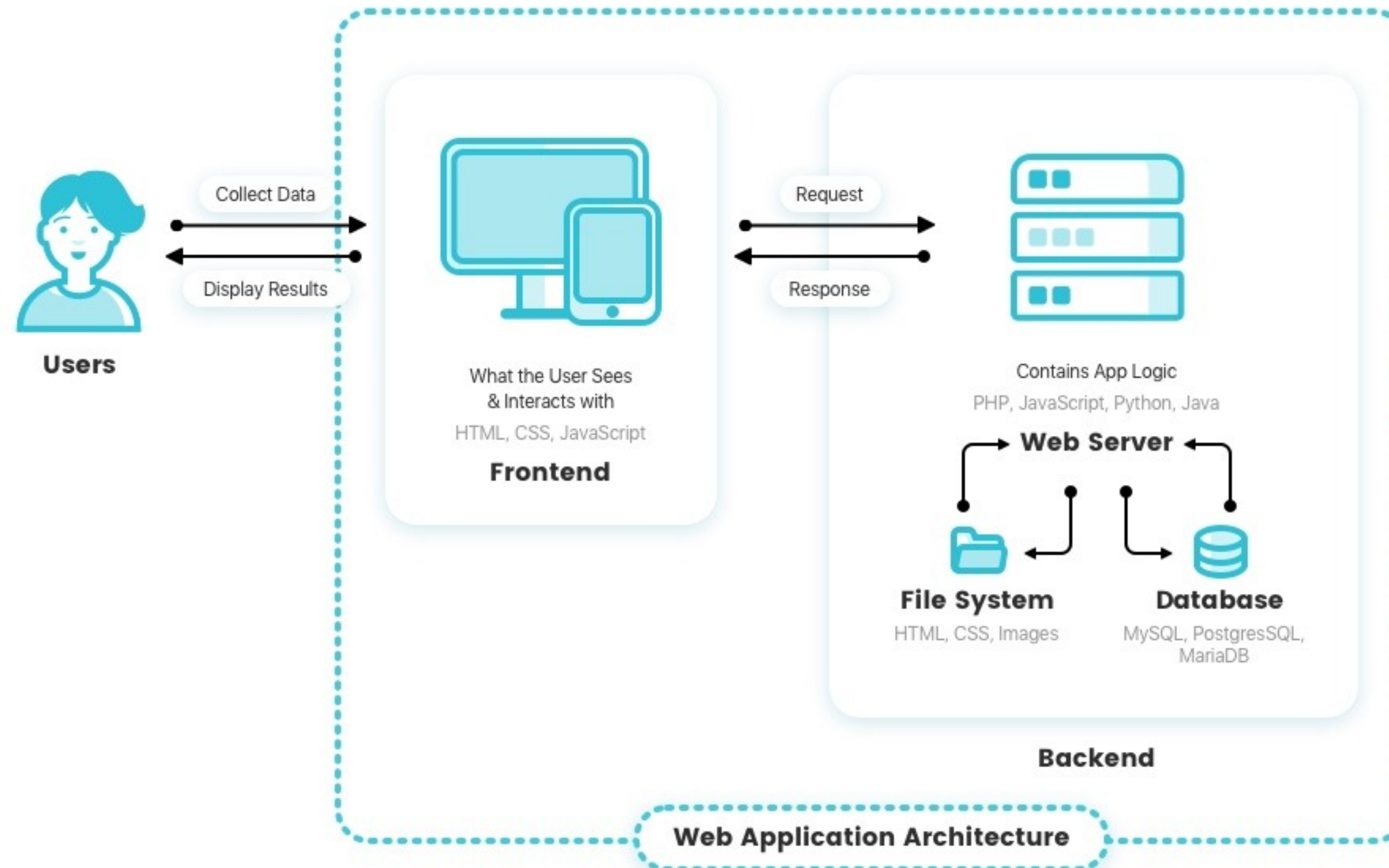


# Building the Web App

**A Summary**

# Overview



# Choose...

- ☐ a Frontend Library
- ☐ a Runtime
- ☐ a Web Framework
- ☐ a Database



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# Frontend Library/Framework

- Client-side JS libraries to simplify DOM interaction
- Go with what you know, o/w pick React

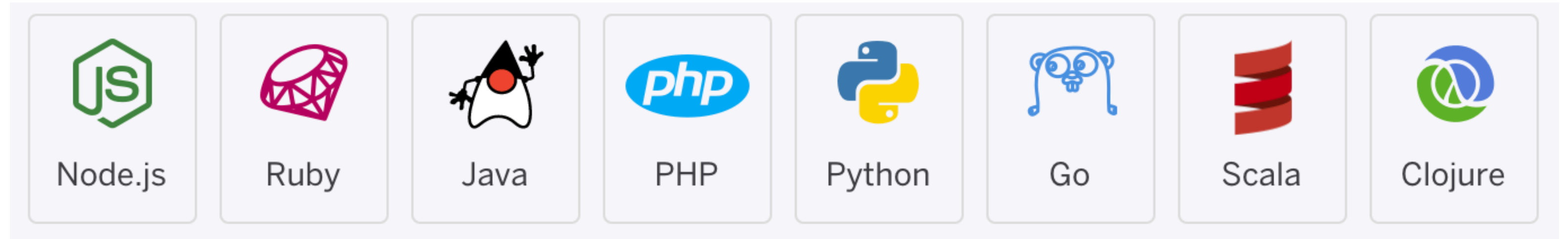


# Choose...

- ✓ a Frontend Library
- ☐ a Runtime
- ☐ a Web Framework
- ☐ a Database



# Runtime



<https://www.heroku.com/>

- Language Implementation that executes code and is present at run-time
- Choose what you're comfortable with or what you're already using
- Heroku Docs



<https://cloud.google.com/appengine>

# Deployment

- Server Instance: EC2, GCE, DO Droplets
- Containers (Docker/K8S): EKS, GKE
- Web Platforms: **Heroku**, Beanstalk, AppEngine
- Serverless: **Vercel (aka Zeit)**, Netlify



# Choose...

✓ a Frontend Library

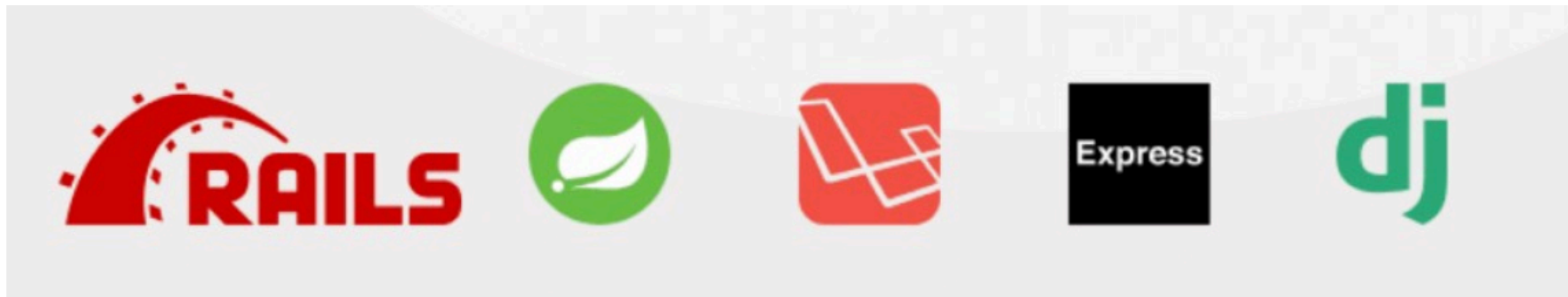
✓ a Runtime

☐ a Web Framework

☐ a Database

# Web Framework

- Javascript: Express, NextJS
- Python: Flask, Django
- Ruby on Rails, Spring, etc.

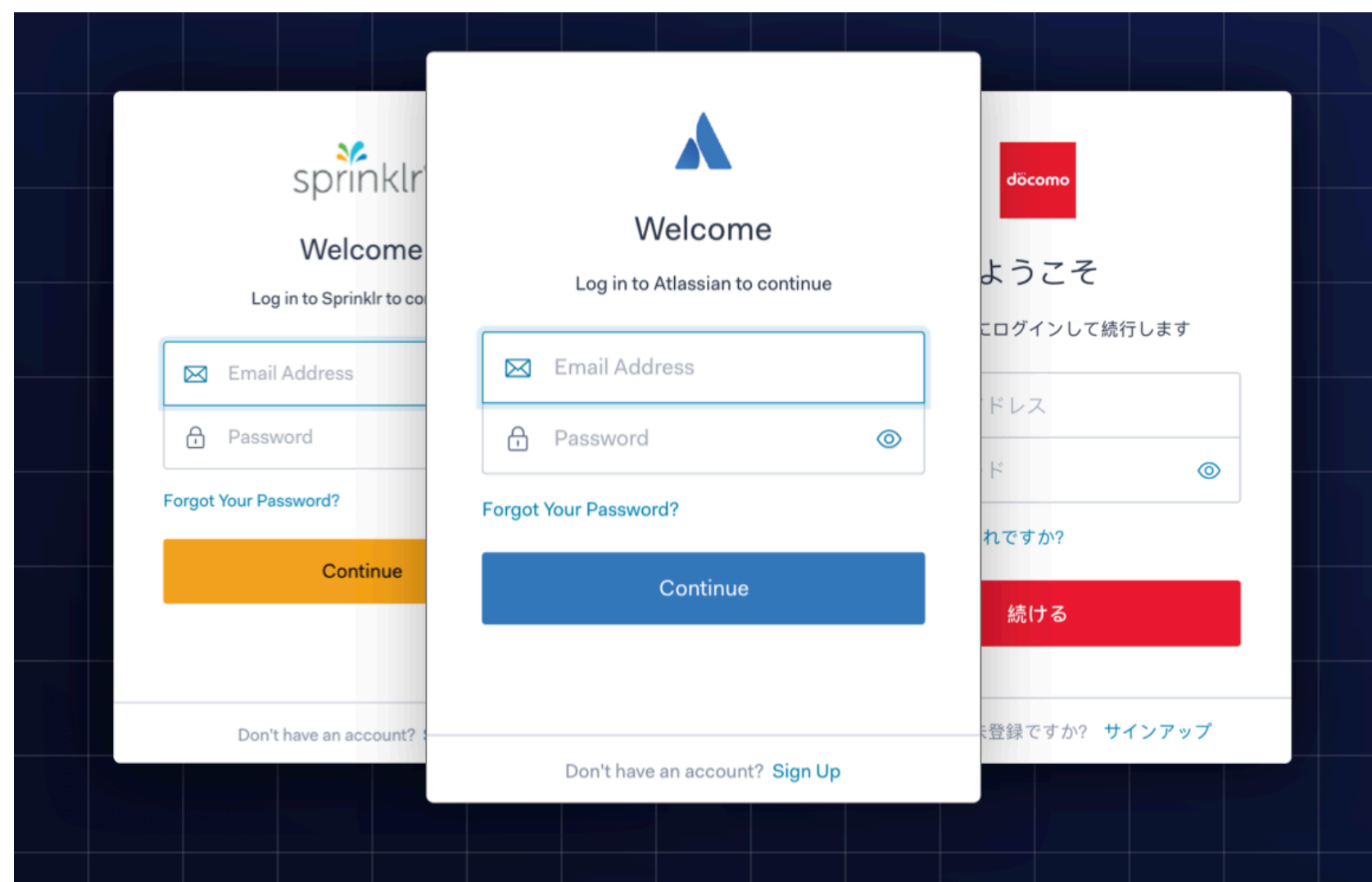


# Choose...

- ✓ a Frontend Library
- ✓ a Runtime
- ✓ a Web Framework
- ☐ a Database

# User Management

- Build it yourself
- Libraries defaults (Django Auth, PassportJS)
- 3rd Party (Firestore Auth, Auth0)



Auth0

**FirestoreUI Demo**

**You are signed out.**

Configuration

reCAPTCHA mode for Phone Auth: ☒ Normal ☐ Invisible  
Email signInMethod: ☐ Password ☒ Email Link

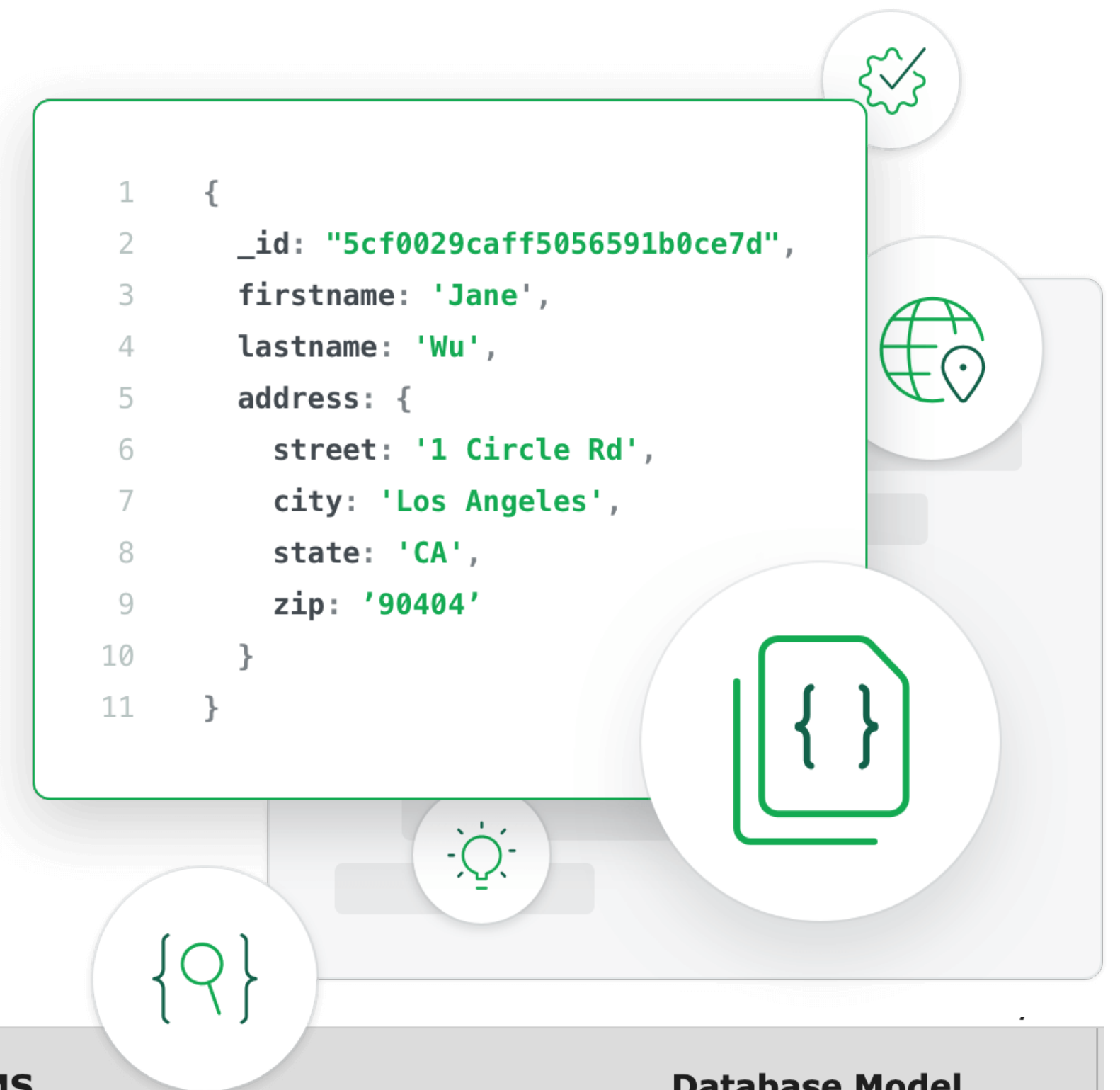
**Single Page Application mode:**

By continuing, you are indicating that you accept our [Terms of Service](#) and [Privacy Policy](#).

<https://firebase.google.com/docs/auth/web/firebaseui>

# Database

- NoSQL: Firestore, Mongo\*
- Relational: PostgreSQL
- Choose Document Stores\*\*



Rank			DBMS	Database Model
May 2020	Apr 2020	May 2019		
1.	1.	1.	Oracle +	Relational, Multi-model ⓘ
2.	2.	2.	MySQL +	Relational, Multi-model ⓘ
3.	3.	3.	Microsoft SQL Server +	Relational, Multi-model ⓘ
4.	4.	4.	PostgreSQL +	Relational, Multi-model ⓘ
5.	5.	5.	MongoDB +	Document, Multi-model ⓘ
6.	6.	6.	IBM Db2 +	Relational, Multi-model ⓘ
7.	7.	7.	Elasticsearch +	Search engine, Multi-model ⓘ
8.	8.	8.	Redis +	Key-value, Multi-model ⓘ
9.	9.	↑ 11.	SQLite +	Relational
10.	10.	↓ 9.	Microsoft Access	Relational

\*seems to have free credits for Covid

\*\*unless you know you need RDBMS and/or know how to use it

<https://db-engines.com/en/ranking>

# Choose...

- ✓ a Frontend Library
- ✓ a Runtime
- ✓ a Web Framework
- ✓ a Database



# Demo

- React, Node, NextJS, Mongo
- Deployed on Vercel
- Auth0 User Management