CodeKarin

Overview

Our product seeks to provide a teacher-driven computer programming education platform that allows users total anonymity in communication and grading. The purpose of this software is to provide educators the ability to assign students both in class programming contests that are graded on a time-to-completion basis and to facilitate both guided and collaborative communication about programming and computer software. This product was initially designed to be used in university Intro to Programming classes where the professor recognized students were hesitant to participate due to a perceived lack of knowledge of the topic. In any situation, asking questions can be beneficial, and this platform will provide students the ability to ask their peers and professors questions without the fear of negative reflection on their knowledge or understanding.

Problem

Use Cases and the Use Goal Diagram

Technologies Used



Container Diagram



Layered Architecture



System Architecture





Data Layer

DynamoDB

Backend Lambda Execution

API Gateway S3 Storage DynamoDB Autoscaling AWS VPC Diagram The following is a proposed design for Virtual Private Cloud architecture on AWS. The VPC diagram entities correspond to the entities in the Black Box Diagram with a little more information about hosting technologies used. Private Subnet Server Frontend Service ⟨NLB⟩ DynamoDb ← public route table

Screenshots

Control Layer

Service

ECS Telemetrics (Dev Accessible ONLY)

Workflow Diagrams

References and Acknowledgements