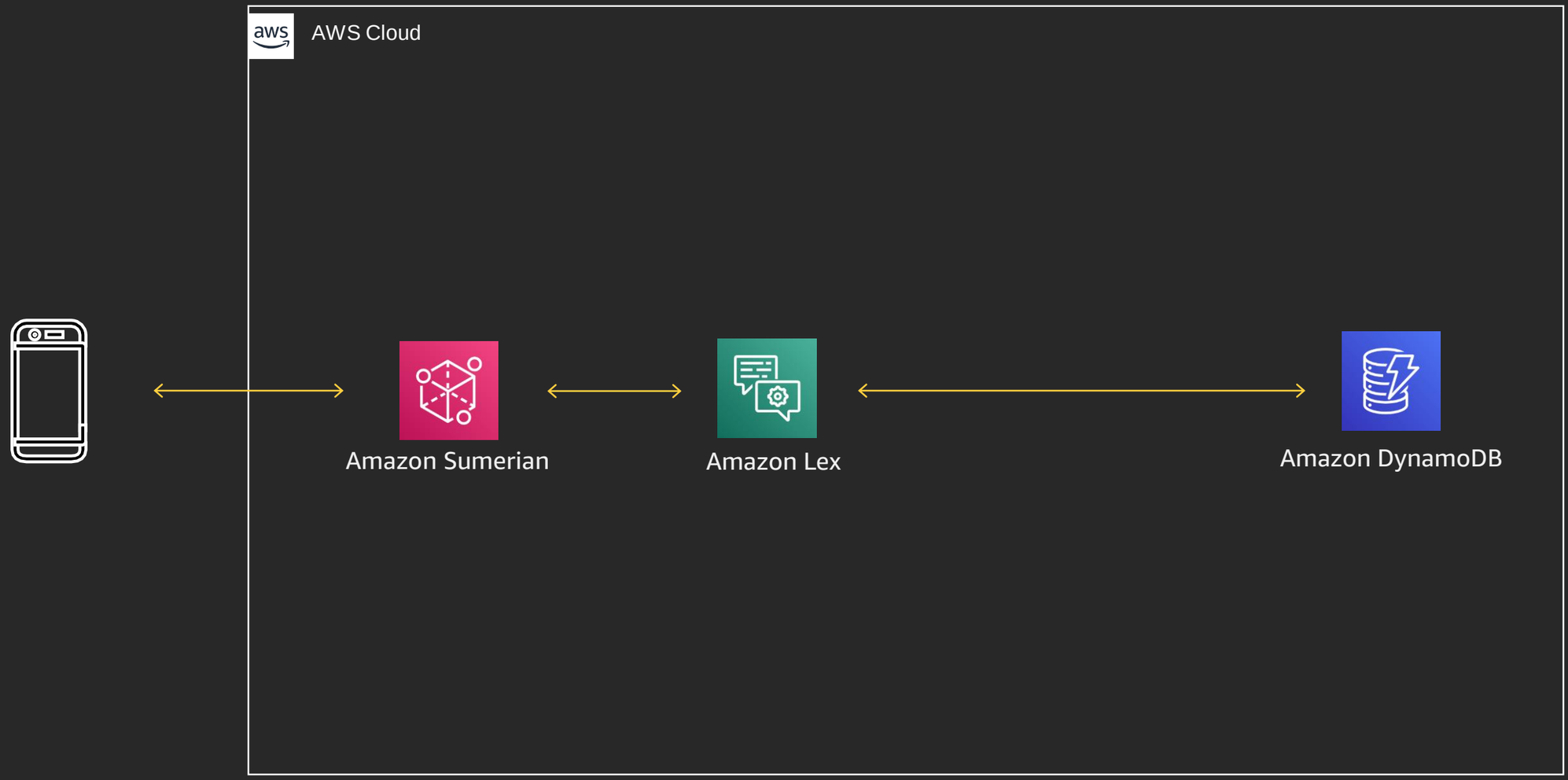
Manuals of today

“Digital experience, spatial and aural, evolving, driving more engagement, connected, pleasure to use.”

Manuals of the future

Architecture

Architecture (builders session)



Demo

Build

Prebuild phase

- Make sure your Google Chrome / Mozilla Firefox browsers are up-to-date
  - Use your wireless/wired mouse (optional step)
- Download AWS CloudFormation template, Sumerian bundle and Lex export
  - https://github.com/miromasat/ARsteering (detail instructions included as well)
- Launch AWS CloudFormation template into us-east-1 (N. Virginia) Region
  - After successful deployment, make sure to record the information generated by the stack, from the outputs tab
- Import Lex bot to us-east-1 (N. Virginia) Region
  - Upload the exported bot (.zip) into the Lex Console
  - Set up Lambda function in the fulfillment section to `ARsteering` function, that was provisioned previously
  - Build, Test and Publish the Lex bot under an Alias (recommended alias: `latest`)
- Create an empty Sumerian scene in us-east-1 (N. Virginia) Region
  - Drag and drop the bundle file (.zip) into assets panel to bring assets into the scene
  - Set up Amazon Cognito identity pool and Amazon Lex bot, according to the outputs obtained from AWS CloudFormation stack launched previously

Build phase

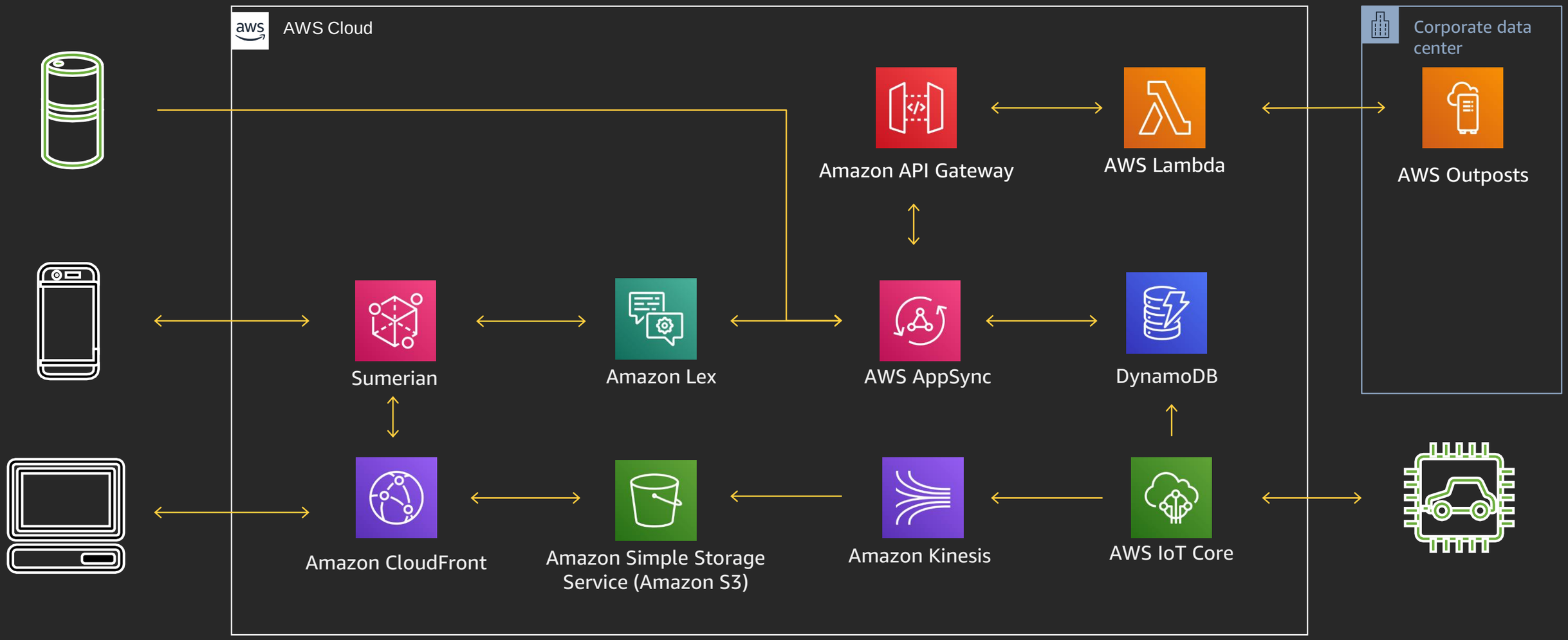
- Follow along to reach objectives:
  - Familiarize yourself with the editor, entity panel, state machines, panel of components and scripts
  - Explore the 3D model of the steering wheel provided in the bundle, its hierarchy
    - Customize accent color of the steering wheel (optional)
    - Customize highlight color of the guide/manual (optional)
  - Understand the main Sumerian state machine that performs steps according to retrieved DynamoDB document
  - Explore both interactions
    - Clicking/tapping interaction to perform steps
    - Voice interaction to perform steps
  - Add a new manual function (Alexa function) and verify it functions correctly within the application
  - Add more functions (optional)
  - Deploy and test
  - Do not forget to delete all AWS CloudFormation stack, Sumerian scene as well as Lex bot, after this builder's session, if you do not wish to show/work on the project further. Not deleting these resources might result in incurring costs on your AWS account going forward.

Potential Improvements

Potential improvements

- Markerless experience
  - Positioning the manual onto a real steering wheel without the need of any markers (no QR code required)
- End-to-end experience
  - Plugging in the data/information from the vehicle
  - Plugging in the data/information from CRM/sales/maintenance systems
- Multi-device experience
  - Consuming the manual from the web/desktop
  - Consuming the manual over Alexa-powered devices
- Multi-language/locale-specific experience
  - Translating the manual based on the audience
  - Tailoring the manual based on the audience

Potential improvements



Q&A

Related breakouts

ARV203 Create digital twins using AWS IoT Core and Amazon Sumerian

Related demos

Sumerian developer lounge, Deloitte AR truck manual

Thank you!

Miro Masat

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