www.mescj.com

Social Media App Development (ADHD Care Application)

Name: Salihah Alshamrani

MSc Creative Digital Media

Paper Field: Digital Media

E-mail: the_strongest_99999_@hotmail.com

Abstract

ADHD CARE is an online education media to connect Teacher, Parents and Students on one platform to increase the overall experience in Education Sector. The main goal is to help ADHD Care users (Teacher, Parents and Students) to access this application smoothly. In addition, the main focus is on diet, commitment, support and development. ADHD care should be able to add to the teaching experience with, make the process easier, more trackable, and increase motivation.

This application is generally designed with thought of changing the traditional teaching method and convert it to an online platform. This application will also increase the parent's involvement in student affairs. The scope of this app is to increase the teacher's interaction with students and parents. This will make it easier for teachers to give assignments and keep track of student's progress while decreasing the teacher's workload.

This application will help to increase collaboration between students. It will help parents in tracking daily activities such as diet, homework assignments, attendance, etc. of their children. It will allow teachers to keep track of their students all on one platform and help them direct further help to students who need it most.

www.mescj.com

AIMS AND OBJECTIVES OF THE PROJECT

"ADHD Care" aims to offer a holistic approach to maintain ADHD by involving parents and teachers in the child's studies and health. "ADHD Care" aims to improve and track the child's behavior and to provide diet recommendations. "ADHD Care" serves as an online education media to connect teachers, parents, and students on a single platform. "ADHD Care" serves to the help the patient performs time management. "ADHD Care" aims to the help the patient tracks their progress through a tracking and reporting process." ADHD Care" is intended to the help the parents encourage good behavior in their child. "ADHD Care" is intended to help teachers and parents/guardians to communicate effectively amongst themselves and share the feedback and development plans. "ADHD Care" is intended to provide a consolidated reporting system, in which the overall progress of patient is measurable.

Keywords: ADHD Care, Education, Teachers and students.

INTRODUCTION

This document has been written for the purpose of outlining and detailing all the work I have completed developing the "ADHD Care" app, my final semester project. Attention Deficit Hyperactivity Disorder (ADHD) cannot be cured, but it can be successfully managed. "ADHD Care" aims to improve and track a child's behavior and provide diet recommendations. "ADHD Care" also serves as media for online education that connects teachers, parents, and students through a single platform. The android app developed is specifically designed to help kids affected with ADHD by connecting their parents and teachers, who are easily able to interact with each other through the app to follow-up on student's healthcare and studies. In order to give the reader a complete context of the mobile application, this document first describes the user needs analysis. This section elicits the aims and objectives of the project. It contains the user needs analysis surveys and results. The next section is background and research. This section explains the problem that is being solved by the application and then analyzes the survey that was a key part in identifying the target market. It provides a synopsis of competitor analysis performed to identify the target market. It helps to develop understanding of user wants and needs. Use case uses a model created to elicit the

requirements, which are also stated in this section. These requirements acted as source of inspiration to create this application. Once the reader fully understands the problem the app is solving, the target market, and competitors, the documentation describes the methodology and design behind how the application was built. With this document, I have shown the reader the final version of the app, "ADHD Care." I have showed the reader the user interface screens, the layout. I have added snapshots of screens that help readers understand the navigation of the application for each type of user, showing how each utilizes the app and interacts with each other .I have provided an understanding of how the application is built in phases. I have provided links of the tutorials I have used to enhance my knowledge and build the app. In the architecture section, I have added a section to explain the code components, which are the backend, the middle layer, and front end for the entire application. Diagrams explain the app code architecture and the database entity relationship.

In this section, I have also mentioned details of promoting the app, including where social media links are added. The promotion of the app is also done through flyers and posters. In the functionality section, the cross-functional swim lane diagram are added to explain the functionality of diet, task, attendance, development, and support features. Finally, this section has use cases that explain the way users will be using this app. The app testing approach is based on a user survey that identifies the real needs of the target user. This application helps solve those needs. Functionality based testing of the application has also been performed to make the application work as desired. The preliminary testing of the application was a way to validate the functionality, usability, user-friendliness, navigation, and overall layout. I decided to test several iterations of the home screen layout with users. The details of preliminary testing are mentioned in sections below. The testing methodologies comprise of surveys ran in three schools. The questions for user surveys are designed by keeping in mind that I need to identify the gap between the real and stated needs of users. Details about the questionnaire and results, and statistics derived from the results, are provided in in sub-sections below. In addition to the user surveys conducted to test the usability of the app, I also provided preliminary testing of the app created by me beforehand. The objective of this is unit test each of app's modules to identify any functionality related bugs and fix them. After completion of the unit testing, I performed integration testing. The overall testing results are positive. This provided me with a

confidence in the app. The responses show that the app is tailored to their needs or interests. The user group of teacher, student, and parents all find it satisfactory and useful. Users showed a great interest in using the app to provide care and support for ADHD children and their parents.

User Needs Analysis

The aim of creating this application is to help improve the condition of children who are suffering from ADHD. According to *Natural Supplements for ADHD.* Attention deficit hyperactivity disorder (ADHD) is a condition in which a person has trouble paying attention and focusing on tasks, tends to act without thinking, and has trouble sitting still.

A child with ADHD:

- Doesn't follow directions or finish tasks
- Forgets about daily activities
- Has problems organizing daily tasks
- Unorganized
- Easily frustrated
- Chronic forgetfulness
- Impulsive
- ADHD cannot be cured, but recognizing it early and having a good treatment and education plan can help a child or adult with ADHD manage their symptoms .The

“ADHD Care” app would help the parents and teacher of children treat this medical

condition .The objective is to create an app that provide a means to measure and track the improvements in patients with help of intuitive reporting and notification features. That helps to measure the effectiveness of wellness in specific areas like diet, attendance, and behaviors of the child.

USER NEEDS SURVEY

In order to understand the user needs and analysis, a survey is conducted. The synopsis of the survey is to identify the users and its demographics.

Personas Sarah Ford

Name: Sarah Ford Age: 38 years Occupation: Housewife. Pain points: Sarah Ford's eight-year-old daughter was diagnosed with ADHD.As a student, Julia faced following problems. Forgetting to write down the homework assignments. Forgetting to bring home the materials they need, does not finish homework; misses deadlines .As a mother, Sarah has also faced .Lack of daily communication between her and the teacher. Lack of daily feedback from the teacher A simple, reliable means to track her daughter's diet in past. As a mother, Sarah is looking for a means to help child lead a normal and healthy life. She needs a way to help her daughter do her work on time and track her activities. She is looking for a centralized place to create a diet chart, record it, and help know whether it's completed on time or not. She wants a means to alter a diet chart based on specific nutritional needs. To provide treatment to her daughter, she needs to be constant touch with her teachers and the instructors who would council them by designing a development program. She finds it hard to memorize the dates to begin or end the diet plan. She wishes to have a reminder system that will notify her of important dates and act as a companion, a change maker to cure her daughter ADHD.

Amanda

Name: Amanda Age: 28 years' occupation: Teacher at *Our Lady of Victories Girls' National School* Pain points. AS a teacher, Amanda faces difficulty in dealing with students who are diagnosed with ADHD. As a teacher, she faced many difficulties with her ADHD student, such as Lack of completion of the homework assignments. Forgetting to bring to school the materials they need. Leaving their seats in situations when staying seated is expected.

Impulsive behavior of student frequently interrupting the class. Students pay poor attention to detail. Students failing to complete projects or assignments at school or at home. Difficulty keeping track of things provided to students, which are necessary for tasks or activities, such as school supplies, pencils, books, tools, wallets, keys, paperwork, eyeglasses, and cell phones. In addition, she has faced Lack of daily communication with parents, lack of daily feedback from students' parents, lack of a holistic approach to deal with this situation. Amanda is a school teacher of Our Lady of Victories Girls' National School. She has some students who are suffering from ADHD. As a teacher, Amanda is looking for a means to help those students who are ADHD patients to improve in health and behavior. Amanda is looking for a means to get in touch regularly and help the parent of these students. She feels a strong need for a holistic approach that could bring her closer to the parents and student by helping them meet the common objective to maintain the ADHD symptoms.

BACKGROUND RESEARCH

This summarizes the background research done to provide an application that provides real and strong benefits to the children that face the challenges of ADHD, their teachers, and the parents who support them. This section debriefs the problems to be solved with this idea, which is the source of inspiration for "ADHD Care." What problem is my application solving?

I asked people to fill out a questionnaire in order to test my hypothesis.

HYPOTHESIS:

ADHD sufferers, their teachers, doctors, and parents are eager to find an app that helps them get on task and improve behavior and relationships. ADHD sufferers, their parents, and their teachers is the main target group for the survey. The target group were asked the following main questions.

Q1: As a parent of an ADHD patient, do you face problems in keeping track of nutrition provided to your child and help improving their diet?

Q2: As teachers and parents of ADHD sufferers, have you faced difficulties in communicating effectively among each other?

Q3: As a parent or teacher of ADHD patients, have you faced issue dealing with your child's homework and other time management issues?

Q1: As a parent of an ADHD patient, do you face problems in keeping track of nutrition provided to your child and help improving their diet?

This question is asked to understand the needs of parents of ADHD patients. This helped us to realize the need to organize and track the nutrition provided to children. The parents do not have an effective means to add and record their child's diet plan and keep a record of how the diet has been followed in the past. This allows parents to have the diet plan reviewed and record the feedback over the results of their diet plan.

As a teachers and parents/guardians of ADHD sufferers have you faced difficulties in communicate effectively among each other? This question is asked to teachers and parents/guardians of ADHD. This question is intended to understand the difficulty users are facing in establishing effective communication among themselves. They exhibited their desire for a centralized system to chat online and provide comment feedback over diet, day today activities. They feel that an effective communication will helpful in dealing with situation in a timely manner.

As teachers and parents of ADHD sufferers, have you faced difficulties in communicating effectively among each other? This question is asked to teachers and patients of ADHD students to understand what issues they face dealing with ADHD patients related with timelines of homework and what they think would help to overcome this issue. Both parents and teacher find it difficult to remind the child about daily assignments. They have shown a desire to have an application that would help them create reminders so that they help in following the daily routine.

What problems is this application solving?

ADHD Care" helps ADHD patients keep up with daily schedules while providing a holistic approach to maintain the symptoms of ADHD. The other problem that it will be solving is to connect teachers, parents, and students on one platform. How is "ADHD Care" solving these problems? ADHD Care" will have built in features for recording the diet plan and notification features to remind the users to follow a schedule. Its reporting feature will resolve the problem by measuring and tracking the improvements in patients, which helps to measure the effectiveness of wellness in specific areas like diet, attendance, and behavior of the child. With the feature to live chat between users of application, everyone can be kept up to date. The review approval and comments over diet plans will solve the problem of how to collaborate effectively.

Analysis of Results

Of the 65% of teachers who said they would be using the app, the results are 78% said it would help them keep in constant touch with parents. 67% said it will effective in aiding the student complete their work on time.55% said they take currently use a similar app to help them get it touch with parents .The average number of ADHD patients each teacher deals with is twelve. The average age of students is 9 years.70% teachers worked full time and 30% worked part-time.98% percent of teachers are mobile app users. Of the 60% of students who said they would use the app, the results are.88% said it will help them in following their homework timelines. 78% said notifications act as great reminders and help them to follow schedules.65% percent students are of age group 6 to10 years, the remaining are above this age.56% said they use web reminders to help them stay organized.90% are mobile app users.

Of the 75% of parents that said they will be using this app, the results are.88% parents face difficulties in collaboration with teachers in context of diet plan review. 65% find hard to keep track of their child's progress and diet plan. 67% find hard to keep maintain historical record of past diet plans and visualizing it later to identify the trend and progress of child.95% are mobile app users .From this analysis came the previously presented personas of likely potential

users of the "ADHD Care" mobile app .

USER WANTS

To identify the other desired features, the following questions were asked. Would "ADHD Care" application be useful to you, if so why? Are there any cool features that you want to see in "ADHD Care? From the analysis of "what problem is the application solving," I concluded that ADHD patients were missing diet plan and other schedule-like timelines of homework, and that their parents and teachers find it difficult to collaborate over diet plans, tasks, or schedules. Combing this information with the knowledge learned during surveying, the wants of the user have been determined as. Be notified when a new diet plan is added to a student's diet plan list. Ability to comment on and edit the diet plan .Get a notification when a diet plan or task receives a comment by student, teacher, or parent .Parents and teachers receive notifications when a child completes a diet plan or task. Receive notifications when a comment is made on diet plan or task .Simple and easy to use interface for smart phones. Ability to follow up on diet plan and schedule using the reporting feature. Teachers have the ability to view a summary of each student's progress .Teachers have the ability to assign diet, task, and timetable for student or group of students .Parents can follow up on their child's diet, tasks, and timetables .Record and view reports concerning the attendance of students Login using social media, such as Facebook, Twitter, or LinkedIn

LITERATURE REVIEW

The following application has been analyzed to perform competitor's analysis:
ADHD Timer. This app visualizes time as it is moving. It is easy to see elapsed time and the time remaining. The exact time is not shown, only relative time, which tends to work particular well for ADHD patients. Value to User The concept of time is hard to master. People/kids with ADHD typically have problems getting things done, and this app allows them to more easily follow a schedule. User-based Sentiments. The app has a rating of 2.7 out 5, where users say it fails to provide value as it crashes frequently and unexpectedly. Pros Easy to see elapsed time and the time remaining. The app is easy and fast to use. No fuss. Cons this app does not provide a holistic approach to ADHD patient care. Unlike "ADHD Care," it does not provide features

that help students, parents, and teacher view and record the student's task completion records, lacks reporting features Aster Free. The "ASTRE" application is the only tool that provides management of access to mobile device content (parental controls), organization of the child's time through a visual agenda. Support for the effort and motivation of the child through a system of effective reinforcements. Facilitation of the identification and management of emotions. Promoting communication and interactions of the child with their care givers. Value to User" ASTRE" is a unique tool developed by a group of professionals with great experience in the accompaniment of children in difficulty. The idea behind this project comes from our desire to give concrete help to families in terms of an effective educational tool and to help them find real solutions to everyday problems. The child is not forgotten in all this. It is his well-being and his flourishing that are the object of our initiative. The interface, the different functionalities of our application, its sober and uncluttered side, are real innovations and form the basis of a real educational and pedagogical solution based on the latest scientific data.

User-based Sentiments. This app helps children with severe developmental disabilities, in particular with autistic disorders, children with attention deficit with or without hyperactivity, and children with severe anxiety disorders. Having the objective of managing access to the content of the device makes this application indispensable for any child who is difficult to independently manage in terms of the times of use with his electronic device. This application is not a video game that will occupy your child, but an educational tool that allows you to help your child better understand the different organizational aspects of his or her time and space, as well as access to a better perception of oneself and one's emotions. This competitive analysis has helped us identify the features for the "ADHD Care" app. This has provided a basis of importance for functional and technical requirements of a well-designed healthcare app.

Definition of Design Requirements

The design of the application is based on the following principals. The "ADHD Care" app will be used to make a diet plan entry or edit it 3-4 times per week. The "ADHD Care" app will be used to make a task entry or edit it 5-0 times a week. The "ADHD Care" app will be used by teachers to make an entry of attendance or edit it 10-15 times a week. Users will primarily use the app for collaboration via chat or comments regarding diet plans or tasks. "ADHD Care"

app will be used by users 10-15 times per week for not more than five minutes per session. This a mobile app and intended for different age groups, including children under the age of ten years old. To accommodate this, the design of the mobile should be minimalist and simple without commanding the user's full attention. This app is following a "two tap rule," meaning any task on "ADHD Care" is two taps away from the home screen (this is discussed further in the navigation heading in the next section). Furthermost emphasis is on putting the content first as discussed in the breakdown of the home screen design. All measures are taken in an effort to try to drive user engagement in situations where users may be standing in a queue, waiting for train /bus, while travelling or walking down the street, etc. Users will primarily use for managing diet, tasks, and collaboration via chat or comments.

Technologies

In this section, I will discuss all the technologies that were used to build ADHD App Care Mobile App Designs: Adobe Photoshop CC For Mobile Frontend Platform: Android (HTC, Samsung, LG, Sony) IDE: Android Studio 2.2.3Compatibility: Mobile & Tablets having Operating System versions Kit Kat 4.4 to Marshmallow. Android with Java as programming language. Java is the perfect language for the developing this app. Presently, it is the most common programming language and has taken the highest position with Android, though it was a bit down a few years ago. Java is utilized for mobile-based applications, desktop applications, and for establishing Android apps on tablets and smartphones. For Web Services & Database: Platform: Asp.Net. IDE: Visual Studio 2013.Framework: MVC 5.0. Database Development: SQL Server 2008 R2Software: Frontend to use: Android with Java as programming language. Backend to use: Net web API for database and as web application. IIS as Webserver hosting the backend web application.

Distribution

The "ADHD Care" application will be distributed through Google Play, the leading Android app, store Promotion. The promotions were implemented in three aspects: a show case video for demonstrations in schools, a flyer and posters, and via social media sites. Below is the image of the poster that shows some of the screens of the "ADHD Care" app. It contains the app features in bullet points. It also has pictures that' shows how the app looks for different mobile devices. The flyer provides details of app features, and how it can help parents, teachers,

and students to manage ADHD.

CRITICAL ANALYSIS/CONCLUSION

The analysis of the surveys conducted helped me identify the solutions required to help with the development of ADHD patients. The overall result of the user needs survey and personas case study has helped to identify the real user needs, which are categorized as must-have features. The other desired and extra features are wants of user. This section acts as an inspiration and basis for designing the requirements of the "ADHD Care" app I've stated in the sections above. The sections following next will provide insight into the methodology and approach used to implement these requirements while developing "ADHD Care."

Design User Interface

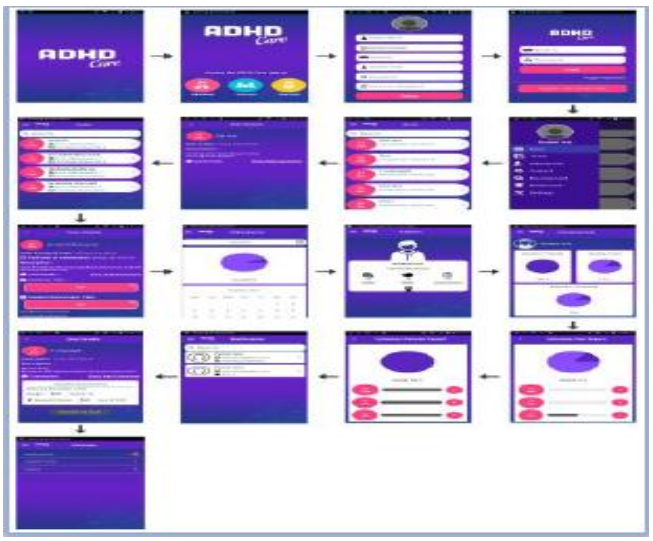
Overview of "ADHD Care The user interface of "ADHD Care" is based on XML and has a responsive layout. Each screen is prototyped, followed by initial discussion with the test group. Based on their feedback, the changes are incorporated into the user interface. Design is implemented into the app using XML. The integrated design is finished, and clicks and taps make the app flow easily. The next section provides screen snapshots with a synopsis of each screen, including "ADHD Care" Parent's Login The parents download the app, and select their role. The user is asked to login with basic detail of user name and password. The process of registration/login is extremely simple. The registration process consists of simplified UI with intuitive icons for student, parent, and teacher. User Interface for Parents. Below is the user interface design for parent accounts. This prototype of the user interface has screen layouts of the sections. This covers the screens for registering as a parent and login for parents.

Design User Interface

Overview of "ADHD Care The user interface of "ADHD Care" is based on XML and has a responsive layout. Each screen is prototyped, followed by initial discussion with the test group. Based on their feedback, the changes are incorporated into the user interface. Design is implemented into the app using XML. The integrated design is finished, and clicks and taps make the app flow easily. The next section provides screen snapshots with a synopsis of each screen, including "ADHD Care" Parent's Login The parents download the app, and select their

www.mescj.com

role. The user is asked to login with basic detail of user name and password. The process of registration/login is extremely simple. The registration process consists of simplified UI with intuitive icons for student, parent, and teacher. User Interface for Parents. Below is the user interface design for parent accounts. This prototype of the user interface has screen layouts of the sections. This covers the screens for registering as a parent and login for parents. Once logged in, parents will be able to view the menu. The parent selects the menu item they need to use: diet, task, support, attendance, notification, or settings. This prototype displays the search screen to search for diet, task, and notifications. I have added screens that display the diet detail and task detail. It has screens that allows users to add diet and tasks. The support feature is provided for parents to view the rewards points attained by students in each section: diet, task, and attendance. The development of their child is assisted using the screen that provides the student diet report, attendance report, and task completion with a pie graph that shows the percentage completed. The reports are all graphical and easy to understand for parents of all age groups. The reports can be analyzed for a specific date range as well. A day-by-day progress report follows the diet, tasks, and attendance. The notification section shows the listing of notifications with details like name of sender and comments. The setting section allows user to update profile, set notification alerts to on or off, and logout from the app.



www.mescj.com

Figure 1: Snapshot of User Interface for Parent

USER INTERFACE FOR TEACHERS

On the next page is a depiction of the flow of the user interface for teachers. This includes the teacher registration screen and depicts the registration process. The teacher registration asks for basic detail, such as name, phone number, email, password, etc. The registered teacher can login with their username and password. The teacher's landing page provides the user with a menu with the options: diet, task, attendance, support, development, and notification. This prototype displays the search screen to search for diet, task, and notification. I have added screens that display the diet detail and task detail. It has screens that allows teacher to add diet and task and assign it to a group of students. The attachments can be made to the diet and task section. There is also a screen that allows the teacher to view their children's attendance. The support feature is provided for the teacher to view the reward points attained by students in each section of diet, task, and attendance. The development of their student is assisted through a screen providing student diet reports, attendance reports, and task completion with a pie graph that shows the percentage completed. The reports are all graphical and easy to understand. The reports can be shown for a specific date range, and day-by-day progress of a child's diet, task and attendance is easily depicted using it. The teacher can view the diet and task completion notifications to review it and leave comments and remarks for students and parents. The teacher is provided with a screen to mark attendance at the student. The teacher has to mark attendance of the student regularly so that same is reflected in the reports. This user interface has a screen that show how a teacher can review the comments made by parents over the diet assignments, task assignments, and the general support and development of their child. Based on comments, the teacher can reply to feedback and help in the development of the child. The notification section shows the listing of notifications with details like name of sender and comments. The teacher can review the comments. The setting section allows teacher to update profile, set notifications alert on or off, and logout from the app. The teacher has access to support and development pages. The teacher can select from the list of students. The teacher can select a student to view the support report based on how many diet, task, and assessments are done by him. The report can further be setup to view student's result during specific periods, student's diet, and task assigned to him.

www.mescj.com

The teacher can search for support provided to students in past and view the details, such as student code and parent name. The user can view parents' comment on a student and add their responses. The teacher can view individual student diet and task reports with overall success rates for a given date range. The user interface screens for teachers are furnised below:

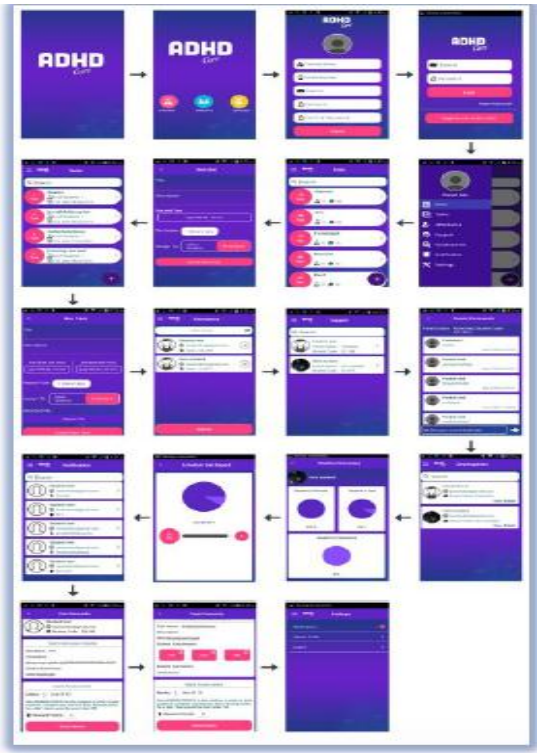


Figure 2: Snapshot of User Interface for Teacher

USER INTERFACE FOR STUDENTS

The student registration screen depicts the registration process. The student registration ask for basic detail of student, such as name, phone number, email, and password. The student has to select the teacher. The registered student gets a student code, and this student code is selected by student's parent to establish a relation between the child and parent. The registered student can login with username and password. The student's landing page provides a menu with options: diet, task, attendance, support, development, and notification. This prototype displays the search screen to search for diet, task, and notifications. I have added screens that display the diet detail

www.mescj.com

and task detail. It has screens that allows student to mark the completion status of diet and task and assign it to a student. The attachments made to the diet and task section can be downloaded and reviewed by a student. There is screen that allows the student to mark their attendance as well. The support feature that is provided to parents to view the rewards points attained by student in each section of diet, task, and attendance is also available to the student. Their development is assisted by using the screens that provide student diet report, attendance report, and task completion with a pie graph that shows the percentage completed. The reports are all graphical and easy to understand for students of all age groups. The reports contain the cartoon character that make the report more exciting for students. The reports can be shown for a date range. A day-by-day progress of the child's diet, task, and attendance is easily depicted using it. The student can view the diet and task completion notifications and review them to leave comments. This user interface has a screen that shows how a student can review the comments made by parents over the diet assignment, task assignment, and their support and development. The notification section shows notifications with details like name of sender and comments. The student can review the comments. The setting section allows students to update profile, set notifications alert on or off, and logout from the app. The user interface screens for the students interface and its flow is furnished below.

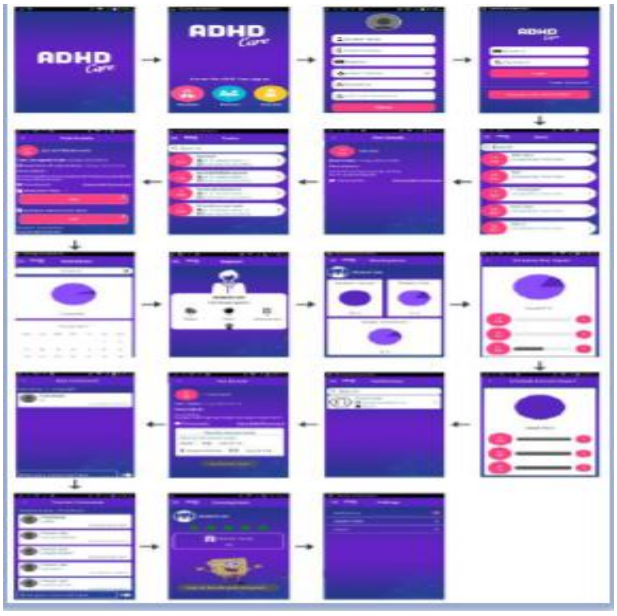


Figure 3: Snapshot of User Interface for Student

THE LAYOUT

The layout is created using XML. The layout is created with the "Mobile First" approach. The Android UX team has put together a set of guidelines for the interaction and visual design of Android applications. The new collection provides an overview of Android styles, design patterns, building blocks for exceptional Android designs, and more. I have followed these guidelines in the creation of this app. Goal-driven Design: I want to design for the correct user. User investigation, such as surveys and interviews, has helped create personas for those most likely to use the app. This allows me to create specific goals for users and tailor my app's workflow to suit their needs. Usability: This seems like a no brainer, but my app has to be usable. If my audience can't easily use the app, then they certainly won't download it. Prototype Evolution. I have improved the prototype of this app based on initial survey results and feedback from users. I have started the layout design by mapping out the Content and building User Flows, and later developed a UI that suits the best needs of "ADHD Care" users. The various design versions are provided below. These designs evolved one by one after discussion with the users and performing the User Interface tests. This competes the first section of design where I created a black and white version of the design. The design has a logo of "ADHD Care," and the main menu icon. The design has a diet schedule, commitment, support for child, and feedback. The other prototype screen design shows the listing of diet by dates. The listing shows the basic diet detail and comments made over the next screen shows the commitment screen, it has a scrollable date and task assigned on that date along with the task details. After many prototypes testing the feature, "commitment" was changed to "task," feedback changed to "development," and I added the attendance feature. The logo evolved as well. Next are the images of the second version of

"ADHD Care." These screens display the colors chosen to skin the app. It shows the color of the logo as well. The screen for user registration shows the textboxes, button, and shapes. Below are the images for the final version of "ADHD Care." This more colorful design is suitable to attract children and is based largely on user's opinion. The rewards system for students is added in as well, which will give students 5 stars and an animation for achieving over 70% completion and a graded approach after that. Navigation The navigation of the entire app is managed via screen taps. The navigation is based on the "two tap click rule." Yahoo CEO, Marissa Mayer, just said she and her teams have come up with a new design rule to make sure every app they build is "fast, responsive, and beautiful." It's called the "two tap rule. "The test for the rule is simple, says Mayer, "Once you're in the app, is it two taps to do anything you want to do? "If yes– the app is a go. If not, it's back to the drawing board. After login, the following menu is provided to the user. The user can click and search for the items listed below

- Diet
- Tasks
- Attendance
- Support
- Development
- Notification
- Setting

Table 1: Backend (Data Storage Layer)

Data Object	Data Elements
User role	Role type
User detail	User email, role type, password, phone number, student code, name
Student parent relationship	Student code and parent ID
Student teacher relationship	Teacher ID and student code
Notification	User ID, date of notification, task ID, diet ID, and comment
Diet	Title, user id to whom diet is assigned, assignees diet Intake duration, title, description, attachments. diet start date, end date
Task	Task ID, User ID , task start date and end date, task assigned user ID, title and attachment

USE CASES

Users download app, log in or register to it. Use it to improve child's diet and nutrition. Use to create and follows daily routine, time management of homework. Use for attendance tracking. Use it to track a child's performance and development. Use it for interaction among themselves in a group concerning the support, development, and diet of a child. Users download app, log in or register to it. Users download the "ADHD Care" app. On the first launch, the user sees the welcome screen with a quick tutorial. When the user finishes viewing the tutorial, the app seek permission to send push notifications. Once the user has a fair idea of using the application, they will ask to register by choosing their role as a either teacher, parent, or students. Once registered, the user can use their sign up information to login and view the main menu.

Use it to improve child diet and nutrition:

The diet feature is usable by teacher, student, and parent. The teacher posts the diet plan and assigns it to a student. The diet can be file type PDF, DOC, or image. The student and parent

are notified of any newly added diet plan. The teacher can monitor the diet for students with his or her parent. Parents can login to view all the diet information and tasks given to their child, along with view their status. Use to create and follow daily routines, and for time management of homework. The task feature is available in the main menu. The task feature is usable by teacher, student, and parent. Tasks are created for student by the teacher, and the student receives notification to handle and submit the task upon completion. The task can be a PDF, DOC or image the teacher receives notification on completion of the task. Use for attendance tracking. The attendance feature is available in the main menu. Teacher views the list of students and selects a student to mark their attendance. These attendance reports are visible to teachers and parents. The teacher can add students to a class as well. Parents can login to view all the attendance, including in particular subjects. Use it to track a child's performance and development. On task completion, teachers can give percentage and reward points. Percentage will be from 0-100, with a class interval of 5 (i.e. 5%, 10%, 15%, 30%, 80%, 100%). These are used to measure a child's performance. The teacher can view the children list and summary of each particular child to provide support for development .Parents can login to view overall development summary reports for their child .The students can login to view task percentage given and reward points (in total). This includes a thorough report with graphics of cartoon characters. Use it for interaction among themselves in a group concerning support, development, and diet of a child .The teachers can comment on diet plans by parent or children. They get notifications of a comment made and can reply back to it.

CONCLUSION

Through this report and it's various sections, I have made an effort to provide the reader information about the "ADHD Care" app from the point of inception as an idea to the implementation and programming, and onward towards the future plans to make this app launch successful. This report has a synopsis of how progress has been made from inception of the concept of "ADHD Care," the setbacks over the course of journey in making the app, technical decisions, discussions with user and preliminary testing, and plans. In the first section of report, called "User Needs Analysis," the objective of the app are covered. The objective is to create an app that provides a means to measure and track the improvements in

patients with help of intuitive reporting and notification features. These features help to measure the effectiveness of wellness in specific areas, like diet, attendance, and the behavior of the child. This section also talks about the user needs survey by studying the case study of individual personas. The rationales behind the creation of "ADHD Care" is made clear to the reader. The "Background and Research" section included tasks performed to investigate the real needs of the users and designed the features of the app to meet them. I asked people to fill out questionnaire in order to test my hypothesis, and reached out to the target audience for responses. This section explains the survey conducted to find out more about potential users that would be inclined to use the "ADHD Care" mobile application. I identified a few schools in Dublin, and thus created a group of teachers who deal with ADHD patients and aim to help ADHD patients and their parents in overcoming the challenges they face. All the questions asked in this survey were framed around defining our users and getting to know their interest and thoughts. At the end of the survey, the "ADHD Care" app is described, and users are asked to rate on scale of 1 of 5 how likely they would be to download the application and use it. This response helps sort out users who are likely to use or unlikely to use this product. This helped us understand what interests people have in common, thus helping us define our target market. This section also contains a synopsis of user analysis to define the requirements. In the section, "Methodology and Approach," I have shown the reader the final version of the app, "ADHD Care. I have shown the reader the user interface screens and layout. I have added snapshots of screens that help reader.

www.mescj.com

BIBLIOGRAPHY

"Attention Deficit Hyperactivity Disorder (ADHD) - NHS Choices". Nhs.uk. N.p., 2017. Web. 6 Jan. 2017.

"Attention-Deficit / Hyperactivity Disorder (ADHD)". Attention-Deficit / Hyperactivity Disorder (ADHD) Home | NCBDDD | CDC. N.p., 2017. Web. 6 Jan. 2017.

"Android SDK Tutorial for Beginners". Android Authority. N.p., 2017. Web. . 6 Jan. 2017.

"Attention Deficit Hyperactivity Disorder (ADHD) | Psych Central". Psych Central. N.p., 2017. Web. 6 Jan. 2017.

"Android Archives - Codebind.Com". CodeBind.com. N.p., 2017. Web. 6 Jan. 2017.

"ASP.NET Web Pages Tutorial". W3schools.com. N.p., 2017. Web. 6 Jan. 2017.

"Android SDK Manager". www.tutorialspoint.com. N.p., 2017. Web. . 6 Jan. 2017.

App, Building. "Building Your First App | Android Developers". Developer.android.com. N.p., 2017. Web. 6 Jan. 2017.

Analytics for Android | Google Developers". Google Developers. N.p., 2017. Web. 6 Jan. 2017.

Marie, Hayden Marie. "Timers for ADHD Children". Attitude Magazine. N.p., 2017. Web. 6 Jan. 2017.