Mobile Test Service Platform (MTaaS)

Submitted To:

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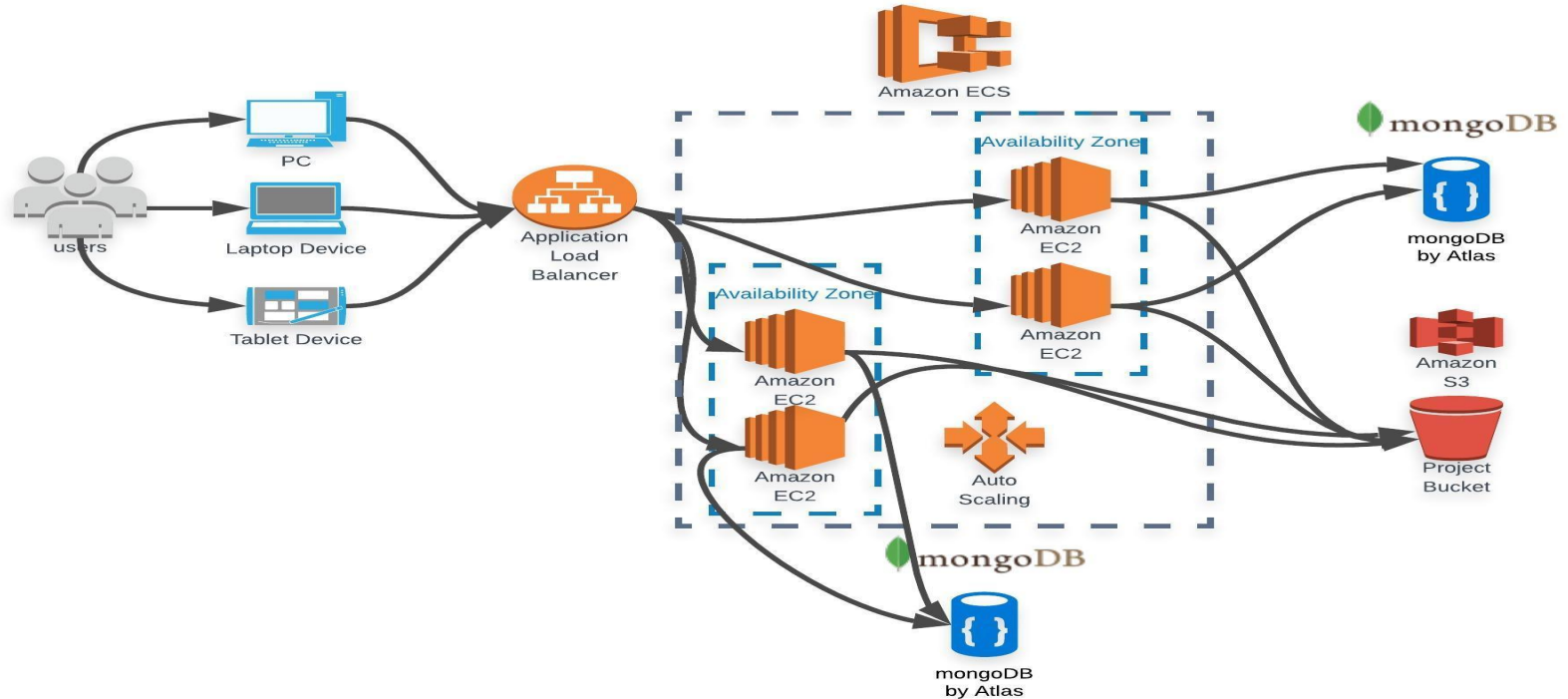Nachiket Trivedi (014544933)
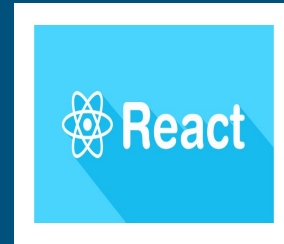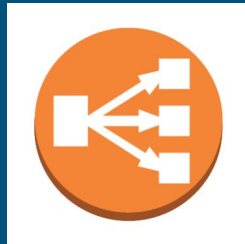Sarthak Jain (014508013)

Acknowledgement

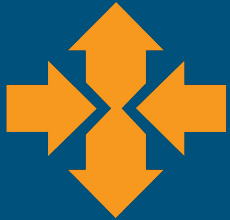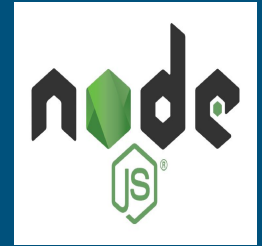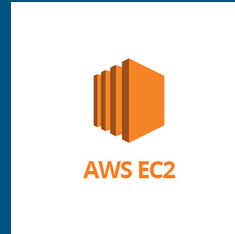- We would like to thank our Professor for giving us this opportunity to build a Mobile Testing Service Platform which helped us in learning important cloud related decisions such as load balancing, auto scaling, multi-tenancy, etc.

- I would also like to thank my teammates for their contribution without whom this application wouldn't have been possible.

Project Architecture

Technologies Used

Platform User Roles

- The application is build to support multiple users but all the users using the platform will be categorised in the following roles:

  1. **Tester**: User who provides testing services to a mobile application
  2. **Manager**: User who posts mobile application and requests testing service.
  3. **Admin**: User who monitor the entire application.

- Each role has different features provided to them by the application after successful login.

Update Profile

- Every user will be asked to provide their basic information like phone number and zipcode while signing-up.

- User's can add their detailed profile information using Profile Navigation.

- Profile have Personal and Technical tab providing user ease to update their respective information accordingly.

Project Creation, Applying & Decision

- Managers can post projects, providing relevant details, uploading .apk files which would be accessible to every person involved in the project.

- Tester can view all posted projects, can apply to a project in which the user wants to provide service. Tester's profile will be shared with Manager.

- Manager can view all tester's pending requests, view tester's profile, and then accept or reject to allow the tester in the project.

Subscribed & Available Projects

- Tester will see their subscribed projects (project in which their request is approved), projects they were rejected in along with all other Project Openings.

- Manager will be able to view details of a project and remove a project created by them. Removing a project will delete every project related resource along with removing project from tester's project subscription.

Bug Creation & Management

- Tester can create bug reports & upload testing scripts they ran to find the related bug. Those testing scripts will be available for download later.

- Manager can list all bug reports for each project and download the script, if any, from each bug report.

- Tester can list the bug reports created by them and can either edit, delete, replace/upload new script files.

- Admin can list all bug reports in a project, download script file and delete the bug too.

File Browser

- A **Project folde**r is created for each project in S3 bucket during Project posting. Files uploaded during Project posting are put inside **Common** folder in Project.

- When a Tester's request is approved, a **tester's folder** is created inside Project folder and the tester has access to common and their folder contents.

- Manager can access ALL contents of their project folders. Manager uploads to Common Folder and Tester uploads to their respective folder.

- Admin has access to all Project Folder Contents.

Discussion Forum

- Tester and Manager can post discussions related to project via discussion forum.

- Managers have privilege to delete discussion or opinion posted by testers.

- Admin has rights to view all discussion, posts and opinions related to any project.

- Admin can create and delete discussions in any project.

- Admin has rights to view dashboard where all the information related to project, discussion will be shown i.e how many discussion are created till now, no. of posts etc.

Dashboard Reports

- **<u>Manager</u>** have access to following reports:
  - Number of reported bugs for each project
  - Number of testers involved in each project
  - Number of files in S3 for each project
  - **Cost** of S3 storage for each project

- **<u>Tester</u>** have access to following reports:
  - Number of bugs creates in each project
  - Number of files uploaded to S3 for each project

- **<u>Admin</u>** have access to following reports:
  - Number of Projects with <=3, 4-8, >8 testers
  - Number of Tester and Manager on the platform
  - Number of working tester in each project
  - Number of files is S3 for each project

Admin Features

- Admin can **<u>delete a User</u>** from the platform. What happens when each **user role** is deleted:
  - **<u>Tester:</u>** User is removed from each project, all bugs gets deleted, all related S3 files is deleted.

  - **<u>Manager:</u>** All related projects gets deleted, all bugs belonging to those projects is deleted, all project S3 space is deleted, and projects are removed from tester's subscription.

- Admin can **<u>delete a Project</u>** from the platform. Project deletion is similar to when a manager deletes the project. All project related information, bugs, S3 storage space is deleted, and project is removed from tester's subscription.

Add-Ons

- We will be **charging** Project Managers using the following two parameters:
  - Project Size in S3 along with number of files per project. **($0.030 per MB + $0.20 per 100 files)**
  - Project Information stored and transferred in/from database. **($0.20 per hour + $0.15 per MB)**

- We have provided **Paypal Integration** using which Project Manager can pay Tester for their service and the Platform for its service (S3 + DB) usage.

- In case a user feels lost, we have integrated **IBM Watson Assistant Chatbot** which can answer user queries regarding the platform, and can get them started descriptive tutorial.

The Team

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Work Partition

Sarthak Jain	Nachiket Trivedi	Amit Garg	Alaukika Diwanji
- Custom Bug Management System - User File Directory - Dashboard Report for Tester, Manager, & Admin - Entire Admin Portal - Cloud Architecture & Deployment ***Note***: ***Both Backend and Frontend of above components***	- Creation of Models for MongoDB Atlas - RESTful APIs for Project Subscription Cycle for Tester and Manager - Backend API calls for Profile Cycle - Paypal Integration - Cloud Architecture & Deployment	- Entire Discussion Forum including Admin Functionality of Forum. - Created Login and Signup Portal for Tester and Manager. - Built Chatbot for an application. - Cloud Architecture & Deployment ***Note***: ***Both Backend and Frontend of above components***	- Creation of Views and Reusable Components in React JS - Styling for all modules - Frontend Components for Project Subscription Cycle - Frontend for Profile Cycle - Announcements Module- Backend & Frontend - Cloud Architecture & Deployment

Thank You