



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

Deemed to be University

Declared as category 'A' University by MHRD, Govt. of India
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C.S.E / I.T
2017-2021

Institutional Collaboration Hub

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Presentation Outline

- Introduction
- Literature survey
- Objectives
- System Architecture
- Project Implementation
- Methodology
- Application Snapshots
- Results and Discussions
- Conclusion & Future work
- Publication
- References
- Q&A

Introduction

- Collaborative learning is a practice that includes group of students working together to solve a problem, complete a task or create a product.
- This project is a gateway to engage potential students to work together and come up with new ideas , prototypes and real time projects
- This also acts as an Institutional level social network , that includes features like news feed and profiles.

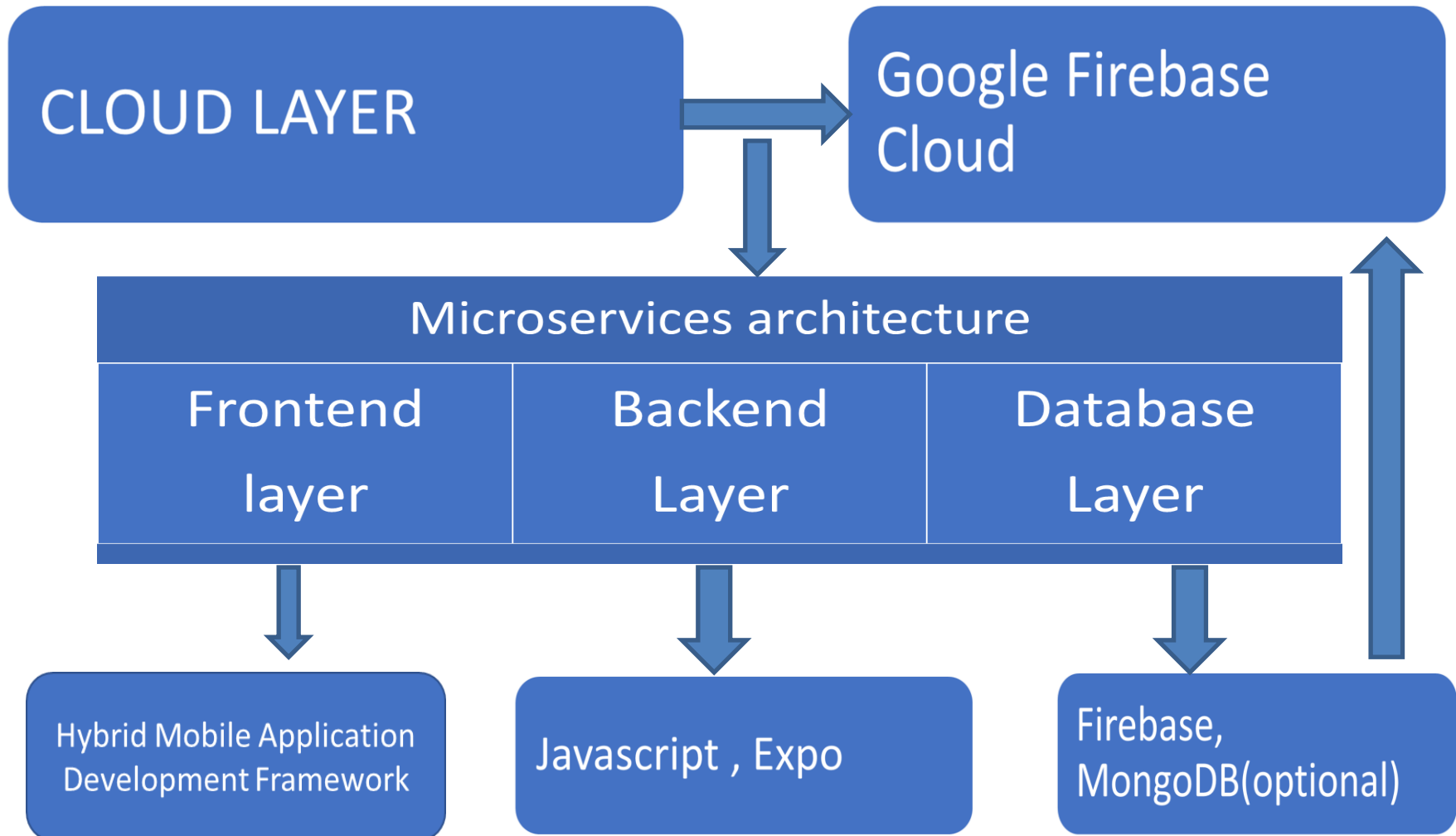
Literature Review

AUTHOR	YEAR OF PUBLICATION	DESCRIPTIONS	PROS	CONS
M. Butler, J. Sinclair, M. Morgan and S Kalvala	2016	"Comparing international indicators of student engagement for computer science"	"Common people's performance and engagement of interest is assessed in those specific areas"	"Time complexity is higher in this method.but the point is Accuracy level is literally low"
J. Sinclair, M. Butler, M. Morgan, and S. Kalvala	2015	Measures of Student Engagement in Computer Science	Depth analysis is done very student	Separate Members should be allocated
Ruth Schorr	2020	Project based learning framework.	As next step a more in-depth evaluation with the aim of assessing the different dimensions of students	Conflicts are inevitable when working with others.
7 April 2021		School of Computing		4

Objectives

- Practical knowledge is the key factor for growth
- Any student who meets the required skills defined by the student can request for a collaboration.
- This can bring students from different domains to contribute to a specific task.
- Professors can also create a problem statement and schedule a deadline for keeping the students engaged.
- Ranking and recognition based on project credits earned by students will increase the productivity and involvement of every individual.

System Architecture



Project Implementation

- This project can be implemented using a hybrid mobile application development framework(React Native)
- Uses NOSql databases and cloud computing.
- This project can be tested using a AVD of expo client.

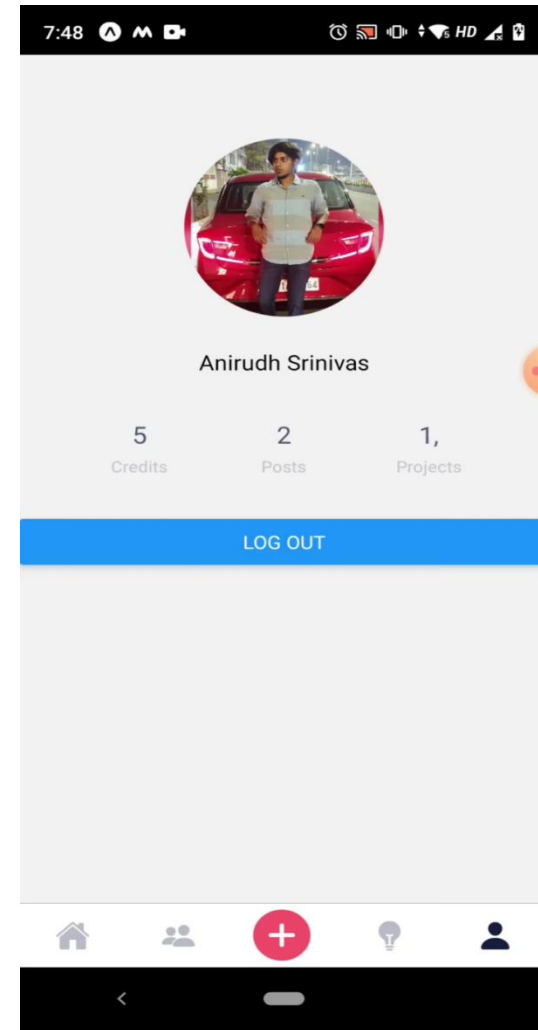
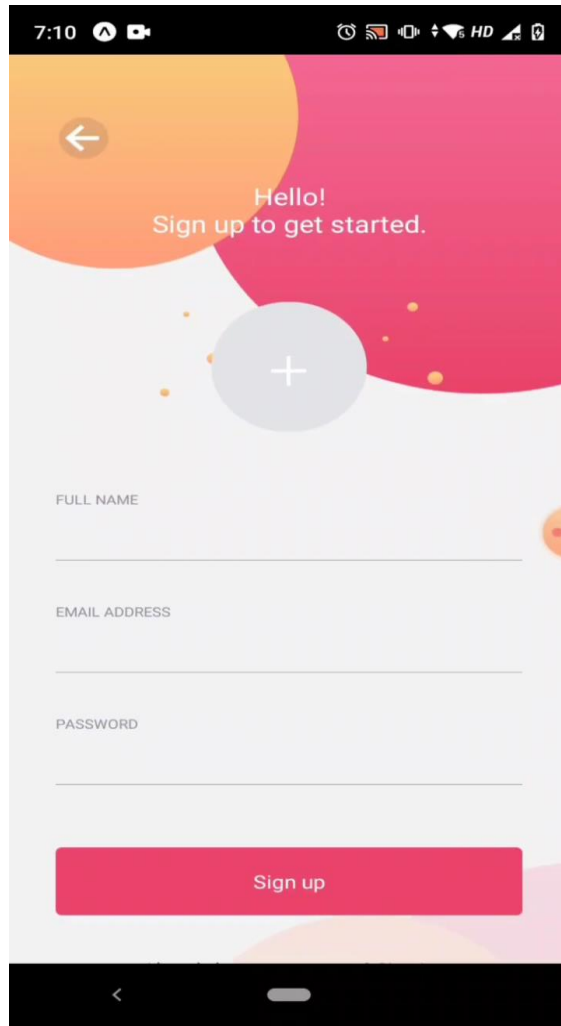
Methodology

- This project can be implemented using microservices architecture.
- It consists of a databases (firebase) and a cloud services (firebase cloud store), front-end(React Native).
- Any fault in a single microservice doesn't affect the whole application.
- Uses realtime database for flexible processing.

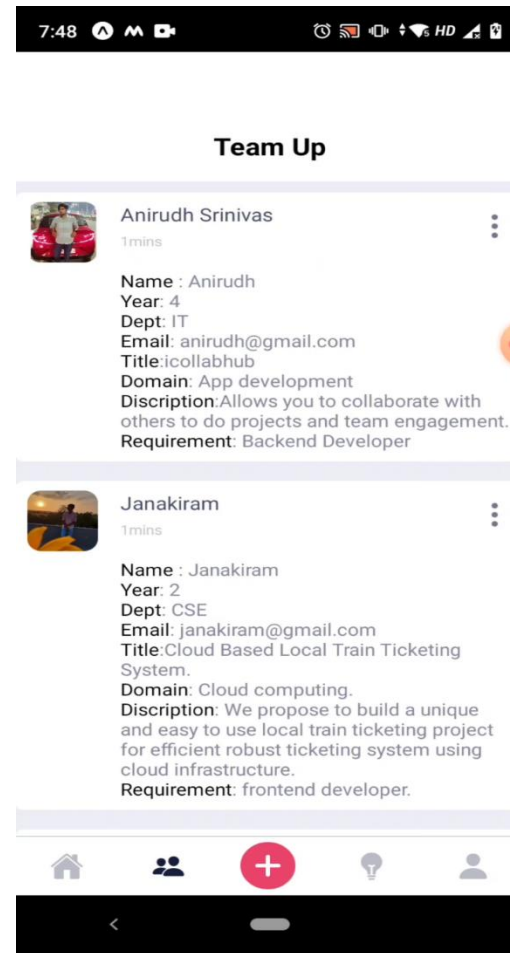
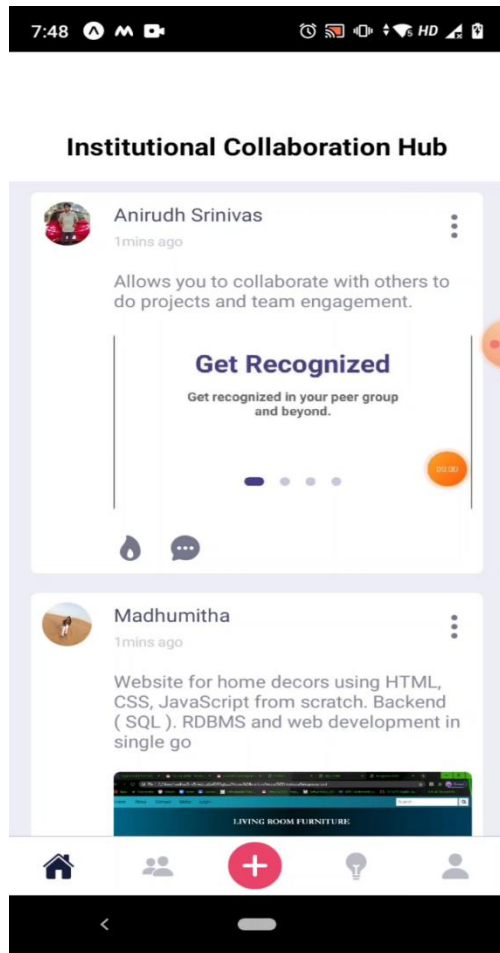
Methodology

- The login uses google firebase authentication
- The Profile , Newsfeed uses firebase cloud database.
- Project Collaboration Processing uses firebase realtime database.
- Frontend is created using React-Native
- Validation and processing is done using Javascript.
- Expo client is used to test and bundle the application.

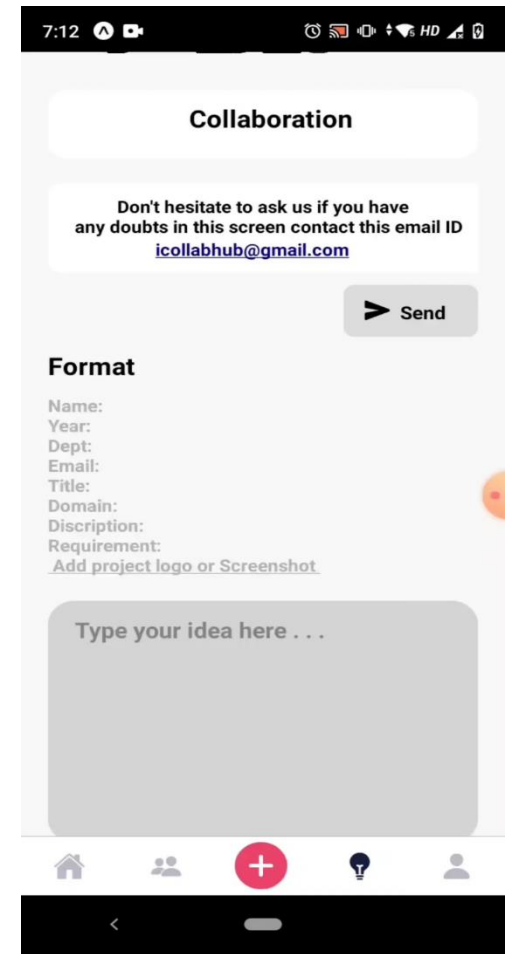
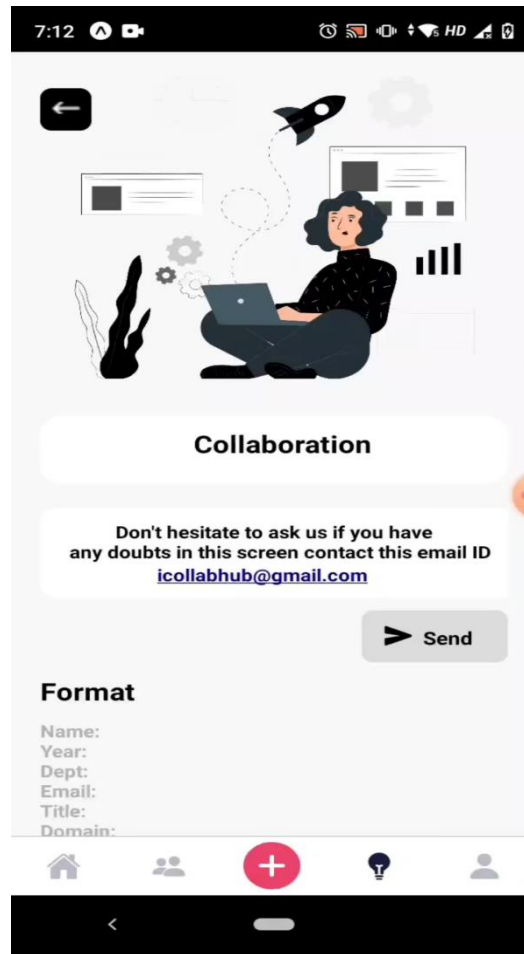
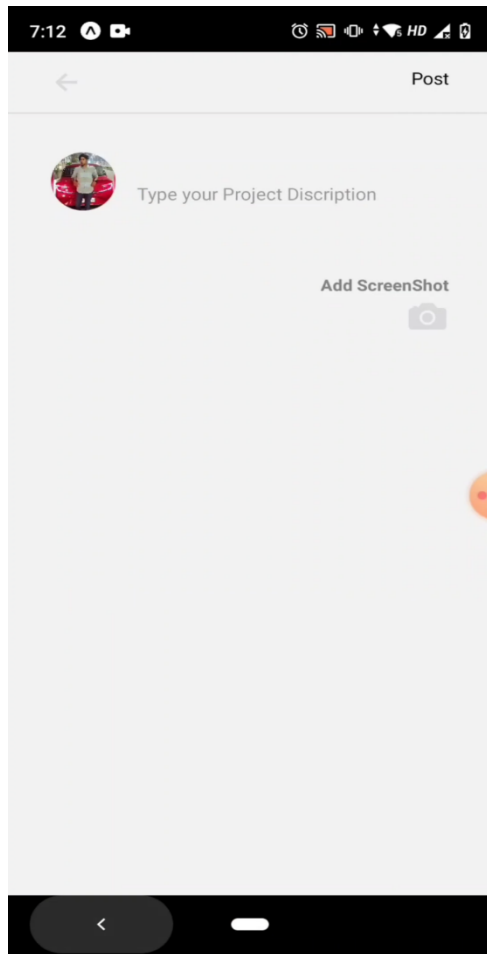
Application Snapshots



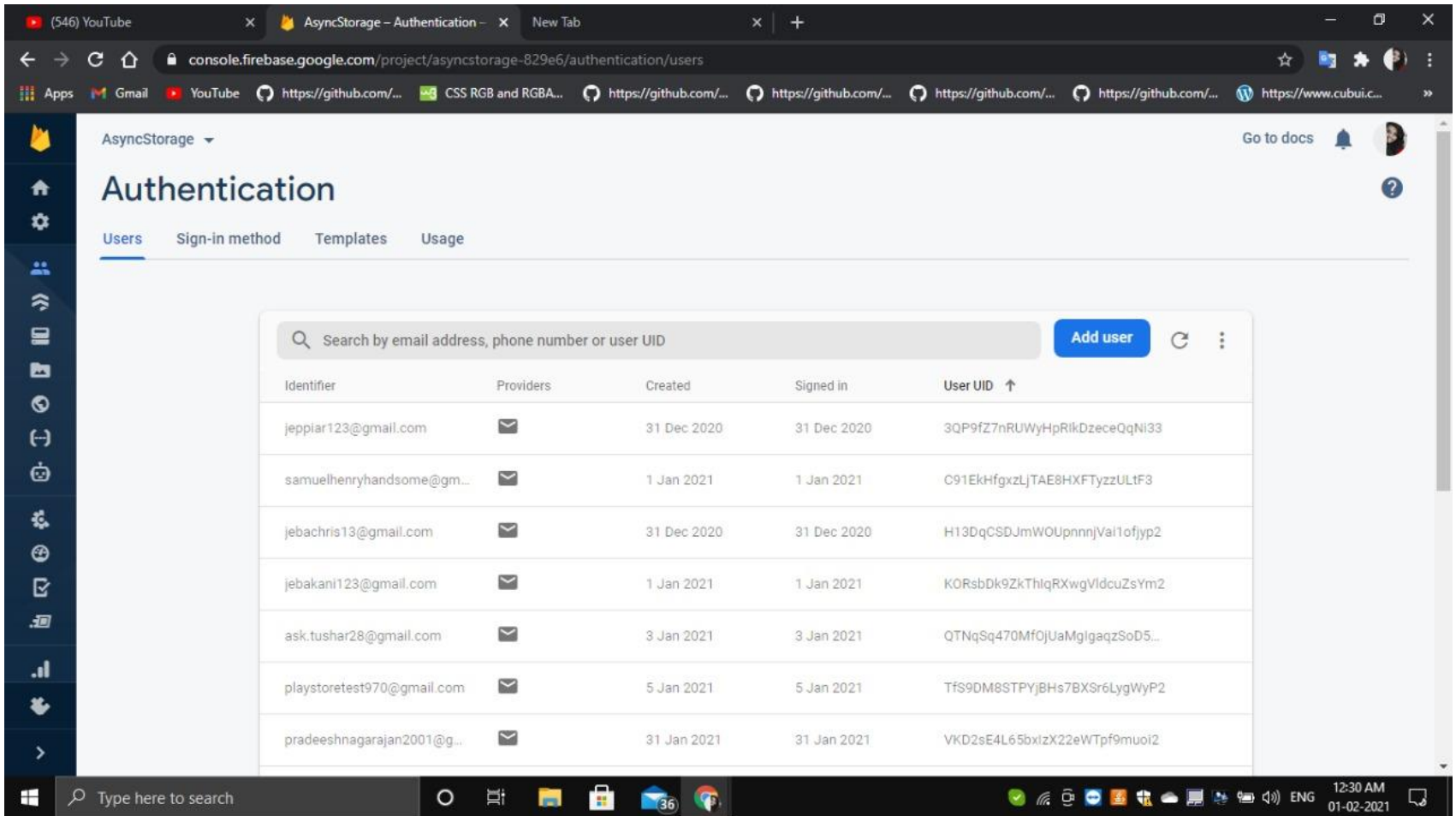
Application Snapshots



Application Snapshots



Application Snapshots



The screenshot shows the Firebase Authentication console for a project named 'AsyncStorage'. The 'Users' tab is selected, displaying a table of registered users. The table includes columns for Identifier, Providers, Created, Signed in, and User UID. There are 8 users listed. A search bar at the top allows searching by email address, phone number, or user UID. An 'Add user' button is visible in the top right of the table area.

Identifier	Providers	Created	Signed in	User UID ↑
jeppiar123@gmail.com	📧	31 Dec 2020	31 Dec 2020	3QP9fZ7nRUWyHpRikDzeceQqNi33
samuelhenryhandsome@gm...	📧	1 Jan 2021	1 Jan 2021	C91EkHfgxzLjTAE8HXFTyzzULtF3
jebachris13@gmail.com	📧	31 Dec 2020	31 Dec 2020	H13DqCSDJmWOUpnnnJVal1ofjyp2
jebakani123@gmail.com	📧	1 Jan 2021	1 Jan 2021	KORsbDk9ZkThlqRXwgVldcuZsYm2
ask.tushar28@gmail.com	📧	3 Jan 2021	3 Jan 2021	QTNqSq470Mf0jUaMglgaqzSoD5...
playstoretest970@gmail.com	📧	5 Jan 2021	5 Jan 2021	TfS9DM8STPYjBHs7BXsR6LygWyP2
pradeeshnagarajan2001@g...	📧	31 Jan 2021	31 Jan 2021	VKD2sE4L65bxIzX22eWTpf9muoi2

Application Snapshots

The screenshot displays the MongoDB Atlas web interface. The browser's address bar shows the URL: `cloud.mongodb.com/v2/6016e5ab18795e55d5cab086#metrics/replicaSet/6016e919108ea152b67e1885/explorer/Profiles/Details/find`. The interface includes a top navigation bar with the user's name 'Anirudh Srinivas's Org...' and links for 'Access Manager', 'Support', and 'Billing'. Below this, there are tabs for 'Atlas', 'Realm', and 'Charts'. The main content area is divided into a left sidebar and a main panel. The sidebar has sections for 'DATA STORAGE' (Clusters, Triggers, Data Lake), 'SECURITY' (Database Access, Network Access, Advanced), and 'Feature Requests'. The main panel shows the 'Profiles.Details' view for the 'ICH' database. It includes tabs for 'Overview', 'Real Time', 'Metrics', 'Collections' (selected), 'Search', 'Profiler', 'Performance Advisor', 'Online Archive', and 'Command Line Tools'. The 'Collections' tab displays 'DATABASES: 2' and 'COLLECTIONS: 4'. A '+ Create Database' button is visible. Below it, a list of collections includes 'Namespaces', 'News-Feed', 'Profiles', and 'Details' (selected). The 'Details' view shows a 'FILTER' input with the value `{ "filter": "example" }` and buttons for 'Find' and 'Reset'. The 'QUERY RESULTS 1-1 OF 1' section displays a single document:

```
{
  "_id": ObjectId("6017965a112bb352d1eeb702"),
  "Name": "Anirudh Srinivas G.W",
  "Year": "4",
  "Department": "IT",
  "E-Mail": "gnanirudhsrinivas@gmail.com"
}
```

Application Snapshot

The screenshot displays the MongoDB Atlas web interface. The browser's address bar shows the URL: `cloud.mongodb.com/v2/6016e5ab18795e55d5cab086#metrics/replicaSet/6016e919108ea152b67e1885/explorer/News-Feed`. The interface includes a top navigation bar with links for 'Access Manager', 'Support', and 'Billing'. The main content area is titled 'ANIRUDH SRINIVAS'S ORG - 2020-05-09 > INSTITUTIONAL COLLABORATION HUB > CLUSTERS'. The 'Clusters' tab is selected, showing the 'ICH' cluster. The 'Collections' tab is active, displaying a table of collections. The table has columns for 'Collection Name', 'Documents', 'Documents Size', 'Documents Avg', 'Indexes', 'Index Size', and 'Index Avg'. The collections listed are 'Projects', 'Ranks', and 'Yearbook'. A 'CREATE COLLECTION' button is visible in the top right corner of the collections list. The bottom of the screenshot shows a Windows taskbar with various application icons and a system clock indicating 11:55 on 01-02-2021.

DATA STORAGE

Clusters

Triggers

Data Lake

SECURITY

Database Access

Network Access

Advanced

Feature Requests

ANIRUDH SRINIVAS'S ORG - 2020-05-09 > INSTITUTIONAL COLLABORATION HUB > CLUSTERS

VERSION 4.4.3 REGION GCP Mumbai (asia-south1)

Overview Real Time Metrics Collections Search Profiler Performance Advisor Online Archive Command Line Tools

DATABASES: 2 COLLECTIONS: 4

+ Create Database

Q NAMESPACES

News-Feed

Projects

Ranks

Yearbook

Profiles

News-Feed

DATABASE SIZE: 22B INDEX SIZE: 28KB TOTAL COLLECTIONS: 3

CREATE COLLECTION

Collection Name	Documents	Documents Size	Documents Avg	Indexes	Index Size	Index Avg
Projects	1	22B	22B	1	20KB	20KB
Ranks	0	0B	0B	1	4KB	4KB
Yearbook	0	0B	0B	1	4KB	4KB

IMG-20210201-W...jpg

IMG-20210201-W...jpg

IMG-20210201-W...jpg

Zoom_cm_ds_moc...exe

Show all

Type here to search

99+

11:55 01-02-2021

Application Snapshots

The screenshot shows the MongoDB Realm dashboard for an application named 'ICH'. The browser address bar shows the URL: `realm.mongodb.com/groups/6016e5ab18795e55d5cab086/apps/6016ea7192c0dc31365ab1e0/dashboard`. The dashboard includes a sidebar with navigation options like 'DATA ACCESS', 'BUILD', and 'MANAGE'. The main content area displays the application name 'ICH' and its App ID 'ich-zqsc0'. A 'Guides' button is visible. Two prominent cards are shown: 'Introducing Realm Sync' and 'You're almost done setting up your application...'. The latter card shows progress for 'Link an Atlas Data Source' (completed), 'Set up Sync in Dev Mode' (completed), and 'Define Data Models' (pending). A 'Usage This Month' section is also visible, showing metrics for Requests, Data Transfer, Compute Runtime, and Sync Runtime. The bottom of the image shows a Windows taskbar with various open applications and the system clock.

Photo from Anirudh Srinivas - gr X Post Attendee - Zoom X Project Collaborator - Firebase c X MongoDB Realm - Dashboard X +

realm.mongodb.com/groups/6016e5ab18795e55d5cab086/apps/6016ea7192c0dc31365ab1e0/dashboard

Anirudh Srinivas's ... Access Manager Support Billing All Clusters Anirudh Srinivas

Institutional Collaborati... Atlas Realm Charts

Realm Apps

ICH App ID: ich-zqsc0 Guides

DATA ACCESS

- Rules
- Schema
- App Users
- Authentication

BUILD

- SDKs
- Sync BETA
- GraphQL
- Functions
- Triggers
- 3rd Party Services
- Values & Secrets

MANAGE

- Linked Data Sources
- Feature Requests

ICH

App ID: ich-zqsc0 Guides

Introducing Realm Sync

Sync user data between mobile devices and Atlas, without writing any conflict resolution or networking code. Easily backup user data, build collaborative features, and keep data up-to-date whenever devices are online.

Learn More Get Started

You're almost done setting up your application...

- 1 Link an Atlas Data Source**
Securely query and work with your data in your linked Atlas cluster or Data Lake.
ICH Linked
- 2 Set up Sync in Dev Mode**
Sync data between your Atlas cluster and client application using our Sync SDKs.
Completed
- 3 Define Data Models**
Define data models using our SDKs. We'll translate them into JSON schema.
Get Started

Usage This Month

View docs for more info on tracking usage. You can also check the total usage for the project this app belongs to.

Requests	Data Transfer	Compute Runtime	Sync Runtime
0	0.00 GB	0.00 Hours	0.00 Hours

IMG-20210201-W...jpg IMG-20210201-W...jpg IMG-20210201-W...jpg Zoom_cm_ds_moc...exe

Type here to search

11:57 01-02-2021

Results and Discussion

- To measure students engagement objectively in a team work project is difficult. In a self-assessment, students were asked to rate their learning.
- Aim of the framework is to increase students work and learn motivation.

Conclusion

- This study was quite limited in scope, being based on analysis of students who reasonably can articulate, in an academic area.
- Students talents can be exposed and positioned based on the performance.
- Sharing your creativity and knowledge with others and learning from others is how advancement happens.
- Different cultures and views help others to see in a new way.

Publication

- Paper details submitted for Journal.-
Institutional Collaboration Hub Paper
Published by Journal.-2020-IEEE-Dept of
Department of Information and Technology,
- Authors-Akassh P,Anirudh Srinivas GN

References

[1] Experience Report on Key Success Factors for
Promoting Students' Engagement in Software Development Group Projects
Ruth Schorr

Dept. of Computer Science and Engineering
Frankfurt University of Applied Sciences
Frankfurt am Main, Germany

rschorr@fb2.fra-uas.de

[2] M. Butler, J. Sinclair, M. Morgan and S Kalvala, "Comparing
international indicators of student engagement for computer science",
in Proceedings of the Australasian Computer Science Week
Multiconference, ACM 2016, Article No. 6.

[3] V. K. Viswambaran and S. Shafeek, "Project Based Learning (PBL)
Approach for Improving the Student Engagement in Vocational
Education : An investigation on students' learning experiences &
achievements," 2019 Advances in Science and Engineering
Technology International Conferences (ASET), Dubai, United Arab
Emirates, 2019, pp. 1-8.



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)

Accredited with Grade "A" by NAAC | Approved by AICTE



C.S.E / I.T
2016-2020

PROJECT TITLE

Questions & Answers