CS 436
CLOUD COMPUTING – Spring '24

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Project Description: StudyCafe, A Cloud-Based Study Application with Gamified Rewards

This project aims to develop a cloud-based web application that utilizes gamification to promote focused studying.

Objective:

- Develop a web application to incentivize consistent and productive study sessions through a rewarding system.

Functionalities:

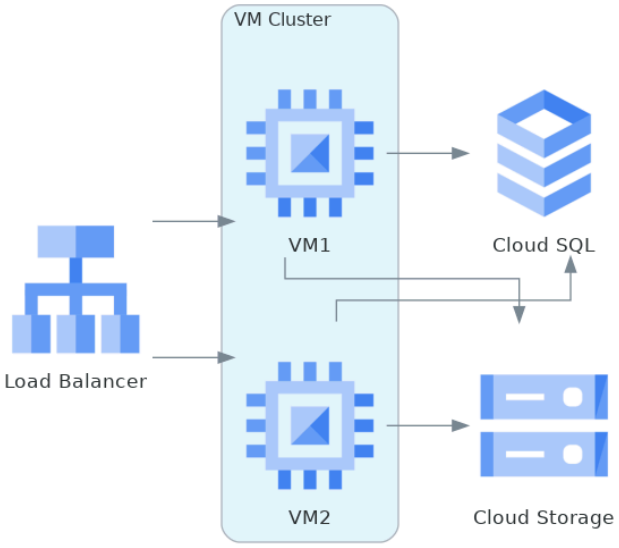
- User registration and login
- Session tracking with virtual reward system
- Goal setting and tracking
- User statistics and insights

Technology Stack:

- **Frontend:** React
- **Backend:** Django
- **Cloud Platform:** Explained in the section "Architecture Components"
- **Github:** https://github.com/Anastasia-Deniz/CS436-Project

Architecture Components:

- **Google Compute Engine (GCE):** To host and run the Django backend and React frontend. This includes: A set of VM instances to handle both the application server (Django) and the web server serving the React application. Autoscaling to adjust the number of VMs based on the load.
- **Cloud Load Balancing:** An HTTP(S) load balancer to distribute traffic across the VMs to ensure efficient load handling and high availability.
- **Google Cloud SQL:** A managed database service to host the database for Django. Using PostgreSQL for optimal compatibility with Django.
- **Google Cloud Storage**: For storing static assets for React and media files uploaded through the Django application.


VM Cluster
VM1
Cloud SQL
Load Balancer
VM2
Cloud Storage