aws INNOVATE

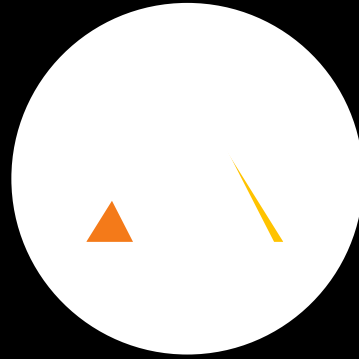MODERN APPLICATIONS EDITION

20 October, 2022

Visually build and ship full-stack web apps using Amplify Studio

Arun Balaji
Prototyping Architect
AISPL

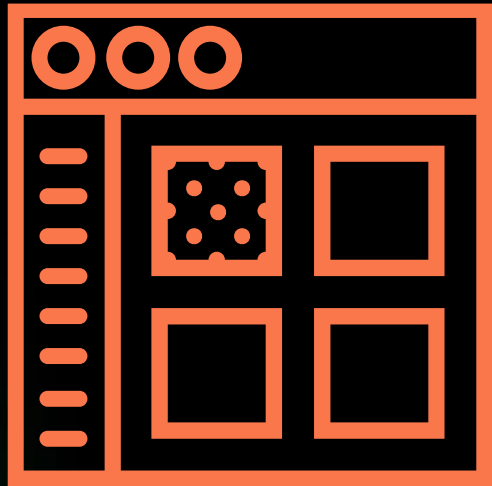Sathish Hariharan
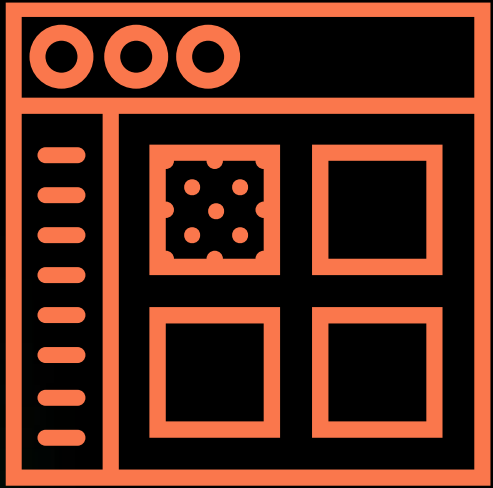Solutions Architect
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Agenda

How AWS Amplify is making it easy for front-end developers to go from idea to production-ready app **fast**

Front-end development

Front-end developers build what users see

Front-end development

14M web developers

10M mobile developer

Types of apps: The '90s to Today

1990s   Static content with hyperlinks

2000s   Social media, feature-rich sites such as Facebook and YouTube

2007   Apps were born – feature-rich and performant using device context

2010
to now   Web apps – responsive, performant, feature-rich

What led to this improvement?

- Frameworks such as React popularized single-page apps

- Browser became more powerful – faster, IndexDB, caches

- Cloud computing – storing data and leveraging cloud services made it easier to build scalable apps

- End user expectations from web applications match native mobile applications

How have these changes impacted the responsibilities of a front-end developer?

Full-stack app

Backend							Front-end
Database	Servers	Server-side languages	API	Frameworks	JavaScript	CSS	HTML

Full-stack app

| Backend | | | | | | | Front-end |

| Database | Servers | Server-side languages | API | Frameworks | JavaScript | CSS | HTML |

Serverless

Node – JavaScript in the front end and back end

GraphQL allows front end developers to query/mutate data

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Full-stack app

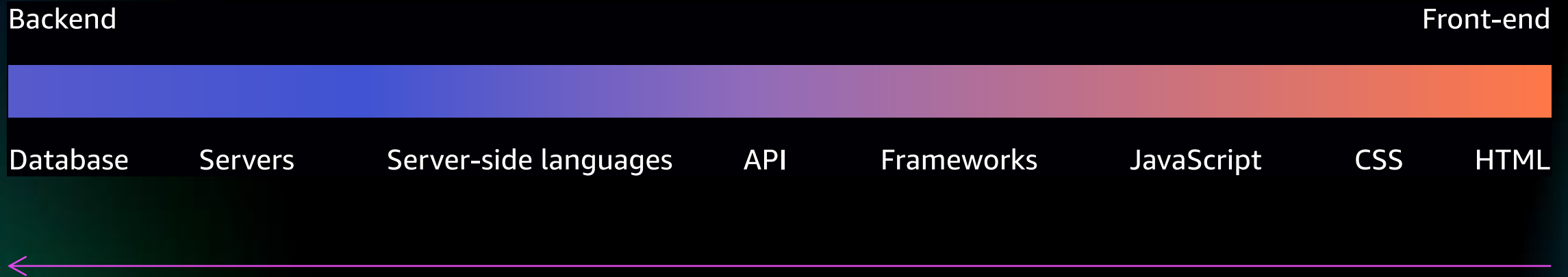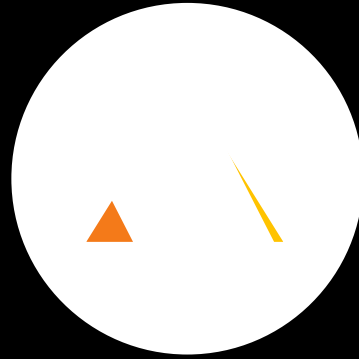| Backend							Front-end
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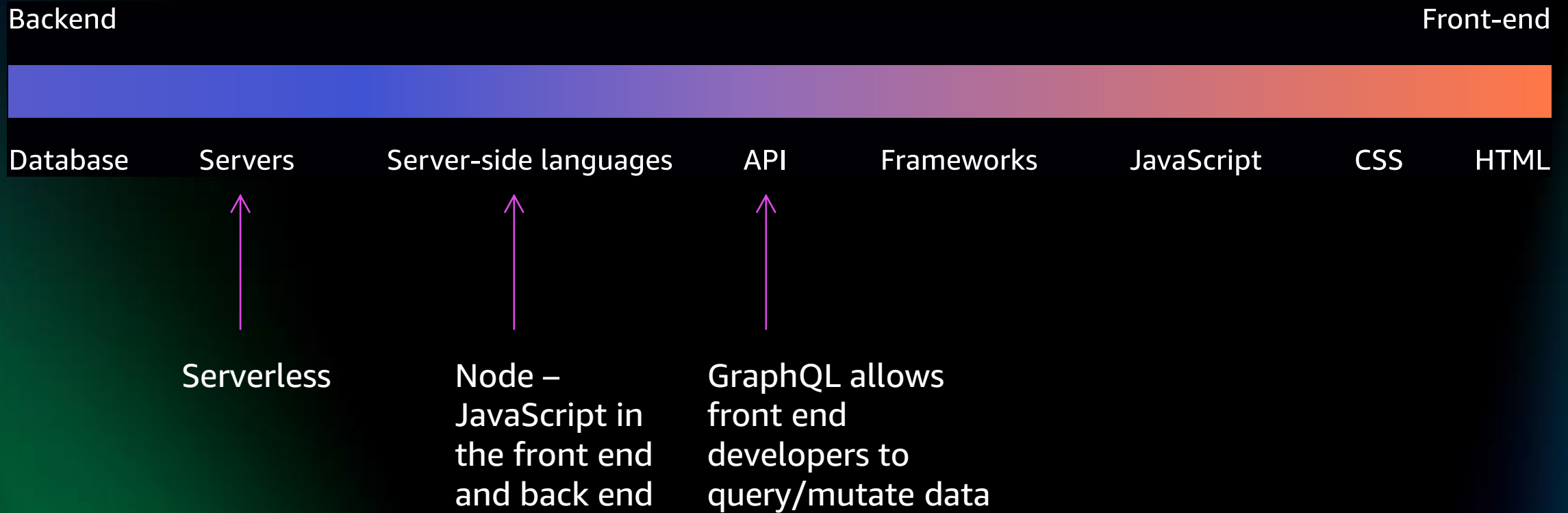
Front-end developers are increasingly responsible
for building full-stack functionality

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We built Amplify to make it easy for front-end developers
to build full-stack apps

AWS Amplify provides tools for front-end developers to build, ship, and scale their app

Build

Configure AWS backends fast

Seamlessly connect front ends

Ship

Deploy your app front end and backend

Scale

Use CDK to override, add, and export resources
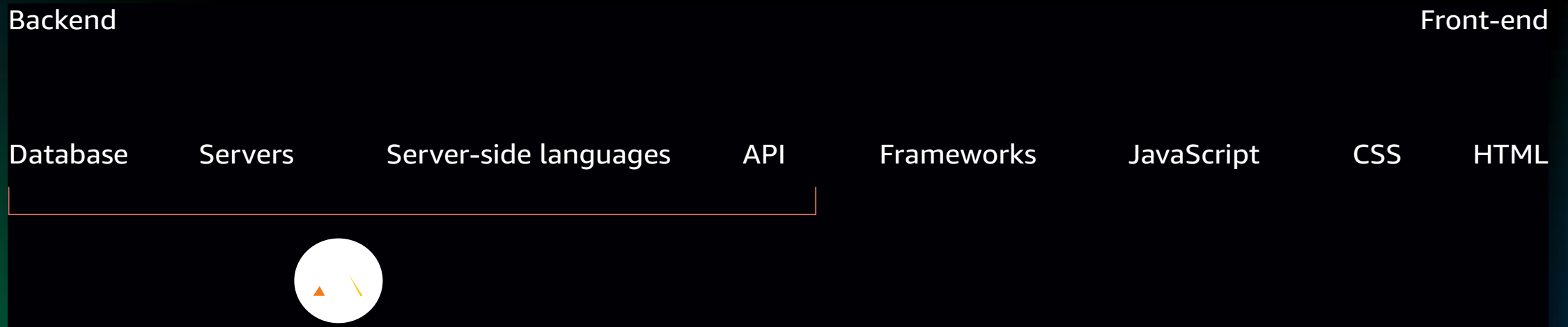
Build and manage app backend

- Model data and relationships to set up a GraphQL API

- Set up authentication, authorization

- Set up file storage

- Extend with CLI toolchain to add functions

- Manage app data, files, users, and groups

Until now, our focus has been to help front-end developers accelerate building and connecting to an app backend

Backend   Front-end

Database   Servers   Server-side languages   API   Frameworks   JavaScript   CSS   HTML

Front-end developers also tell us that building UI is time-consuming and a manual process

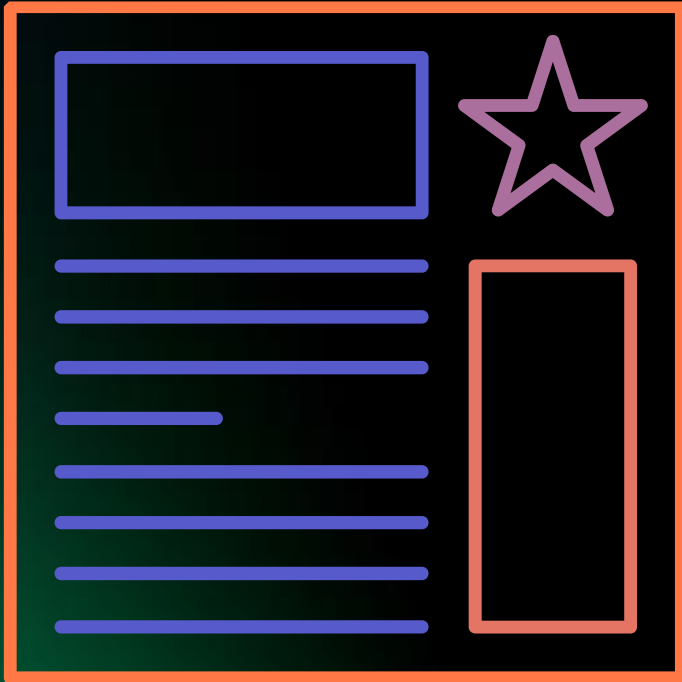| Backend							Front-end
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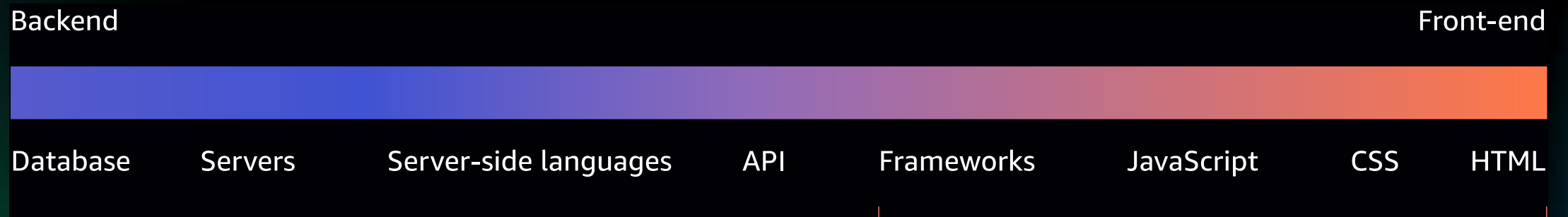
Product development workflow

Product manager + UX designer → UI designs
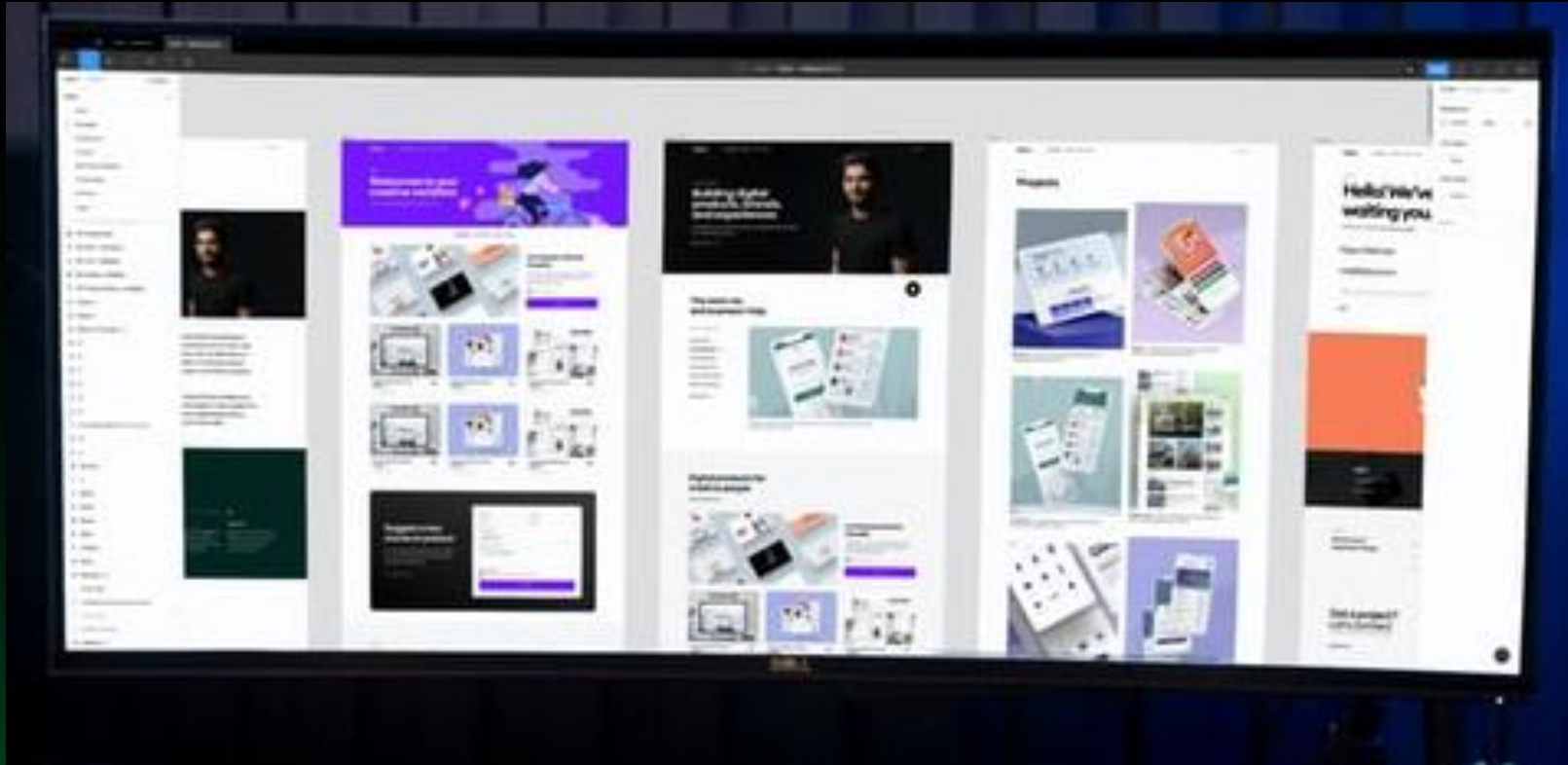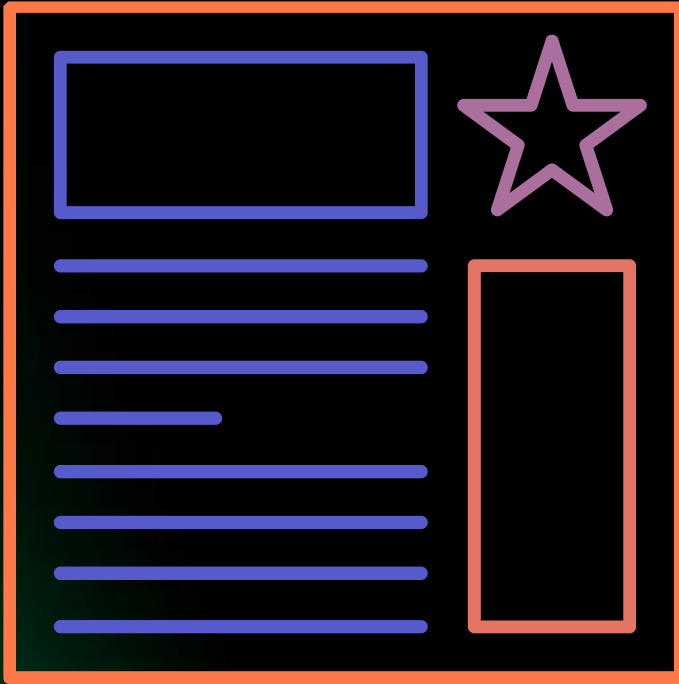
Product development workflow

UI designs → developers → code

- Rationalize UI designs into components
- Lay out components
- Bind UI to data
- Write custom logic

Product development workflow

UI designs vs. actual product

UI designs

Actual product

How do you solve this?

Option A: Build solution that enables designers to take control end to end

Option B: Build solution that enables developers to take charge end to end
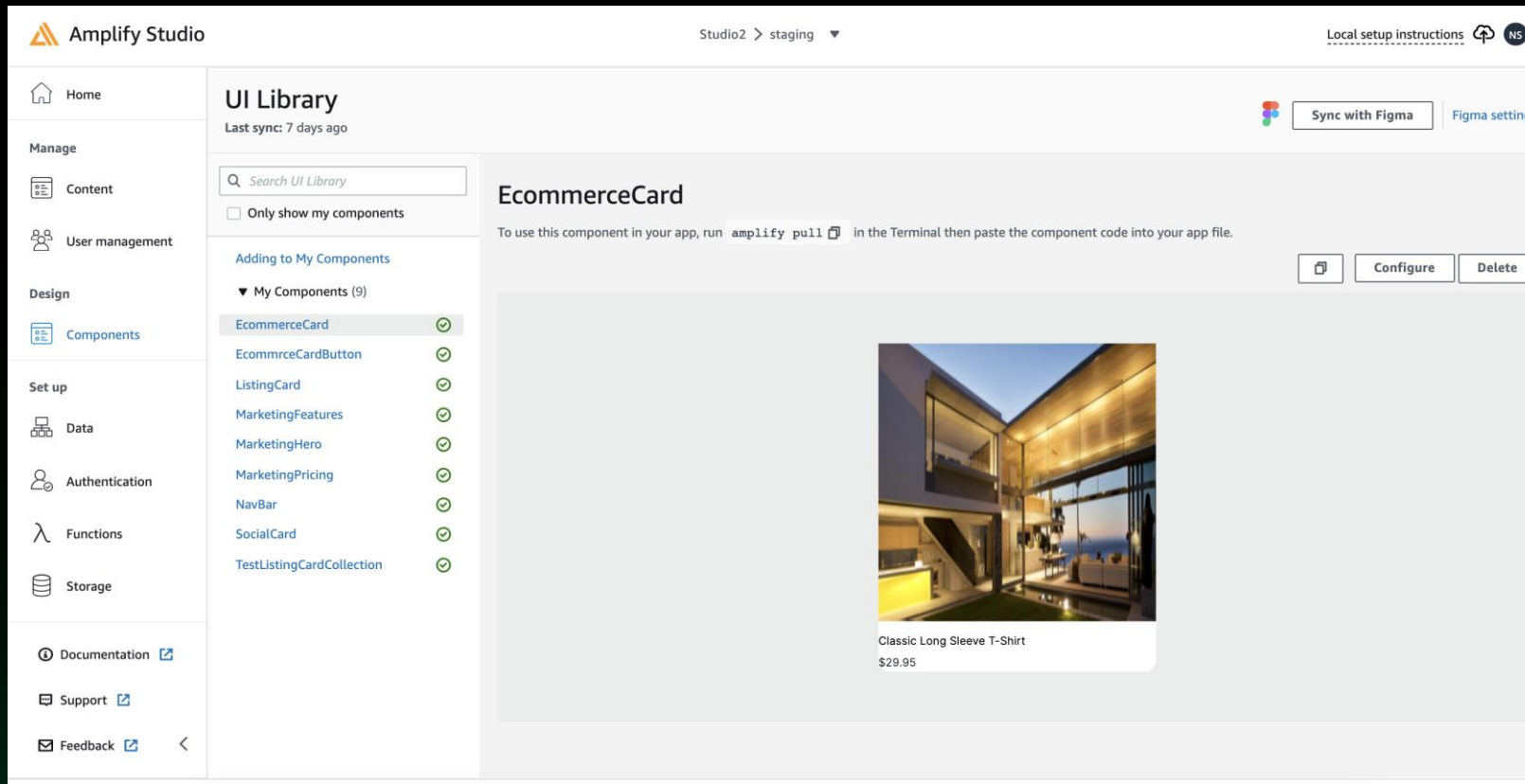
Neither work

Different skillsets

Need

A solution to help facilitate the designer-developer handoff, ensuring that developers incorporate pixel-perfect UI designs
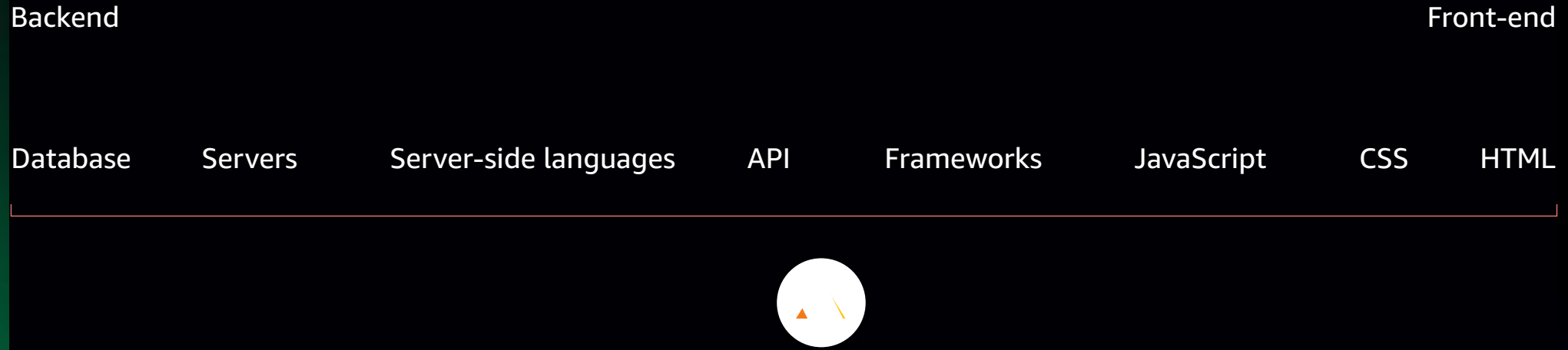
Amplify Studio

Visually build complete, feature-rich apps in hours instead of weeks, with full control over the application code
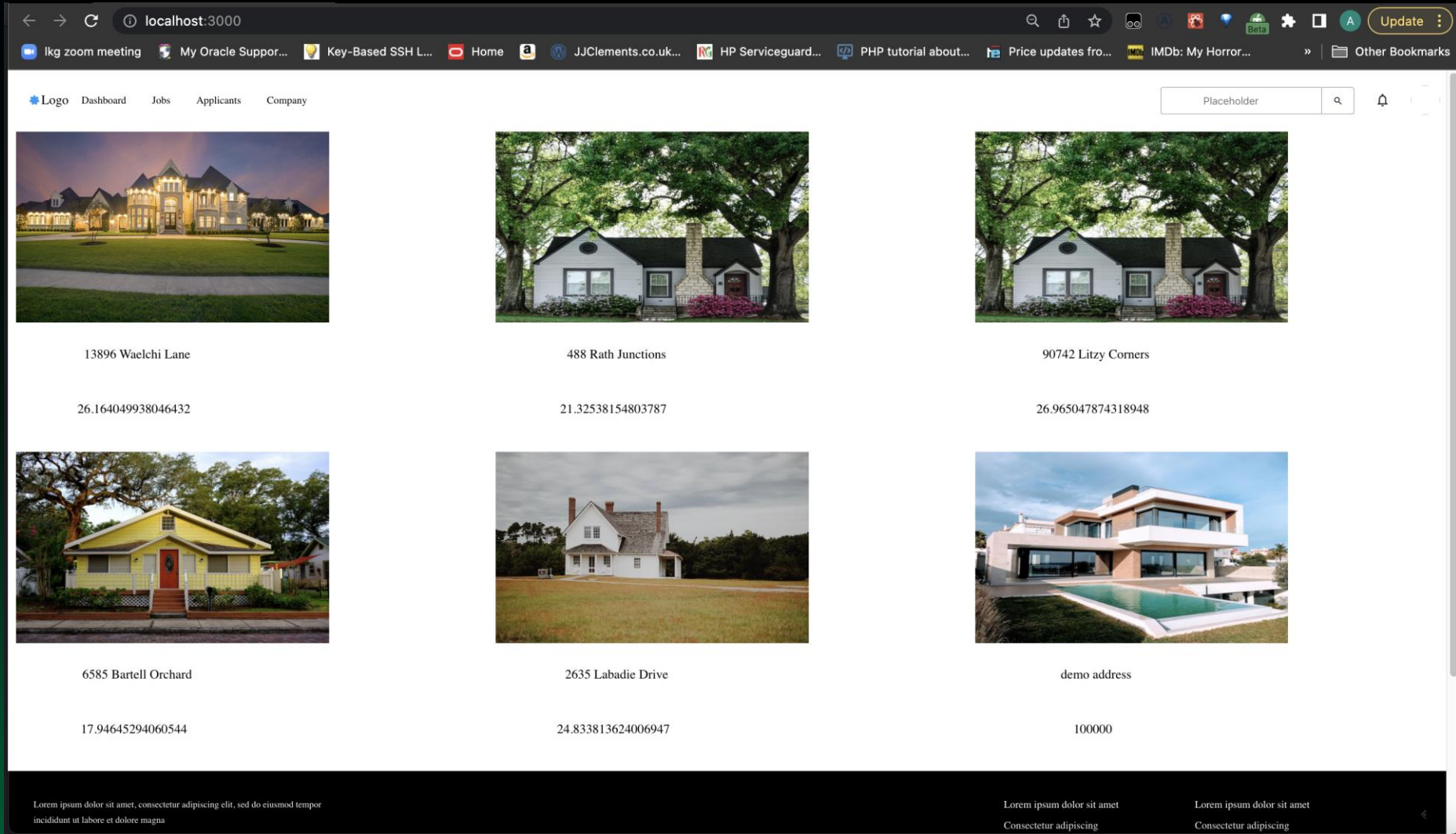
Amplify Studio

Accelerates full-stack development by handling all heavy lifting required to set up UI components, a backend, and connecting the two together

Backend							Front-end
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Example : Demo app

High level steps

1. Build app backend

2. Create data model and auto generate data using Amplify studio

3. Design your UI components in Figma

4. Import them into Amplify studio and connect with the data model

5. Import the amplify studio generated components into your react app

6. Customize the components

Voila – The web application is ready !!

Demo

Key Takeaways

- Building pixel-perfect webapps needs UX designers and Fullstack developers working together

- Design / Wireframes are built in tools that are designer friendly

- Developers use IDE and Frameworks to develop UI designs

- Need to translate designer intention to perfect designs in Web frameworks

- Amplify Studio solves this need by translating designs in Figma to React web components

Next steps / Resources

- Try building web app yourself by referring here

- Customize the AWS amplify studio generated code

- Amplify resources
  - Discord: https://discord.com/invite/amplify

  - GitHub: https://github.com/aws-amplify

  - Community: https://amplify.aws/community/

- Experience AWS Amplify's capabilities - workshop

Visit the Modern Applications resource hub

Dive deeper with these resources to help you develop an effective plan
for your modernization journey.

- Build modern applications on AWS

- Business value of cloud modernization

- An introduction to event-driven architectures

- Accelerate full-stack web and mobile app development

- Determining the total cost of ownership: Comparing serverless and server-based technologies

- Building event-driven architectures with AWS

- Continuous learning, continuous modernization

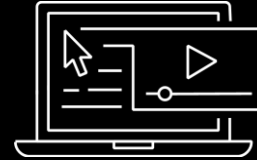https://tinyurl.com/modern-apps-aws

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