



# SudoHelp

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# Motivation

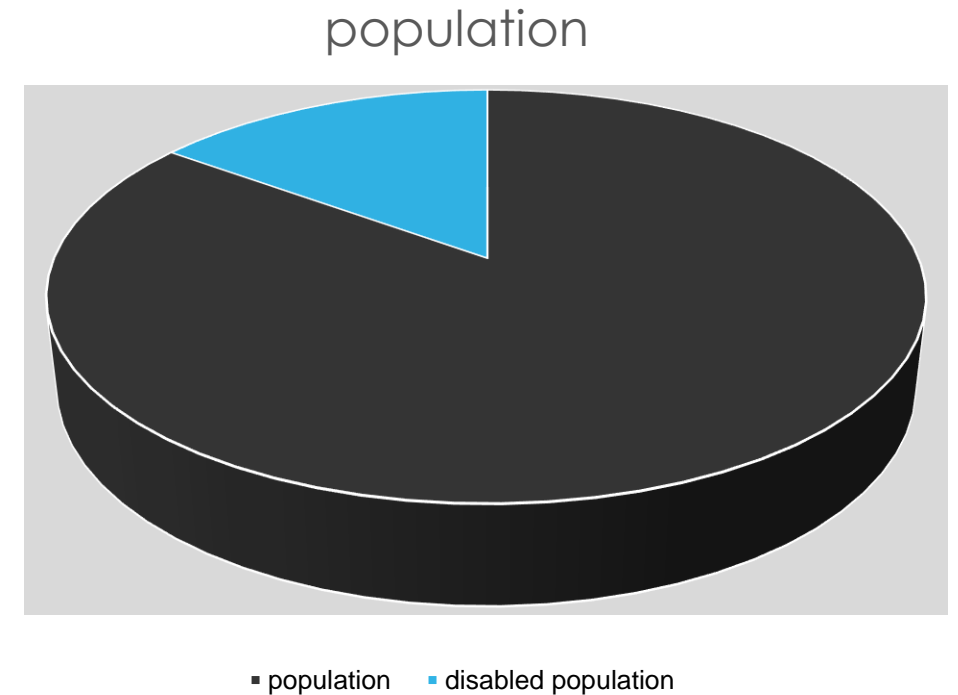
While a majority of the children appearing for their examinations worry over what questions to expect and whether they will run out of time answering them, hundreds of children with disabilities and chronic medical conditions taking their annual examinations at various levels of uncertainties.

Such as whether they will find a volunteer to write their exam on time, whether the handwriting will be legible enough or whether he or she will write sufficiently quickly.

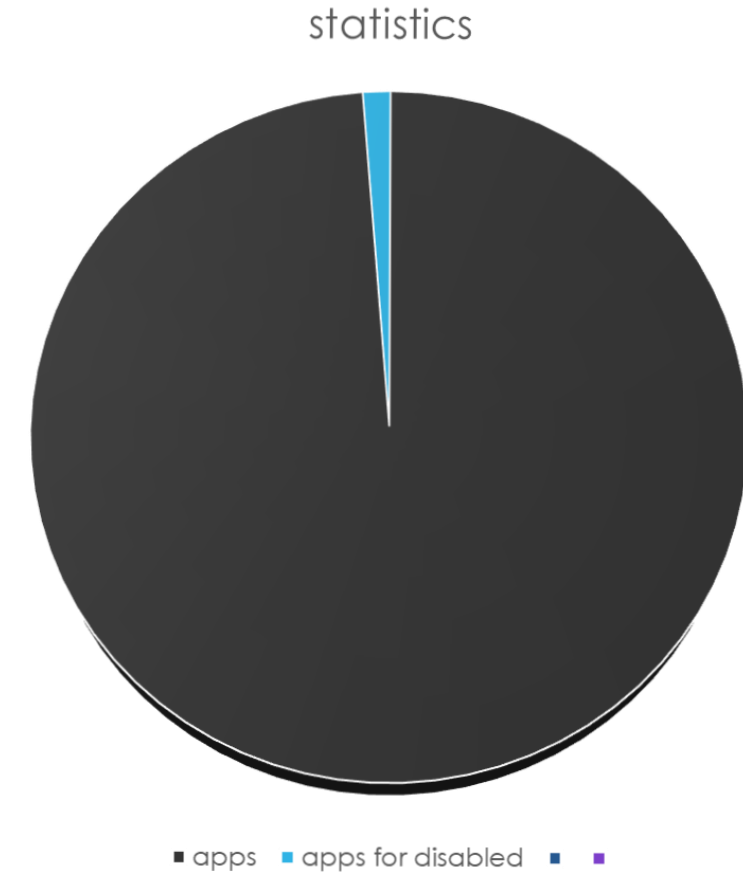
Some blind students are even forced to pay hefty amounts to the scribes to write their exams. Pen Pals was conceptualized to help Visually Impaired students find scribes who can volunteer to write exams.

# Need

- ❖ One billion people, or 15% of the world's population, experience some form of disability.
- ❖ One-fifth of the estimated global total, or between 110 million and 190 million people, experience significant disabilities.



- ❖ The number of available apps in the Google Play Store was most recently placed at 2.7 million apps.
- ❖ Out of which, only 28221 are intended for use by the disabled, which accounts for 1.28%.
- ❖ Our aim is to reduce the need of a middle-man and make the volunteering process hassle-free.





# Existing Efforts



- ❖ Even out of the technologies that are made to benefit disabled people, most of them focus on helping them learn better.
- ❖ Any effort made to improve the examination process involves- extra time allowance, rest periods, etc.
- ❖ There is the extra hassle of having to contact an agency to allot writers for the exam in advance.
- ❖ We have not found any existing applications that provide this service.
- ❖ There are many NGOs that arrange volunteers for examinations, but there is no use of technology in these processes.




# PenPals

- Volunteer For A Cause (VFC) is a voluntary organization based in Bengaluru, Mysuru, Chennai, Hyderabad, Delhi, etc.
- It is aimed at helping Visually impaired students find scribes for examinations.
- The volunteers can easily join the cause through phone calls, WhatsApp or E-mail and are notified as and when need arises. Online timetable is regularly updated.
- Once the volunteers confirm his/her availability after checking the timetable, the volunteer is connected with the student.
- On the day of the exam, the volunteer goes to the exam center along with the required documents.

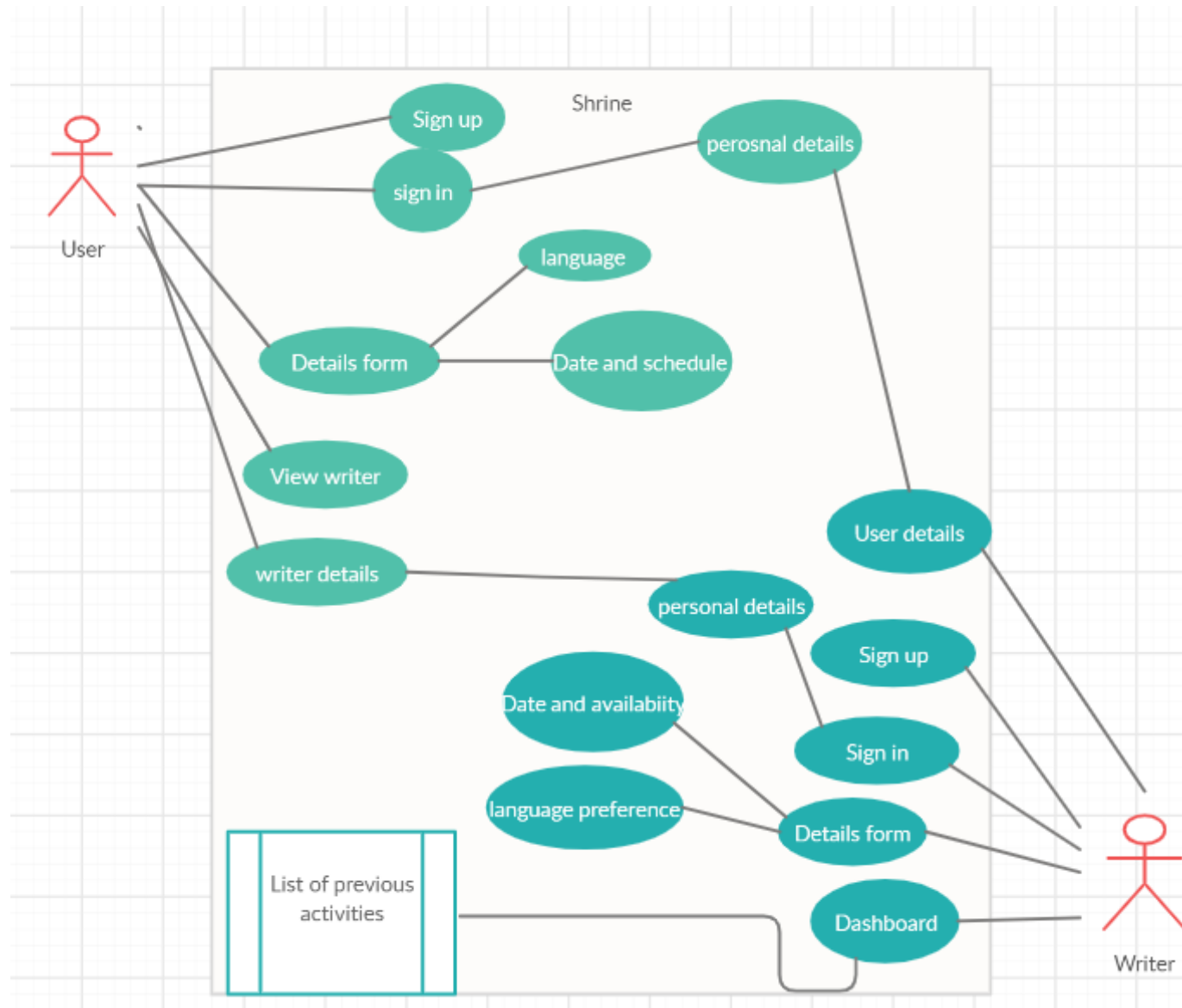


# Problem statement



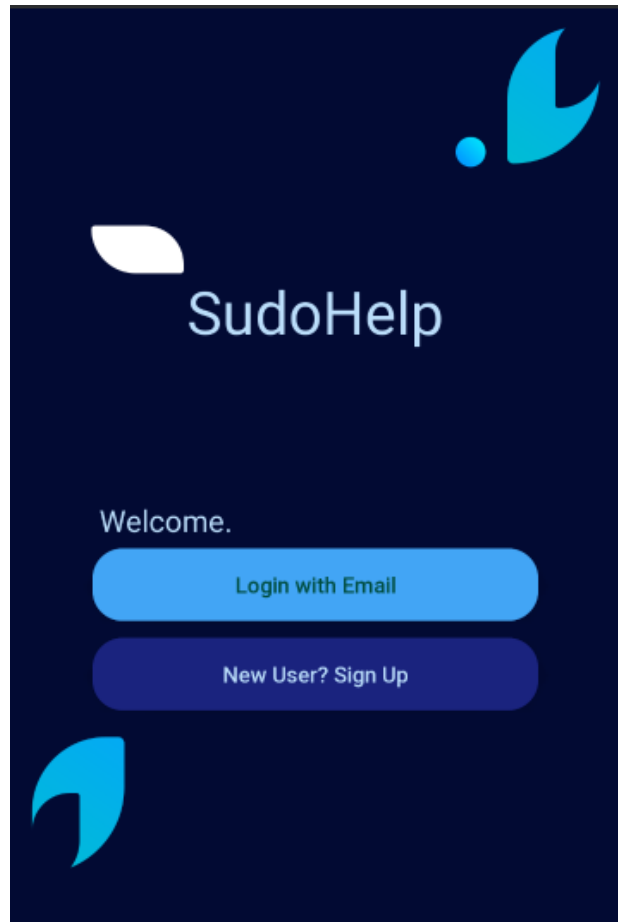
An android application designed for the handicapped, supporting them by helping them find a writer for exams. Any physically capable person can volunteer to be a part of the application by registering themselves and giving the necessary details. The applying student is then assigned a writer and gets to communicate with the writer, describing to him/her, the desired objective behind writing an exam with the exact details.

# Use case diagram





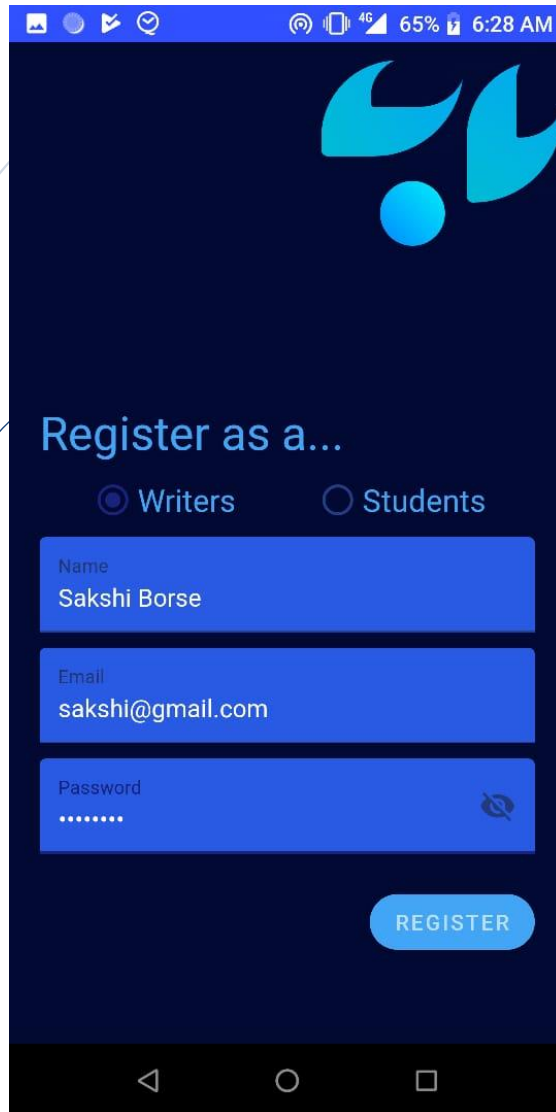
# Implementation and Design



## Development Tools used:

- ❖ Android Studio 3.5.1 and SDK plug-in
- ❖ JDK 8
- ❖ Android 5.0 (Marshmallow) installed packages
- ❖ Minimum SDK Version 21

# Writer Screens



Register as a...

☒ Writers ☐ Students

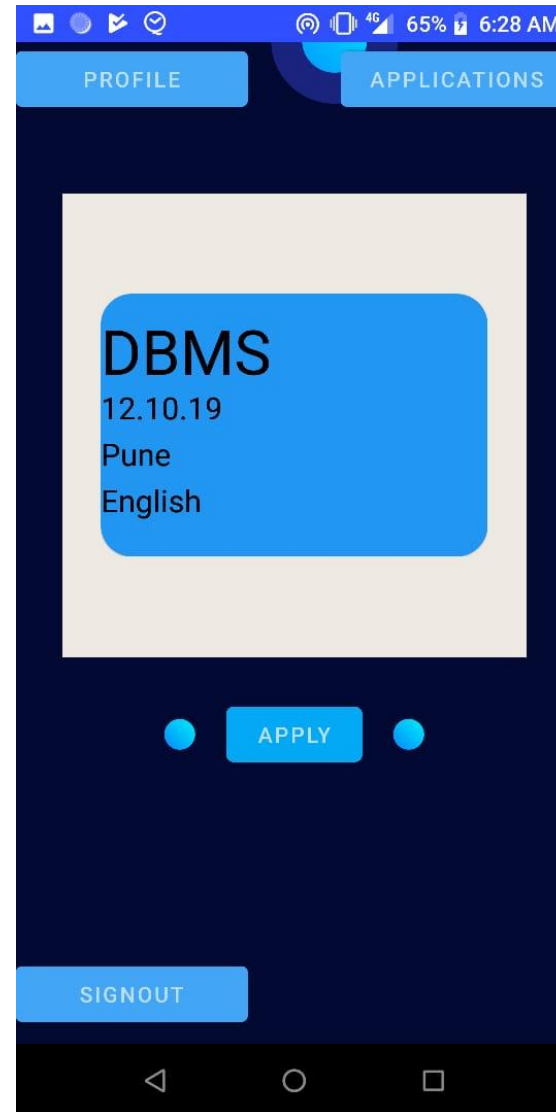
Name  
Sakshi Borse

Email  
sakshi@gmail.com

Password  
.....

REGISTER

This screen shows the registration process for a writer. It features a dark blue background with a logo at the top right. The title 'Register as a...' is in white. Below it, there are two radio buttons for 'Writers' (selected) and 'Students'. There are three input fields: 'Name' with the value 'Sakshi Borse', 'Email' with the value 'sakshi@gmail.com', and 'Password' with masked characters '.....'. A blue 'REGISTER' button is at the bottom right.



PROFILE APPLICATIONS

DBMS  
12.10.19  
Pune  
English

APPLY

SIGNOUT

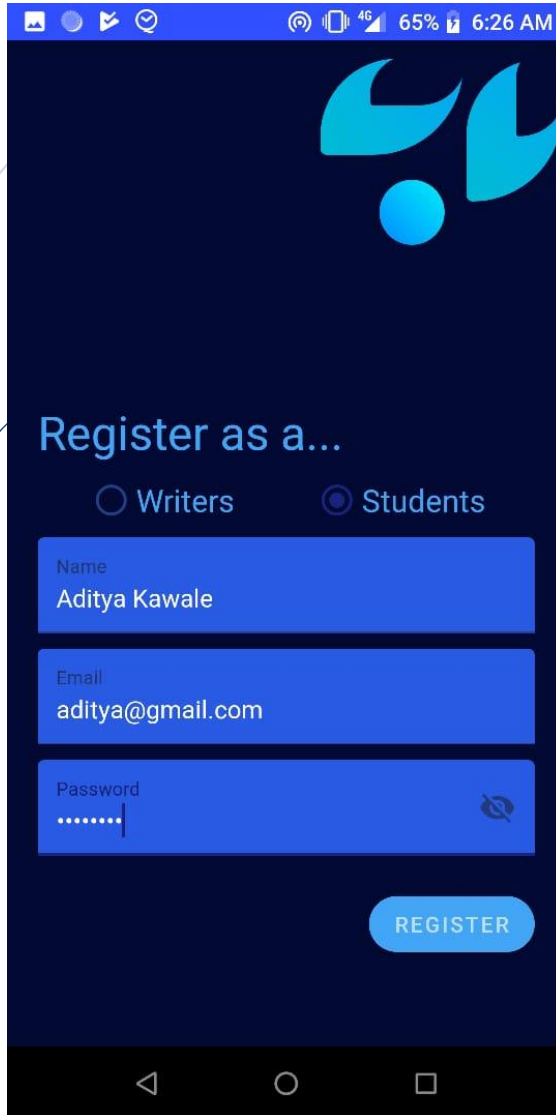
This screen shows the user's profile. It has a dark blue background with two tabs at the top: 'PROFILE' (selected) and 'APPLICATIONS'. The profile information is displayed in a light blue box: 'DBMS', '12.10.19', 'Pune', and 'English'. Below the box is a blue 'APPLY' button. At the bottom is a blue 'SIGNOUT' button.



DBMS  
12.10.19

This screen shows the user's applications. It has a dark blue background with a blue header bar at the top containing an Android icon, the text 'DBMS', and the date '12.10.19'. The rest of the screen is empty.

# Student Screens



Register as a...

☐ Writers ☒ Students

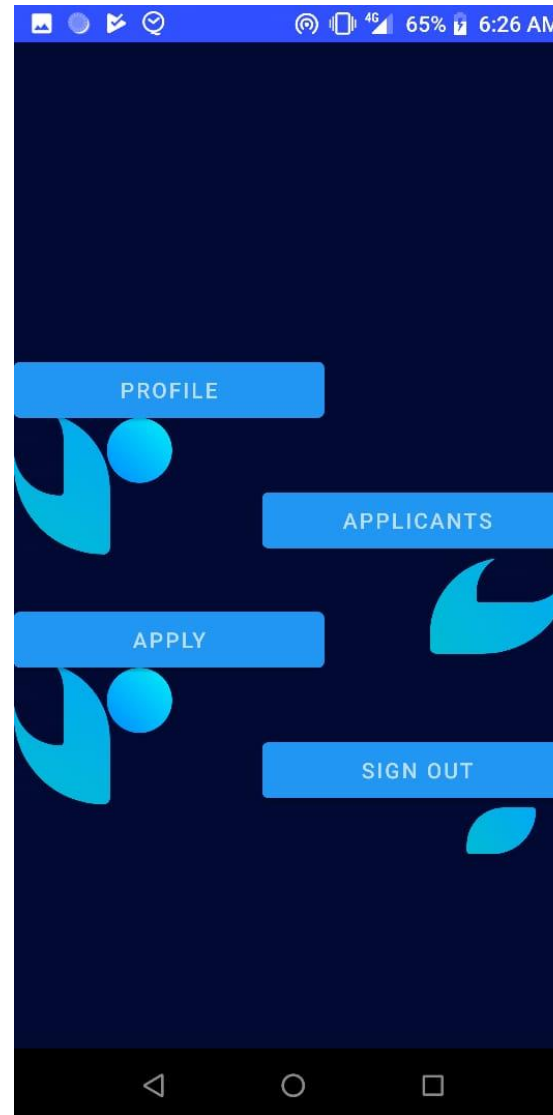
Name  
Aditya Kawale

Email  
aditya@gmail.com

Password  
.....

REGISTER

The screen features a dark blue background with a light blue logo at the top right. The registration form consists of three input fields (Name, Email, Password) and a REGISTER button. The 'Students' radio button is selected.



PROFILE

APPLY

APPLICANTS

SIGN OUT

This screen displays four buttons: PROFILE, APPLY, APPLICANTS, and SIGN OUT. The background is dark blue with a light blue logo on the left side.



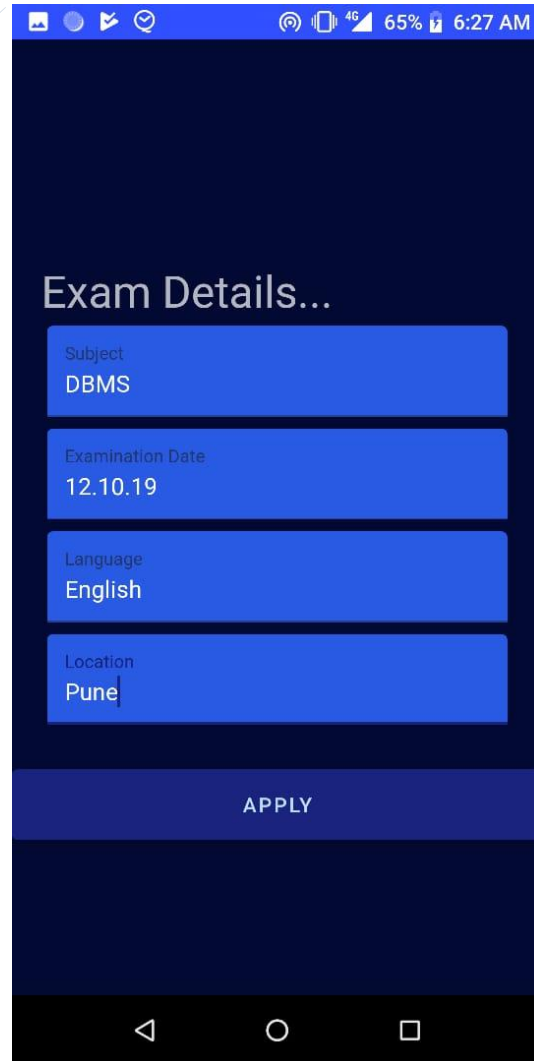
DBMS

Writer

12.10.19

The screen shows a light blue header area with the text 'DBMS', 'Writer', and '12.10.19'. The rest of the screen has a dark blue background.

# Exam Applications



Exam Details...

Subject  
DBMS

Examination Date  
12.10.19

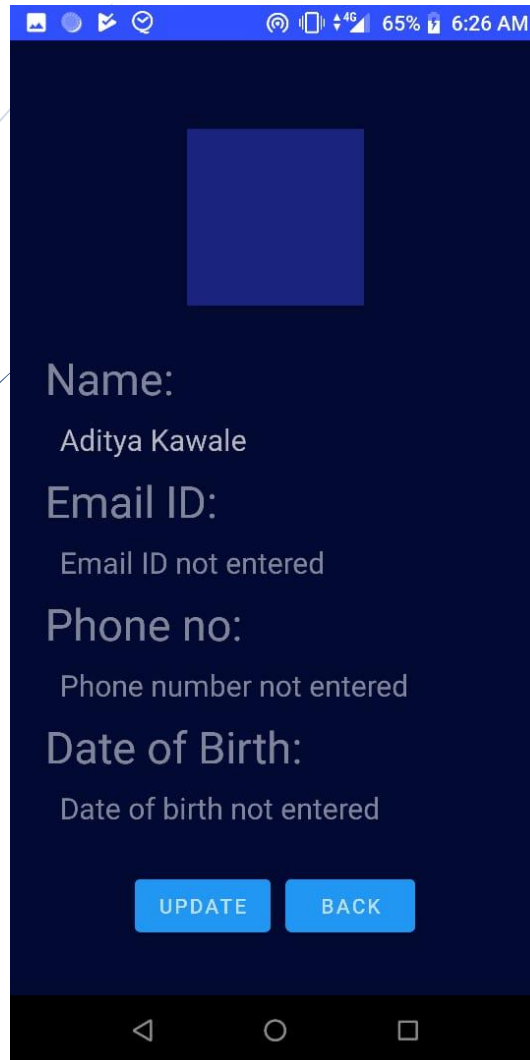
Language  
English

Location  
Pune

APPLY

- ❖ The student can fill in the given form to request for a scribe.
- ❖ These applications will show up on a writer's screen, where they can volunteer based on their schedule, preference of language, etc.

# Update and Edit Profile



6:26 AM

Name:  
Aditya Kawale

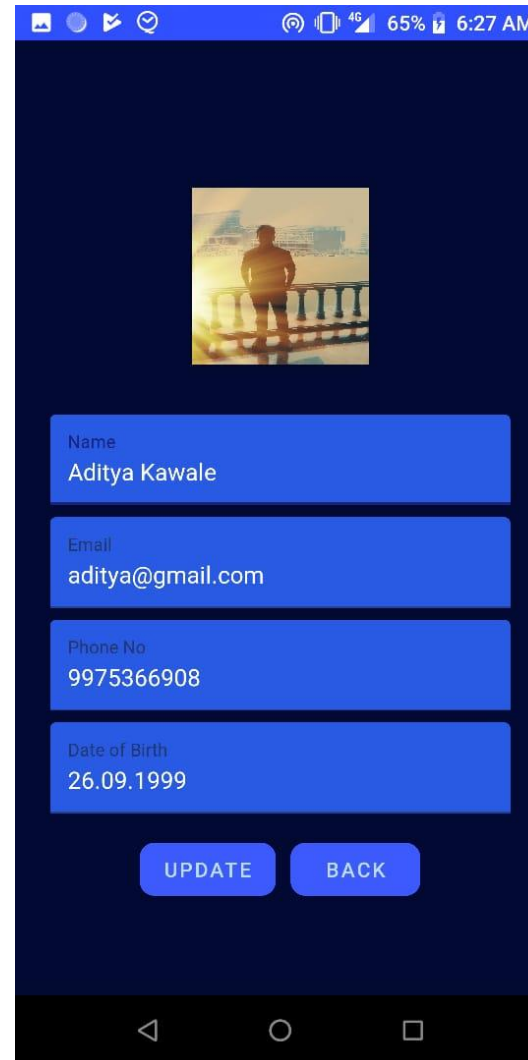
Email ID:  
Email ID not entered

Phone no:  
Phone number not entered

Date of Birth:  
Date of birth not entered

UPDATE BACK

This screenshot shows the initial state of the 'Update and Edit Profile' form. The user's name 'Aditya Kawale' is already entered. The fields for 'Email ID', 'Phone no', and 'Date of Birth' are empty, with placeholder text indicating they have not been entered. There are 'UPDATE' and 'BACK' buttons at the bottom.



6:27 AM

Name  
Aditya Kawale

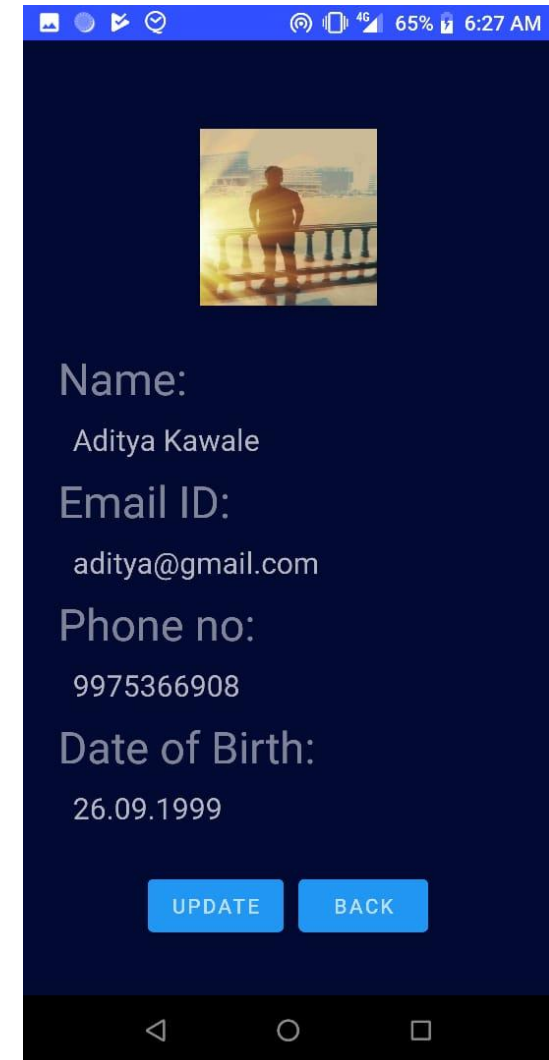
Email  
aditya@gmail.com

Phone No  
9975366908

Date of Birth  
26.09.1999

UPDATE BACK

This screenshot shows the profile form with all fields filled out. The user's name is 'Aditya Kawale', email is 'aditya@gmail.com', phone number is '9975366908', and date of birth is '26.09.1999'. The 'UPDATE' and 'BACK' buttons are still present at the bottom.



6:27 AM

Name:  
Aditya Kawale

Email ID:  
aditya@gmail.com

Phone no:  
9975366908

Date of Birth:  
26.09.1999

UPDATE BACK

This screenshot shows the final profile view. A profile picture of a person standing on a balcony is displayed at the top. Below it, the profile details are listed: Name (Aditya Kawale), Email ID (aditya@gmail.com), Phone no (9975366908), and Date of Birth (26.09.1999). 'UPDATE' and 'BACK' buttons are at the bottom.

# Database Structure (Firebase)

The screenshot displays the Firebase console interface for a project named 'sudohelp-f266b'. The left sidebar contains navigation options: Project Overview, Develop (with sub-items Authentication, Database, Storage, Hosting, Functions, and ML Kit), Quality (with sub-items Crashlytics, Performance, and Test Lab), and Extensions. The main content area is titled 'Database' and shows the 'Realtime Database' selected. Below this, there are tabs for Data, Rules, Backups, and Usage. The 'Data' tab is active, showing a tree view of the database structure. The root node is 'sudohelp-f266b', which has a child node 'Users'. Under 'Users', there are four child nodes: 'Exams', 'Info', 'Students', and 'Writers'. The URL bar shows the console address: console.firebase.google.com/project/sudohelp-f266b/database/sudohelp-f266b/data.

Firefox browser tabs: SudoHelp - Firebase console, WhatsApp

Address bar: console.firebase.google.com/project/sudohelp-f266b/database/sudohelp-f266b/data

Project: SudoHelp

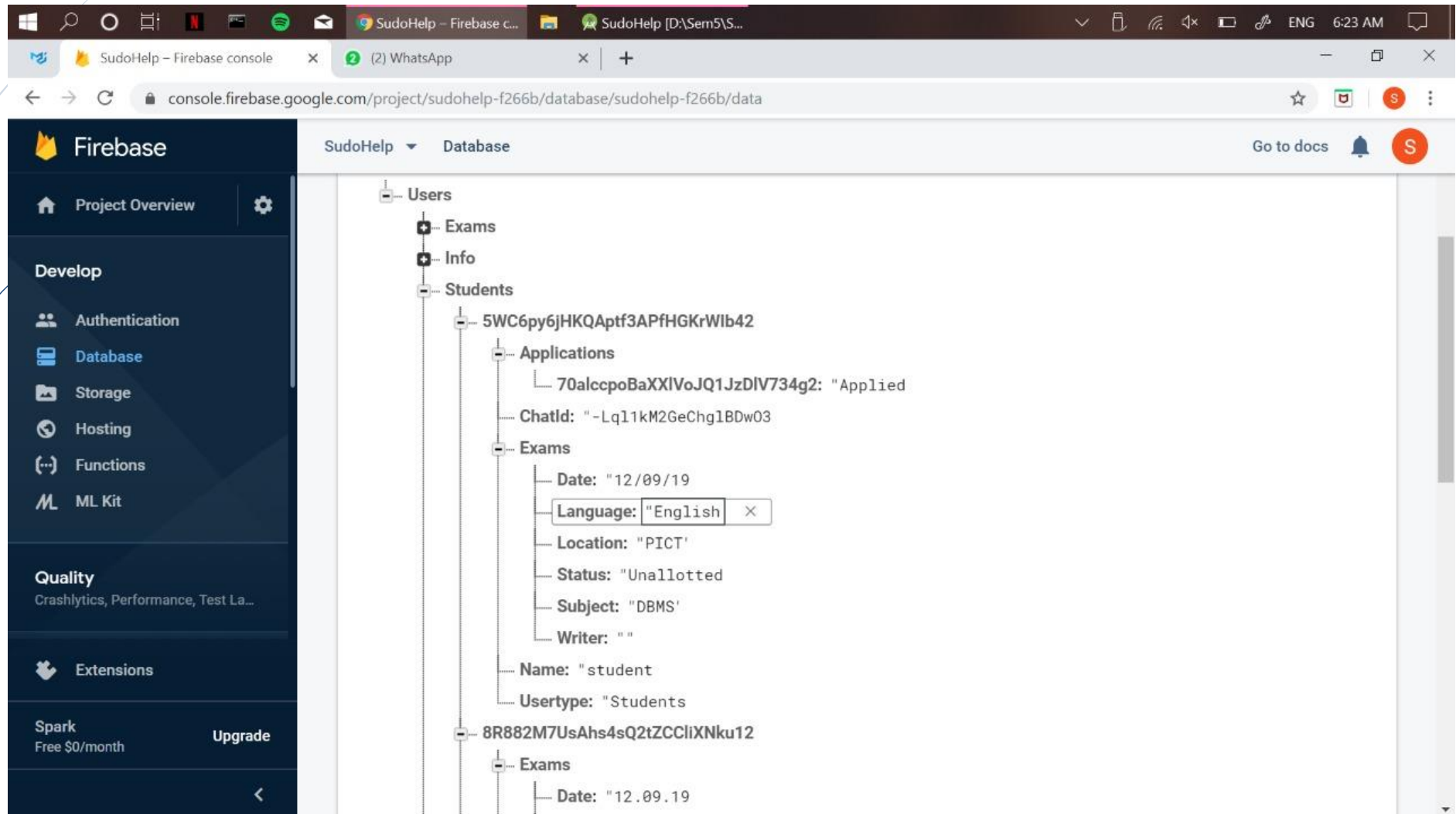
Database: Realtime Database

Navigation tabs: Data, Rules, Backups, Usage

Database Structure:

- sudohelp-f266b
  - Users
    - Exams
    - Info
    - Students
    - Writers

# Student Database



The screenshot displays the Firebase console interface for a project named 'SudoHelp'. The left sidebar contains navigation options: Project Overview, Develop (Authentication, Database, Storage, Hosting, Functions, ML Kit), Quality (Crashlytics, Performance, Test Lab), and Extensions. The main area shows the 'Database' view with a tree structure. The 'Students' node is expanded, showing two student entries. The first entry, identified by UID '5WC6py6jHKQAptf3APfHGKrWib42', has sub-nodes for 'Applications' (with value '70alccpoBaXXIVoJQ1JzDIV734g2: "Applied"'), 'ChatId' (with value '-Lq11kM2GeChg1BDw03'), 'Exams' (containing fields: Date: '12/09/19', Language: 'English', Location: 'PICT', Status: 'Unallotted', Subject: 'DBMS', Writer: ''), 'Name' (with value 'student'), and 'Usertype' (with value 'Students'). The second entry, identified by UID '8R882M7UsAhs4sQ2tZCCliXNku12', has an 'Exams' sub-node with a 'Date' field set to '12.09.19'.

Browser tabs: SudoHelp - Firebase console, (2) WhatsApp

URL: console.firebase.google.com/project/sudohelp-f266b/database/sudohelp-f266b/data

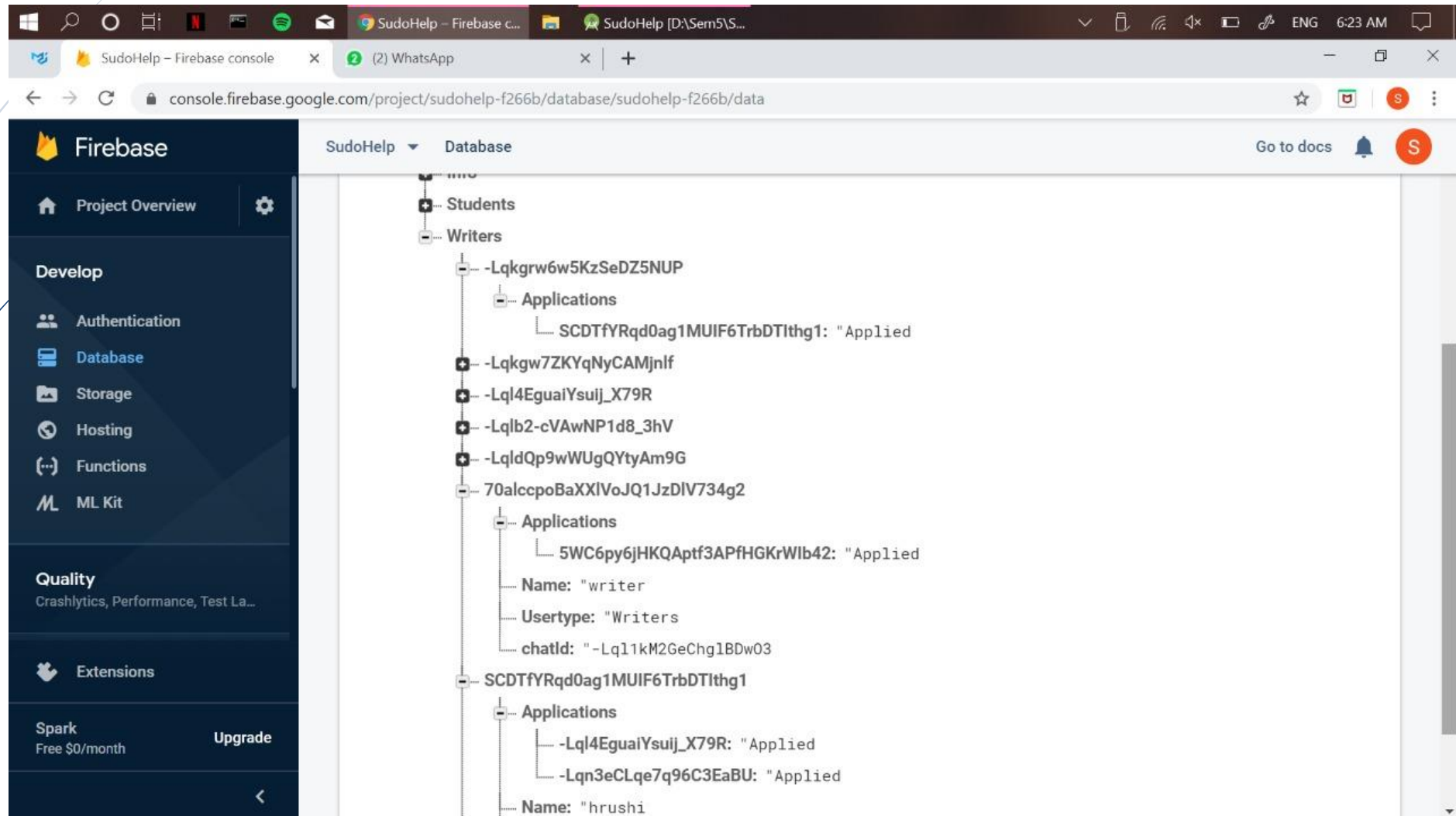
Page Title: SudoHelp - Database

Go to docs

Database Structure:

- Users
  - Exams
  - Info
  - Students
    - 5WC6py6jHKQAptf3APfHGKrWib42
      - Applications
        - 70alccpoBaXXIVoJQ1JzDIV734g2: "Applied"
      - ChatId: "-Lq11kM2GeChg1BDw03"
      - Exams
        - Date: "12/09/19"
        - Language: "English"
        - Location: "PICT"
        - Status: "Unallotted"
        - Subject: "DBMS"
        - Writer: ""
      - Name: "student"
      - Usertype: "Students"
    - 8R882M7UsAhs4sQ2tZCCliXNku12
      - Exams
        - Date: "12.09.19"

# Writer Database



The screenshot displays the Firebase console interface for a project named 'SudoHelp'. The left sidebar shows the 'Database' option selected under the 'Develop' section. The main area shows the database structure, which is a Realtime Database. The root node is 'SudoHelp', which contains a 'Database' node. Under 'Database', there are two main branches: 'Students' and 'Writers'. The 'Writers' branch contains several nodes, including a list of user IDs and two 'Applications' nodes. The 'Applications' nodes contain details about the user's application, such as 'Name', 'Usertype', and 'chatId'.

**Database Structure:**

- SudoHelp
  - Database
    - Students
      - Writers
        - Lqkgrw6w5KzSeDZ5NUP
          - Applications
            - SCDTfYRqd0ag1MUIF6TrbDTlthg1: "Applied"
        - Lqkgw7ZKYqNyCAMjnlf
        - Lql4EguaiYsuij\_X79R
        - Lqlb2-cVAwNP1d8\_3hV
        - LqldQp9wWUgQYtyAm9G
        - 70alccpoBaXXIVoJQ1JzDIV734g2
          - Applications
            - 5WC6py6jHKQAptf3APfHGKrWlb42: "Applied"
          - Name: "writer"
          - Usertype: "Writers"
          - chatId: "-Lql1kM2GeChg1BDw03"
        - SCDTfYRqd0ag1MUIF6TrbDTlthg1
          - Applications
            - Lql4EguaiYsuij\_X79R: "Applied"
            - Lqn3eCLqe7q96C3EaBU: "Applied"
          - Name: "hrushi"




# Requirement Analysis

No	Core requirements	meets?	comment
1	Is the software readily available for evaluation purpose to validate specific functions features and capabilities.	yes	Shrine is readily available on play store with a simple easy to use manual.
2	Is the software scalable for large number of users?	yes	Can easily handle 50k user.
3	The GUI must have a front end interface operatable in different android platforms	yes	To run Shrine the device must have android version 4.2 and minimum 850mb storage.
4	The application must integrate real time systems.	yes	Works with existing data stores ensuring real time feedback.



# Conclusion



❖ We've used the Android Application Development concepts that we have learnt to develop an application that benefits the disabled students who require writers for their examinations.



# Future scope



- ❖ SudoHelp can include chat features to help the student interact with the writer to discuss about the necessities directly.
- ❖ An online support community providing help financially to the disabled using options like Netbanking, UPI, etc. within the app.
- ❖ A live bot in which the user can ask queries and get assistance.
- ❖ Adding validations for Certificates of Eligibility and examination guidelines.



# References

- Android Documentation

[1] <https://developer.android.com/docs>

- Firebase Documentation

[2] <https://firebase.google.com/docs>

- Material Documentation

[3] <https://material.io.design/>

- Other References

[4] <https://www.freepressjournal.in/cmcm/Maharashtra-board-exams-disabled-students-face-shortage-of-writers>

[5] <https://indianexpress.com/article/cities/Mumbai/students-with-disabilities-to-get-assistance-from-writers/>