

SMART CHILD DAY CARE CENTER

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering.

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APPROVAL

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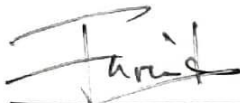
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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Mr. Abdus Sattar, Assistant Professor of CSE Department, Daffodil International University**. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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Finally, we must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

Parents are always worry about their children and try to make sure their present and future is always safe and secure. But now it very difficult to always be with their children. That's why we took the initiative to create an app "Smart Day Care Center" which give more relaxation about their child security and academic activity. In this app there are three categories like owner, doctor, tutors. All that kind of person can sing up and parent apply for admit child, provides previous medical report and check notification. Authority can conform admission, physical and daily update, send notification about update via sms. Tutors clarify improvement learning activity and knowledge. Parents and people can also know about the services about the "Smart Day Care Center". This app help parents to always monitoring their children. Now-a-days this app will be very helpful for those parents who are busy for job and business purpose. Parent feels relax and more over female can be more interest about jobs and education. For this reason half of people of country can contribute for the nation.

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CHAPTER 1

INTRODUCTION

Introduction

Child care and health is most important for a nation because “today children are future of tomorrow”. Healthy baby is the main reason or step of healthy adult population. Moreover, parents think about child security after that they want to contribute in their child study. So the main vital factor is working parents don't have enough time for their child security, health, education. So they have to choose day-care center. Most important factor is that parents are totally unaware about what actually happens in day care center. As a result, the events occur coughing, sneezing, frequent crying, vomiting, high period of low activity, extended sleep etc. Day care babies have to back center in a short period without proper care. Not only the ill child but also other babies can be ill by the virus. If we can early detect by data mining application such events can occur, day-care specialists can treat babies separately with extra care. Without the method it is not possible to take care of every child at the same time.

So families, day-care centers have to collaborate with the application and technology. Collect video images of child responses. Allow parents to watch over children from a remote location and services that active wireless communication between parents and children.

Based on this discussion we set our main goal that is given below:-

- It is very difficult for one person to record child activity. Caretaker may leave the job or go on vacation in that time babies need to be cared all the time, sometime it is a large burden. So create a multi-monitoring system in this android application.
- The focus of the application is security, it can be a combination of web camera, portal, smart ID, CCTV.
- Lastly Wi-Fi-based localization system creates many access points for obtaining an accurate location. Parents' smart phones automatically connect to the network and get notifications.
- Parents can apply online for admission and authorities confirm it.
- Doctors and tutors give physical and medical reports through this child specialist give early predictions.

Motivation

In modern era there are lots of nuclear family or single mother. Almost every family contains working parents. For living in a nuclear family or being a single mother there is none other relative exists to take care of their children. And in this days they can't easily trust any maid or leave child alone at home. So by force parents have to leave their children in day care center. But they can't stop thinking about their child even at work. If they can observe their children activity seating in their office at any time, it would be relaxing for them. By this our economic growth will be increase because female will more interest to their job. Lastly working woman can contribute financially for family more over nation. For this reason we develop an android application because now a day every people have smart phone. They always keep eye on the phone. From this thought we decided to do "**Smart Child Day Care Center**".

Objective

- Our main objective is implement android application concept & given security of child's life, health, nutrition in day care center.
- Online apply available in this application.
- Authority ensure admission via notification.
- After completing admission, parents got daily update.

Expected Outcome

- Day care activity can be control and update by the smart phone application.
- Parents can keep eyes into their children whenever they want & child need.
- They can observe their children activities and parents can ensure child daily basis need in day care center.
- Parents notify by authority about their child activity.
- This android application ensure better care for their children parents will more eager & inspire for "Smart Child Day Care Center".

Report Layout

All reports are broadly organizing in three sections:

- Initial staple
- Test
- Back trouble

The Initial matter consists of the title page, approval page, abstract summary, Acknowledgements, table contents, list of tables, list of figures, other lists and the Preface etc. Initial pages are paginated independently from whatever remains of the content. We have organized our report as follows:

Chapter 2, Discuss the background statuses of our project. We also advise about the linked work, the challenges of our project and I am compared too many other candidate systems.

Chapter 3, Decide the requirements of the project. We defined the use case diagram and design requirements. I also discussed about the requirement collection and analysis process.

Chapter 4, Describe the designing part related to front-end and back-end of the project.

Chapter 5, Exhibited the execution of the whole project and we tested every unit of the project weather our application working as expected.

Chapter 6, Discussed about conclusion and our next planning regarding the project update.

CHAPTER 2

BACKGROUND

Introduction

As parent, child's safety and education is utmost import. But now-a-days parents are very busy about their work. So they can't take care child properly and they have to send their child in day care. But they can't relive because 2-4 years child can't express themselves properly. For this we develop android application because people keep in touch on smart phone. By, this app they can easily connected with their child health and academic activity. In Bangladesh smart phone user increasing day by day. There are many child related applications but our develop application cover all requirement. In this chapter we want to give overall view of our android app "Smart Child Day Care Center".

Related Works

ALL IN KIDS:

It is basically for kid education. This app can operate in five languages like English, Hindi, Dutch, Chinese, and Spanish. This is an education or fundamental learning process for kids. There is also an interesting part that is quiz system. Kid can also color in this app. Other notification or monitoring is not available.



Figure 2.2.1: Kids All in One

FAMILYTIME (ANDROID AND IOS):

It is basically for monitor kids by managing their daily routine. As like setting up the time for sleep, time for homework etc. It also have the alert system by which you can get notify in terms of emergency. You can also check the calls, text and also the other things what your kids do on mobile. Here you can also specify any area as safe or danger zone for kids.



Figure 2.2.2: Family Time

HIMAMA:

This application gives child daily activities notification to parents. This app can be use daycare and pre-school. By this application, can record Naps, Meals, Mood, activities. Our all-in-one childcare software features attendance tracker/sign-in, billing, daily sheets, reports, lesson planning, parent communication and more.

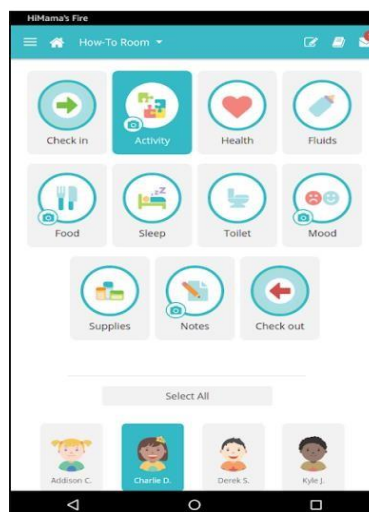


Figure 2.2.3: HiMama

BANGLA KIDS LEARNING APP:

This is Bangladeshi app which includes Bangla alphabet, week name, vegetables name, flower name, bird's name. This app is really benefitted for Bangladeshi pre-school child. This app have interesting feature like memory game. Some test like finding letter, number and animal are enhance child intelligence. . High definition images and sound quality contributes to a very unique user experience. Two way interface enhances the overall child development as children are able to react and express themselves through age appropriate games programmed in the app.



Figure 2.2.4: Bangla Kids Learning App

SWEET BABY GIRL DAYCARE:

This app is game related but child can also learn daily activity. Baby food, bubble bath, newborn dress up and cleaning up are just the beginning of learning daily activity by interesting method. By this app child can also build concept about what to in daily life.



Figure 2.2.5: Sweet Baby Girl Daycare

Comparative Studies

“Smart Child Day Care Center” the android application is very effective and desired application for every parent who wants to observe their child every time from any places. This application provides the notification to parents. They also can apply for admit their child via online. After conform admission, authority provide doctor and tutor. Providing doctor and tutor give daily medical, physical, academic report about child. Given daily update about child health will match the normal pattern health data, finally unmatched data give early prediction of disease.

Challenges

There is a proverb “no pain no gain”. Like this we faced some challenges. In our smart day care center we want to collaborate with parent all desire feature. There is no app which provide all needs of daily life. The quantity of ‘Smart Child Day Care’ is very low. So, we face a great hardship to gather knowledge. Then our main concept is child security and automated door will open by three steps verification, but all concept not in possible android.

- Connecting parents and daycare center authority
- Notification system and
- Making the user friendly interface.

CHAPTER 3

REQUIREMENT SPECIFICATION

Requirement Collection and Analysis

This android application is basically for android smart phone user. For smooth work this application requires very simple configuration.

Hardware configuration required:

- Android Smartphone for Parents.
- Android Smartphone for Authority

Software configuration required:

- OS: Android
- Tool: android-studio-ide
- DB: Firebase
- Server: Firebase

It also ensures following requirements that is required:

- Data accuracy
- Efficiency of working
- Real time data show
- User friendly
- Effective

Design Requirements

- Registration
- Login
- Daily updates
- Admit child
- Services
- Parent's Option
- Authority's Option
- Notification

Features

In this modern system we have several feature here. These are the main feature.

- Registration by valid Email id.
- Verify by code.
- Add child admit option
- Get daily Updates.
- See services
- Daily updates notification.
- Connect with authority.
- See available doctors.
- See available tutors.

Use Case Modeling and Description

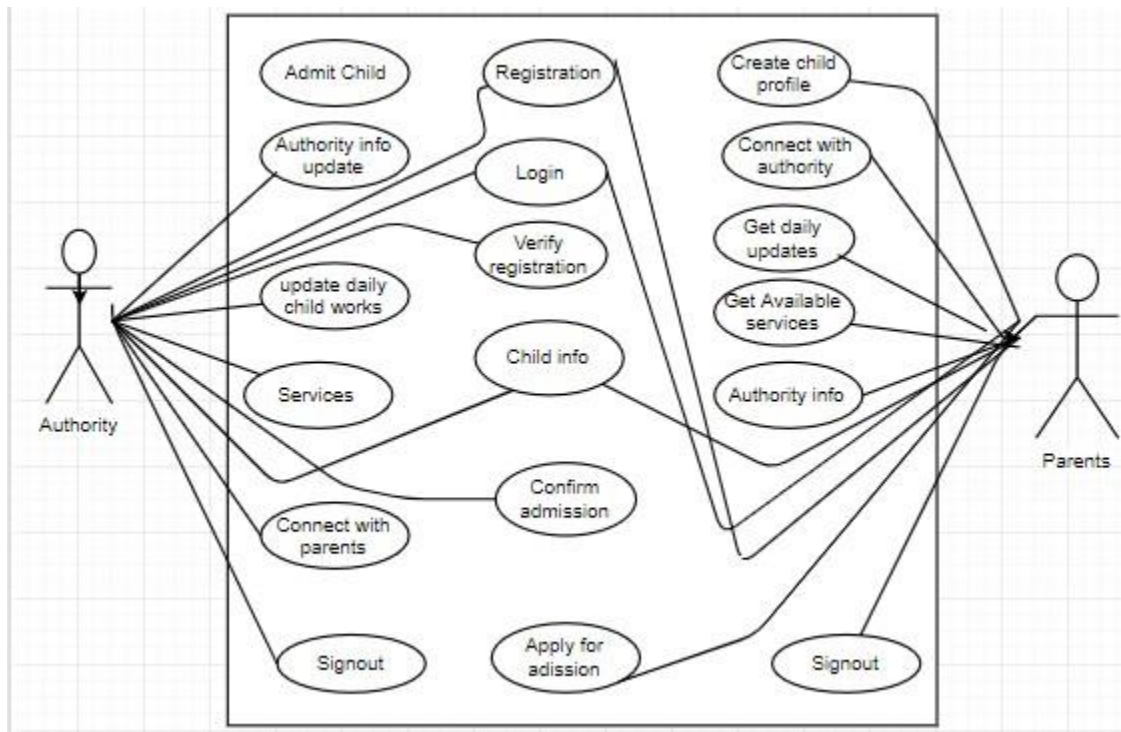


Figure 3.4: Use Case Model

In this Use Case Model there are two actors. One is Parent and another one is Authority. Here we can see both actor need valid mobile E-mail id for registration. Without put the verify E-mail id no one can complete the registration. After registration both actor can directly logged in the application. Only a registered user can do the next processes of the application.

Parents can use this apps for admit their child in the secure day care center .The admission will be accepted by the authority of the center. Parents also get daily medical and academic updates via notification at the end of the day. The notification of updates will be sent by the authority. Parents also can see the available services of the center. Parents can contact with the authority any time if they want.

Entity Relationship Diagram and Description

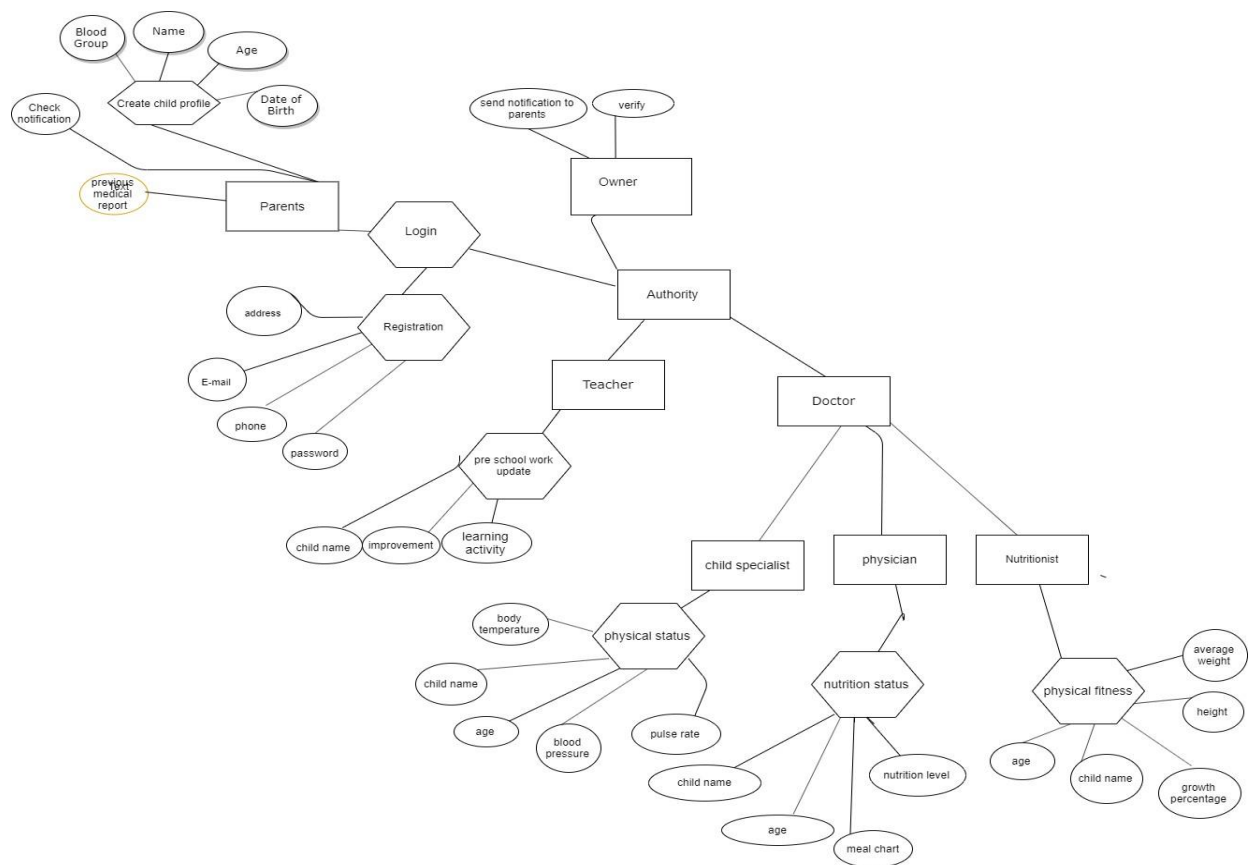


Figure 3.5: ER Diagram

In our project, only two entities are working in total application which are Parents and Authority. The parent has a unique mobile number, User name, E-mail id, Password. As like as parents unique mobile number, User name, E-mail id, Password. A parent can admit more than one child to the day care center.

Class Diagram and Description:

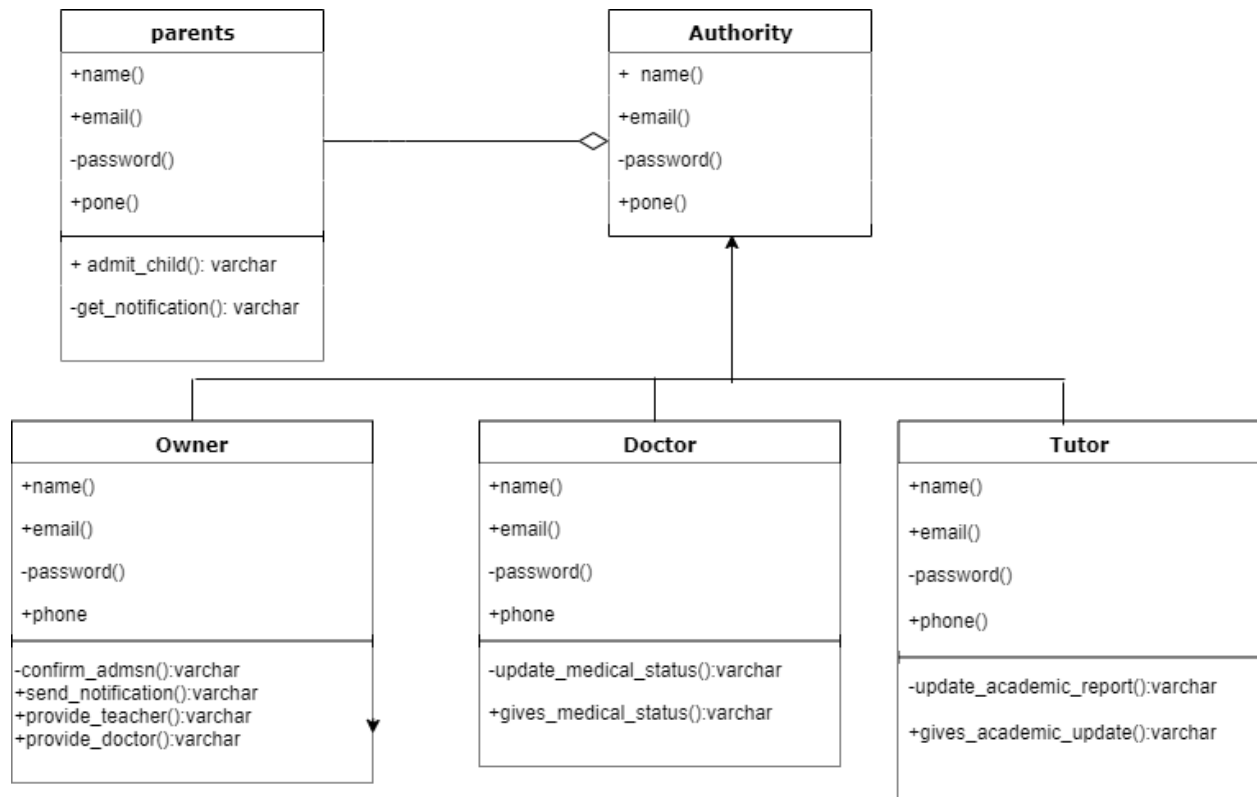


Figure 3.6: Class Diagram

In this class diagram there are mainly two classes. Parent class and authority class. In parents class there is 4 inheritance. Name, email, phone is public and password is protected. In parents class there is two method. They are admit child and get notification.

On the other hand under authority class there is 3 different classes. They are owner, doctor and tutor. All three classes has 4 inheritance. Name, email, phone is public and password is protected. Owner class 4 methods. They are confirm admission, provide doctor, provide tutor and send notification. Doctor class has two methods. One is medical report updates and other gives medical report. Tutor class also has two methods. Academic report update and gives academic report.

CHAPTER 4

DESIGN SPECIFICATION

Front-end or UI Design

User Interface is the front-end design of an application by which user can interact with the server of the application. The front-end design makes an application more attractive to the users. This design is the development of the application for users. The app should be attractive and users should understand at a glance.

Starting Page

Here is the starting page of the application. This design is different for parent and authority.

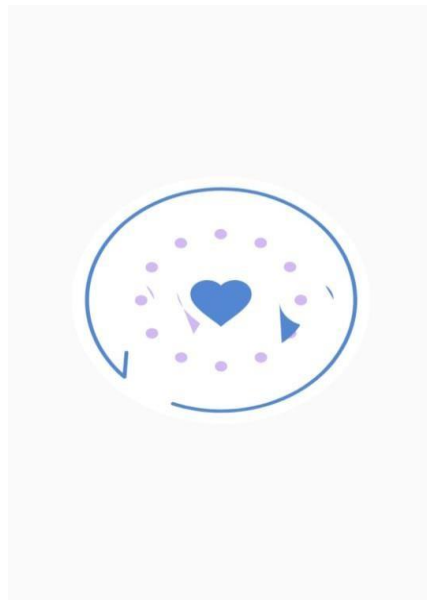



Figure 4.1.1: Landing Page of Both Application

Registration Process for Parent and Authority

Here is the registration process pages design for both parent and authority. Both need a valid email for registration.

Hello!



UserName

Email

Password

Address

Phone

Figure 4.1.2: Registration for parents and authority

Menu for Parent and Authority

The parent and child have different menu. Here is the menu list design for parent and authority

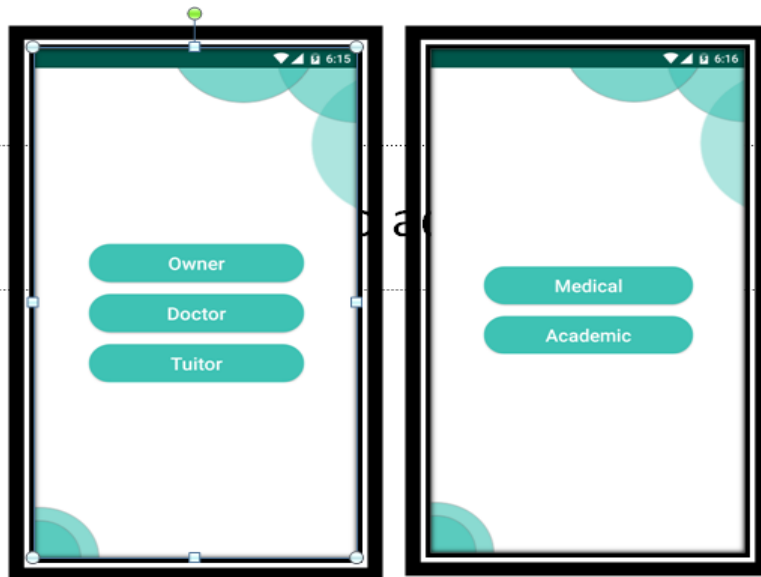


Figure 4.1.3: Menu for Parent and Authority

Apply for student admission:

The parent can also apply online for admission. Authority conform admission if parents fulfill all the requirements.

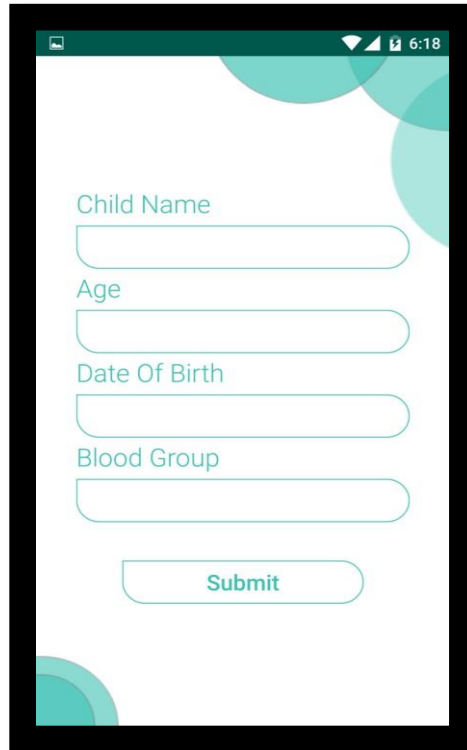
A screenshot of a mobile application interface for applying for student admission. The form is displayed on a white background with a dark green header bar at the top. The header bar contains a signal strength icon, a Wi-Fi icon, a battery icon, and the time 6:18. The form consists of four input fields, each with a label above it: "Child Name", "Age", "Date Of Birth", and "Blood Group". Each input field is a rounded rectangle with a light blue border. Below the input fields is a "Submit" button, also a rounded rectangle with a light blue border and the text "Submit" in the center. The form is decorated with teal circular graphics in the corners.

Figure 4.1.4: Apply for student admission

Parent check doctor/tutor:

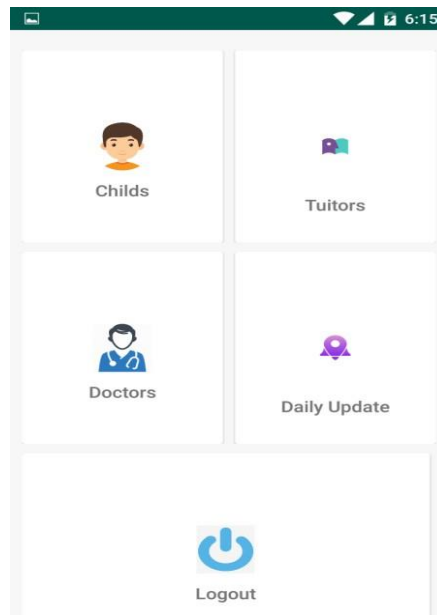


Figure 4.1.5: Parent check doctor/tutor

CHAPTER 5

IMPLEMENTATION AND TESTING

Requirements for Implementation

For the implementation of our project we need some basic requirements. Without those things we cannot run our application as we want to run for achieving our goal. The implementation process will start after fill those requirements which we mentioned below.

- Internet connection for Parent and Authority
- Android Mobile for both Parent authority
- Install the application in Both mobile
- Turn on wi-fi and sing in mobile
- Valid email for both
- Online apply for admission
- Authority update child medical and academic report
- Send notification via sms
- Early prediction of many disease

Testing Implementation

This is the process that can consider as in where an application tester or it can be the builder of that application will be able to check many cases for the completion of the application and specification. But maybe there have the limitation in the application at the initial stage or in next.

Test case	Test input	Expected outcome	Obtained outcome	Passed/Failed	Testing Period
Registration	Registered by valid info	Successfully registered	Successfully registered	Passed	31-10-2019
Registration	Registered by invalid email	Re-enter warning for failure	Registered denied	Passed	31-10-2019

Registration	Registration with empty field	Re-enter warning for failure	Registration denied	Passed	31-10-2019
Admit child	Add by name,age	Successfully added	Successfully added	Passed	31-10-2019
Conform admission	Add by manual code	Successfully added	Successfully added	Passed	1-11-2019
Physical report	Select valid child	notification	get notification	Passed	1-11-2019
Daily update	Select valid child	Early prediction	Get Early prediction notification	Passed	2-11-2019
Sign out	Return to the Registration Process	Task successful	Task successful	Passed	2-11-2019

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

Discussion and Conclusion

After a hectic effort, we developed the app. The app is developed in such a way that it will benefit the mother who are extremely tensed for the babies at home. They face many a problems regarding the issues, sometimes they leave their job for this. Considering this issues we developed an app named "Smart Child Day Care".

Future work and Further Development:

In near future we will add some features. The app is very simple and easy so that anyone with a Little Knowledge can use it. Currently the app is available to android users however very soon we will launch it for iOS users too.

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APPENDIX

Appendix A: Plagiarism Check Report

33 - Plagiarism Report

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