DESIGN AND DEVELOPMENT OF ANDROID APPLICATION WITH JAVA PROGRAMMING

SUBMITTED BY

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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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DAFFODIL INTERNATIONAL UNIVERSITY
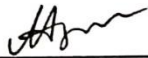
DHAKA, BANGLADESH

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APPROVAL

This Internship titled **"Design and Development of Android Application with java programming"**, submitted by Ahsanul Kabir, ID No: 171-15-8932 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on December 5, 2019.

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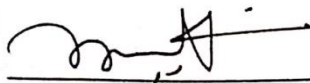Daffodil International University

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DECLARATION

I am hereby declaring that, this internship has been done by us under the supervision of **Ms. Umama Dewan, Lecturer, Department of CSE** 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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ACKNOWLEDGEMENT

I am grateful to omnipotent Allah, the most beneficial and merciful, for giving me the opportunity to complete my project work.

I would like to convey our earnest gratitude to our honorable supervisor, **Ms. Umama Dewan,** for her persistent support, continuous steering, and invaluable advice during my internship. Her rigorous attitude towards technological research and her approach to solving unexpected problems have assisted me contriving my own way of performing project. Without her suggestion, encouragement and patience, I wouldn't be able to successfully complete this internship report. It has been a great pleasure and honor for me to have her as my supervisor.

I would like to thank the Department of Computer Science and Engineering, Daffodil International University, all the teachers.

Last but not least, I would like to express my deepest gratitude to our family. Thanks for their generous and endless love to me. They are always with me when I go through tough situations and provide encouragement and support to me. Without their support, this project work would not happen. My project is dedicated to them.

ABSTRACT

An Android app is a software application running on the Android platform. Because the Android platform is built for mobile devices, a typical Android app is designed for a smartphone or a tablet PC running on the Android OS. This internship report is based on Android app design and development. Now Android application are get very all around the word. There are lots of type application are available in Google play store. Please can user those app in their android mobile phone from where. I design and develop many app in my internship. I join as an internship in Daffodil Software Ltd. (DSL) is big software company base on Daffodil International University. DSL develop all types of application like mobile, web, desktop etc. They are provide may services like Software development and Customization, Data Migration, 24/7 Technical Support by professional team. Daffodil Software Ltd develop many types of application the android application is on of then. They develop several type of mobile application like Career Development Center (CDC), ICT Carnival and Asian University Presidents Forum (AUPF). As an intern I work those application. I design those application and develop also. And I learn lots of things form those project that can help to build up my future in android application.

TABLE OF CONTENTS

CONTENTS

LIST OF FIGURES

CHAPTER 1
INTRODUCTION

1.1 Introduction

The android is a mobile operating system based on Linux with java and kotlin programming interface. The android is an open source and user friendly operating system. It's designed primarily for mobile phone device such as smart-phone and tablets. The android is the software that continuously runs on the smart phone.[2]

An android application is a mobile software application. It's application rune that android operating system based device. Android app is designed to a specific function by software programming that is directly for the user which can be access easily. Smartphones supports large amount of applications and android is a powerful operating system. These applications are more easy and advanced for the users. Android apps are available in the Google play store that can help you managing your life and it is available low cost in market at that reasons android is very popular. Nowadays each Banking technology, Business technology, Medical technology and Education sector used mobile app. The android development supports with the full java programming language. The latest version 3.5.1 of android development kit (SDK) was released in October 2019. Nowadays each Banking technology, Business technology, Medical technology and Education sector used mobile app. Internship is that the recent apply for the scholars understands the operating, atmosphere and challenges of the roles. Engineering, bioscience, all branches have their own importance of internship before degree award.[5].

1.2 Motivations

I am presently obeying my Bachelors in Computer science and engineering at Daffodil International University, I will perceive the importance of android application. Without practical knowledge it is very difficult to survive in every sector. Practical knowledge help a wider perspective of the textbook knowledge. During internship I face many

problem. When I face any problem I will try my best to solve it. I think it is good way to get knowledge and I am absolutely arch within the details of application design and development. When I was first star my intern at the beginning it was very difficult for me but I try my best and day by day I learn something new and it's help me to overcome my deficiency, Communication with various people, Understanding actually what they want. I choose my internship at Daffodil Software Limited because (DSL) is now very much well-known at reputed Internet service provider. It is overcome every Customer Satisfaction and services because of their good reputation of the country. I think I can successfully prove my experience in any android application.

1.3 Internship Objectives

The objective of my internship program is to organize myself within the competitive job market. I believe this talent is incredibly effective in each network sector. I might wish to gather some extraordinary talent to prove myself.

The internship is to supply some work expertise whereas students are still learning and wish to coordinate job experience with some educational coaching. It's facilitate to the scholar to form the transition from room to job sector.

1.4 Introduction to the Company

Daffodil Software Ltd. (DSL) is the creation of Daffodil Family to make the exact demand of software for meeting customer expect. DSL can be renamed as the "potency of gain" a brilliant tool to that helps our customer, anticipate the future of business and marketing. Clients from everywhere in the world are observing business value from our tools. DSL has emphasized on Quality Management practices since its inception. DSL practices world class quality management tools to ensure consistent quality of its products and processes. All activities of DSL are monitored using a customized quality dashboard. DSL has in-house quality auditing team who constantly monitors processes and identify improvement scopes. DSL quality management practices start from deriving

the drawing board solutions and are ensured even in after sales services, making it an end to end process. DSL also employ certified project management professionals to ensure quality practices in all of its ventures.[1].

1.5 Report Layout

Chapter (1): I have delineate regarding objective of internship, Motivation of internship in android application and Introduction of the company.

Chapter (2): I have delineate here about the company where I am join as an intern the. Then I discuss the product and market Situation, after that SWOT Analysis which helps a person or organization identify strengths, weaknesses, opportunities, and threats related to business competition or project planning. Then Organizational Structure where I am as an intern.

Chapter (3): In this chapter I even have delineate concerning the daily task and activities, Events and challenges and all my projects In that I done many works.

Chapter (4): I have delineated concerning skillfulness earned, smart plan, Reflections.

Chapter (5): I have delineated is Conclusion, future scope and additionally discuss future scopes of present technology and mobile application.

CHAPTER 2
INTERNSHIP ENTERPRISE

2.1 Introduction

Daffodil Software (DSL) is Members of BASIS. Daffodil Software worked with several national comes and international organizations. It uses latest technologies and upgrading the services where it's needed.

DSL is a public Software company. It's provides many type of service e.g., Android App Development, Web Development, Software Testing, Online Marketing, Graphics Design. It's company social responsibilities on community, digital computer, Location and market place. DSL promotes three major platforms e.g., nation building, Education, and surrounding through its programs and services.

2.2 product and market Situation

Daffodil Software Ltd. is a software firm based in Bangladesh with the development and sub Office in Kuala Lumpur, Malaysia. We have comprehensive experience in many several areas of both software development and hardware management. DSL Coverage in the international market is USA, UK, Malaysia, and Bahrain.[1].

Service Offer:

- ➢ Software Customization.
- ➢ Web & E-commerce Development
- ➢ Android Application Development
- ➢ Data Migration & Porting Solutions
- ➢ Animation, Graphics Design
- ➢ E-learning, Module
- ➢ Software Testing
- ➢ One Card Solution
- ➢ Social Media Marketing
- ➢ Search Engine Optimization

Professional Training Services:

 ➢ Software Testing

 ➢ Android Apps and IOS Apps

 ➢ Web Development

 ➢ JAVA Programming, C++ Programming, PHP etc.

 ➢ Online marketing

2.3 SWOT Analysis

SWOT analysis is incredibly necessary and helpful technique for understanding weakness and Strengths and distinctive the Opportunities and what reasonably threats you face related to business competition or project planning.[7].

Strengths:

 ➢ High quality services.

 ➢ Friendly people.

 ➢ Good internal environment.

 ➢ People oriented organization.

Weakness:

 ➢ Lack of marketing expertise.

 ➢ Undifferentiated products or services.

 ➢ Timescales, deadlines and pressures.

Opportunities:

 ➢ Batter policy.

 ➢ Big market available.

 ➢ Have a good opportunity to grow and expand throughout country.

 ➢ A new International market.

Threats:

- ➢ A new competitor in your home market
- ➢ A competitor has a new, innovative product or service
- ➢ New laws or regulations

2.4 Organizational Structure

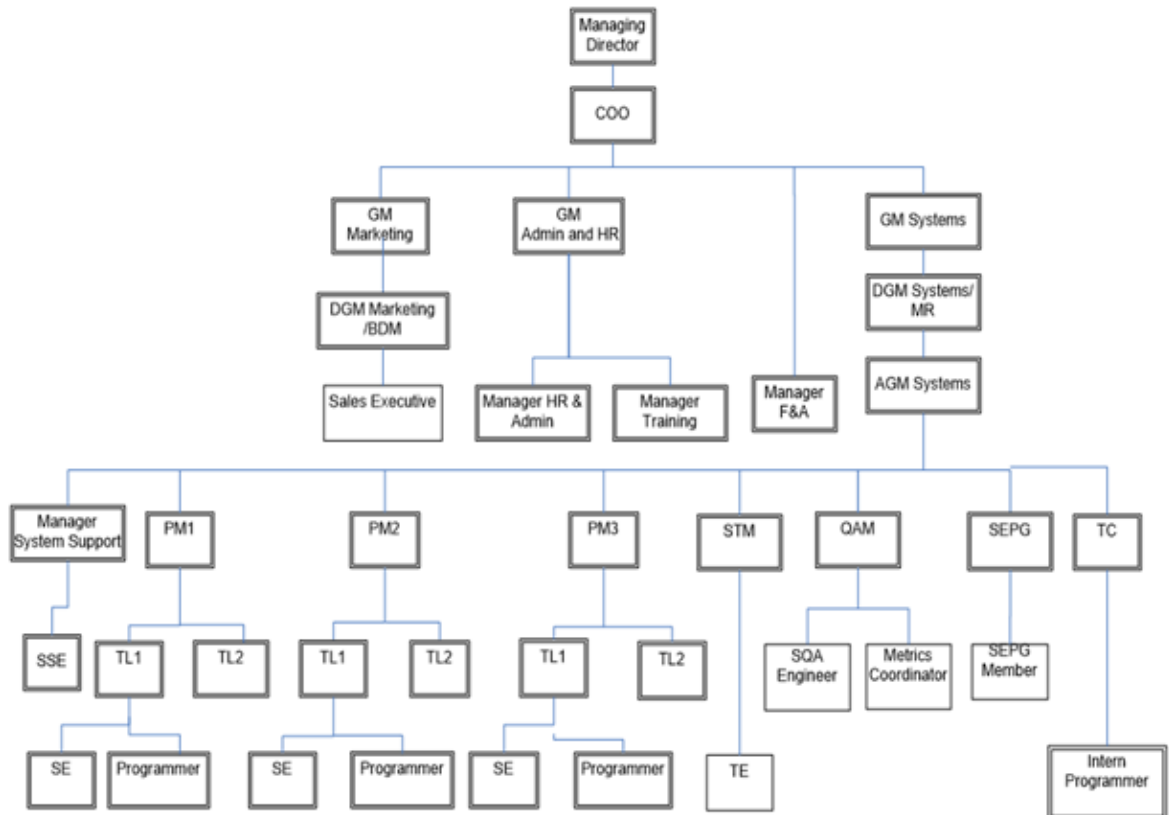Organizational Structure of Daffodil Software limited (DSL) fig: 2.4. [1].

Fig: 2.1- Organizational Structure of DSL

CHAPTER 3

TASK PROJECT AND ACTIVITIES

3.1 Daily Task and Activities

Month-1: During the first month of my position, I learned and performed the following tasks.

➢ Learning and perception Android OS.
➢ Learning and perception about the Android version.
➢ Learning and perception Android Architecture.
➢ Version control configuration.
➢ Learning and perception Android UI design component.

Month-2: In the second month of my position, I learned and performed the following tasks.

➢ Using default navigation drawer.
➢ Recycler view.
➢ Expendable list view.
➢ Android material component design.
➢ Room database.

Month-3: In the third month of my position, I learned and performed the following tasks.

➢ Rests API connect.
➢ Google Map API.
➢ WEB view implements.
➢ Firebase authentication.
➢ Use Real-time database.

3.2 Events and Activities

- ➢ User interface Design.
- ➢ Splash screen Design.
- ➢ Menu bar design.
- ➢ Data red and write.
- ➢ Represent data in list view.
- ➢ Version control with git and github.

3.3.1 Project Task and Activities

About Android:

Android is a mobile operating system based on a modified version of the Linux kernel and other open source software, designed primarily for touchscreen mobile devices such as smartphones and tablets.

Android Architecture:

Android operating system is a stack of software components which is roughly divided into five sections and four main layers as shown below in the architecture diagram (fog: 3.1).[5]
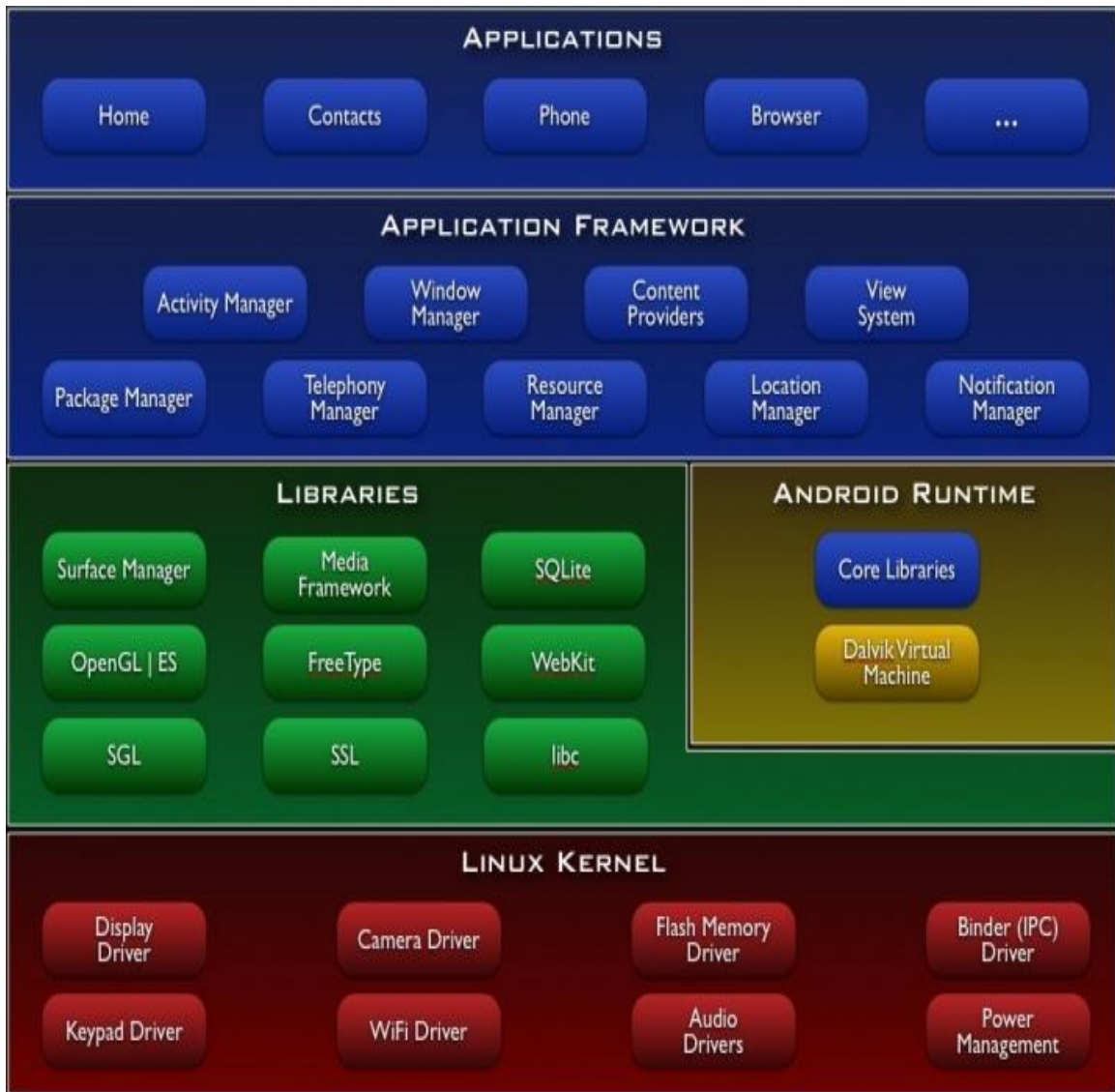
Fig: 3.1-Android architecture.

Components of Android UI design

Layouts: A loud structure creates your interface for your Application. Some layouts is given bellow.[3].

- Frame Layout
- Linear Layout

- ➢ Relative Layout
- ➢ Table Layout

Different UI widgets in Android

- ➢ Text View
- ➢ Edit Text
- ➢ List View
- ➢ Spinner
- ➢ Button
- ➢ Check Box
- ➢ Radio Button
- ➢ Scroll View

3.3.2 Career Development Center

This is my first project during the Internship was Career Development Center (CDC) in Daffodil Software Limited. This application for Daffodil International University student.

Student by using this app they can plan their career, they can improve their knowledge about his career. There is a job notification option. Student can check any job notification and they can apply the job. There is an event notification option student can see the notification and they can apply for join any kind of event in Daffodil International University.
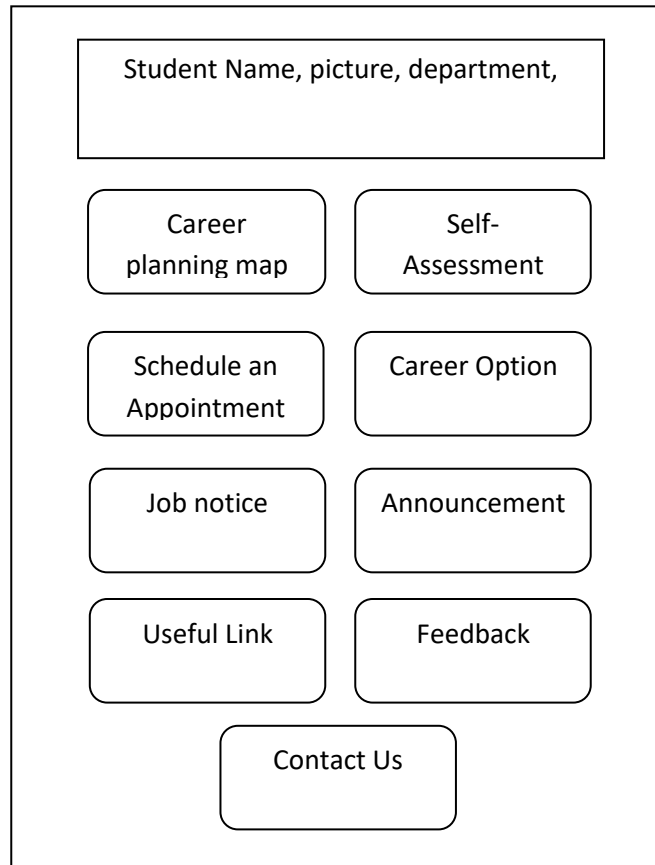
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│  ┌──────────────────────────────────────────┐  │
│  │      Student Name, picture, department,   │  │
│  │                                           │  │
│  └──────────────────────────────────────────┘  │
│                                                │
│   ┌─────────────────┐   ┌─────────────────┐    │
│   │     Career      │   │      Self-      │    │
│   │  planning map   │   │   Assessment    │    │
│   └─────────────────┘   └─────────────────┘    │
│                                                │
│   ┌─────────────────┐   ┌─────────────────┐    │
│   │   Schedule an   │   │  Career Option  │    │
│   │   Appointment   │   │                 │    │
│   └─────────────────┘   └─────────────────┘    │
│                                                │
│   ┌─────────────────┐   ┌─────────────────┐    │
│   │    Job notice   │   │  Announcement   │    │
│   │                 │   │                 │    │
│   └─────────────────┘   └─────────────────┘    │
│                                                │
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│   │   Useful Link   │   │    Feedback     │    │
│   │                 │   │                 │    │
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│                                                │
│            ┌─────────────────┐                 │
│            │   Contact Us    │                 │
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Fig: 3.2-Outline of CDC mobile app.

This is the Outline of Career Development Center (Fig: 3.2). Those are option providing this application. And I work career option, job notice, Announcement and useful link.
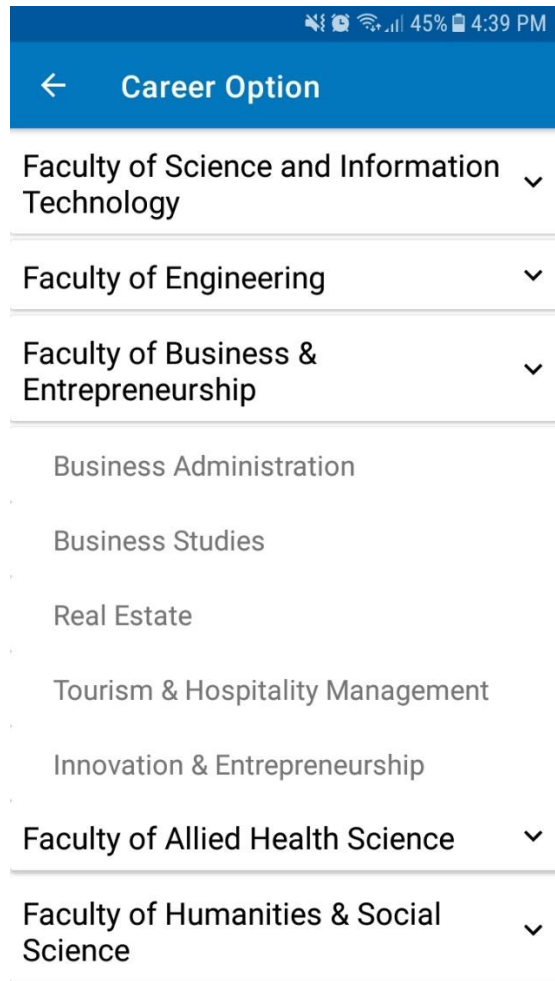
Fig: 3.3- Career option

Career option is a one of the option I work during my internship. This one of the main part of our application. User can see his lot of option to build her career. We represent all option respect to the department. So user can found easily his popper option and they can found good job opportunity in those field. Show the career option layout in (fig: 3.3).
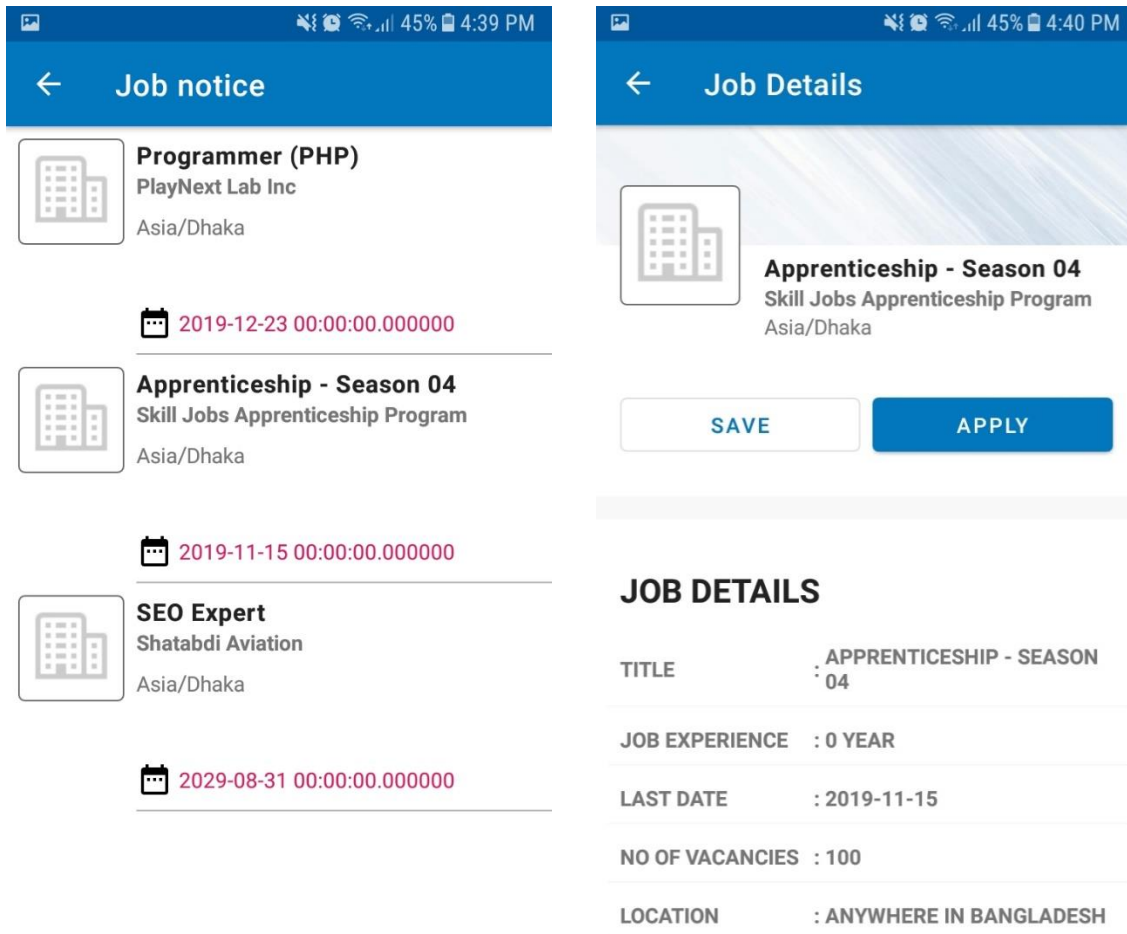
Fig: 3.4- Job notice

This is another part of our application. Job notice user can found his suitable job in this part. When new job post by this application user get a notification of this job and then he or she can check the job and apply this job easily. Show the career job notice layout in (fig: 3.4).
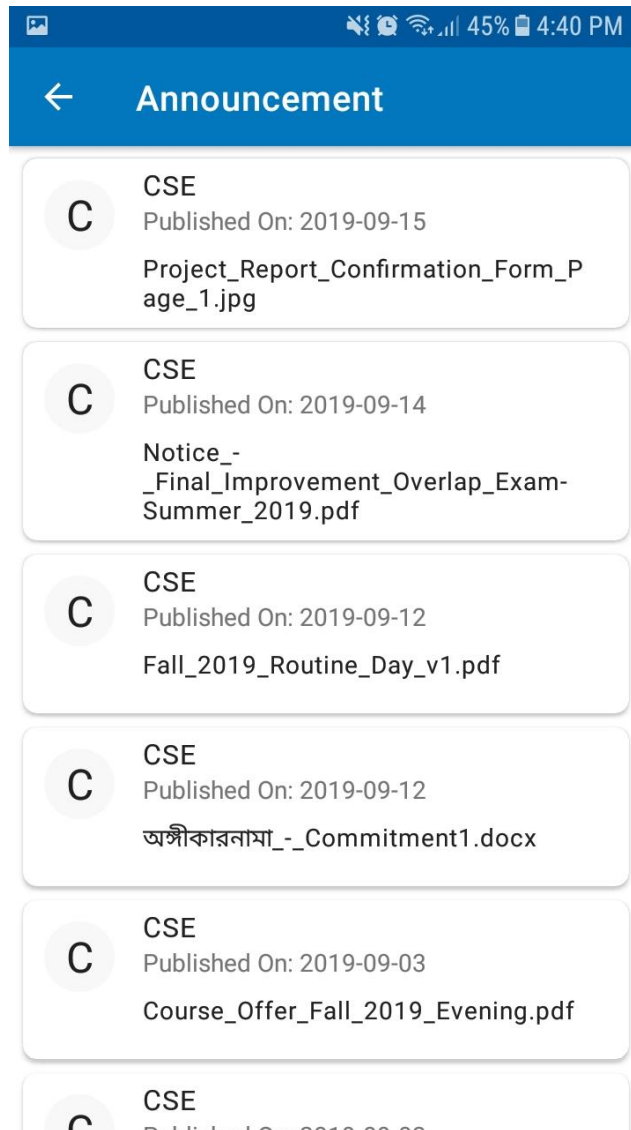
Fig: 3.5- New announcement

In this part user can see all upcoming event and all notification. So user can attendant those event. Show the layout in (fig: 3.5).
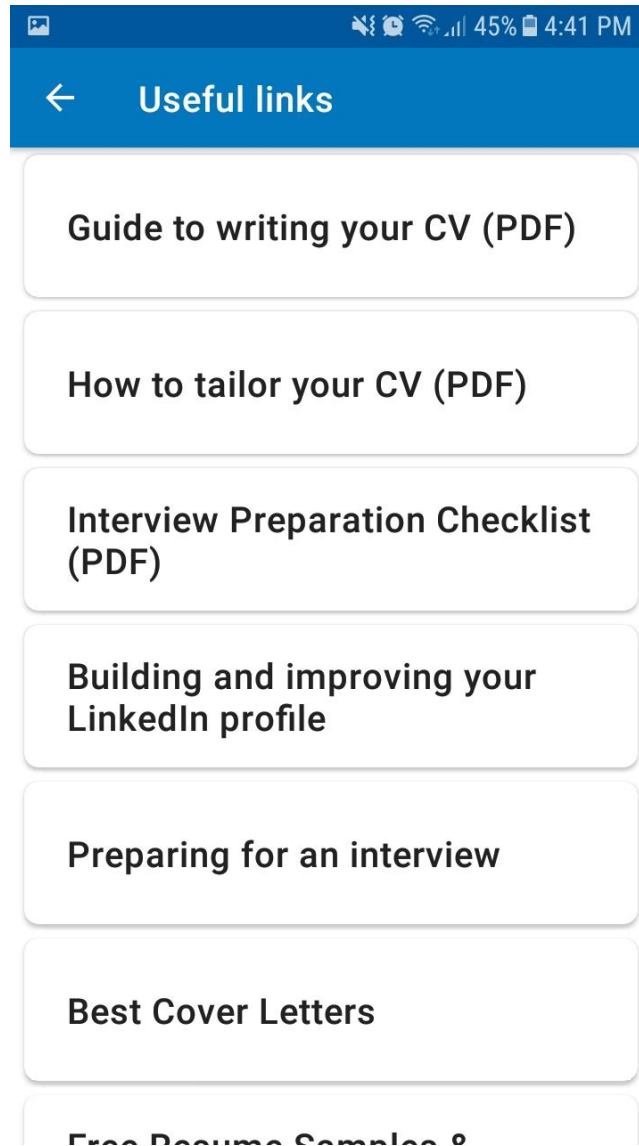
Fig: 3.6- Useful link

This is another part of our application user can easily found useful link in this part. We collect all useful link and make a list and those link presenting this page. User can found every thin in one place that is our app main target. Show the layout in (fig: 3.6).

3.3.3 ICT Carnival

This is another project I work during the Internship. This app for student of Daffodil International University. This app develop for mainly ICT Carnival, Student of Daffodil International University can see every event with date time and venue. Also student can check presentation date time. And student can also contact to volunteer if he or she get any trouble. Students also see all organizers who organize this event. Show the ICT Carnival app layout in (fig: 3.7).

Fig: 3.7- ICT Home
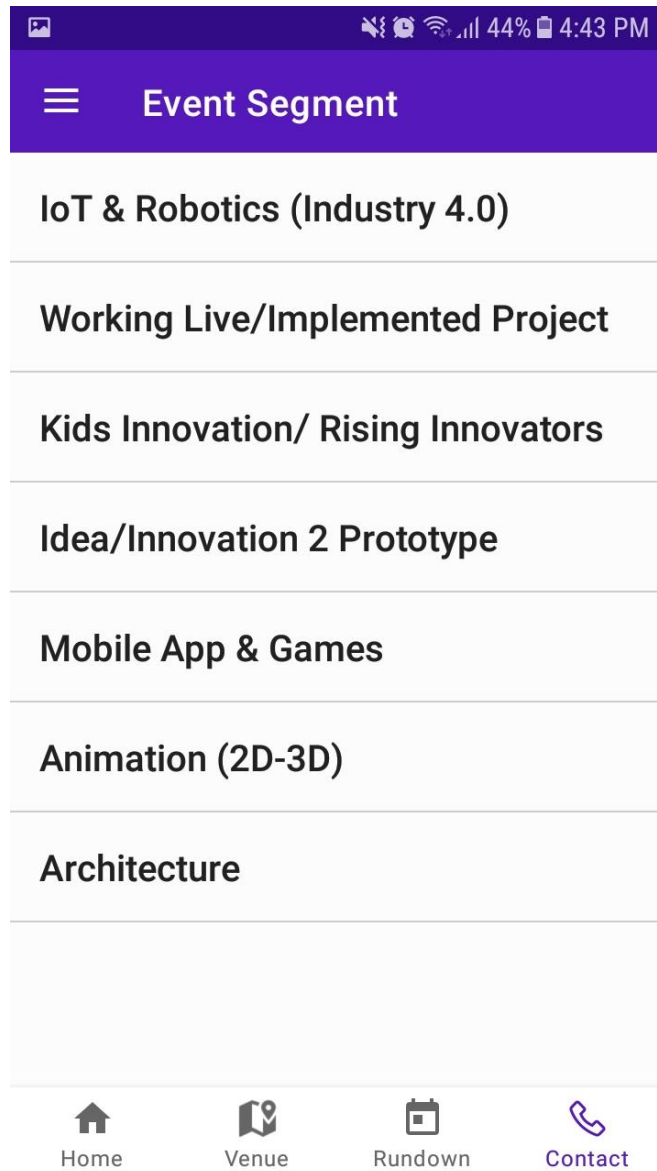
Fig: 3.8- Events

This is our application event page (fig: 3.8). In this page user can see all event with all detail information. Student can check every event and can see all upcoming event and they can get time for preparation for that.
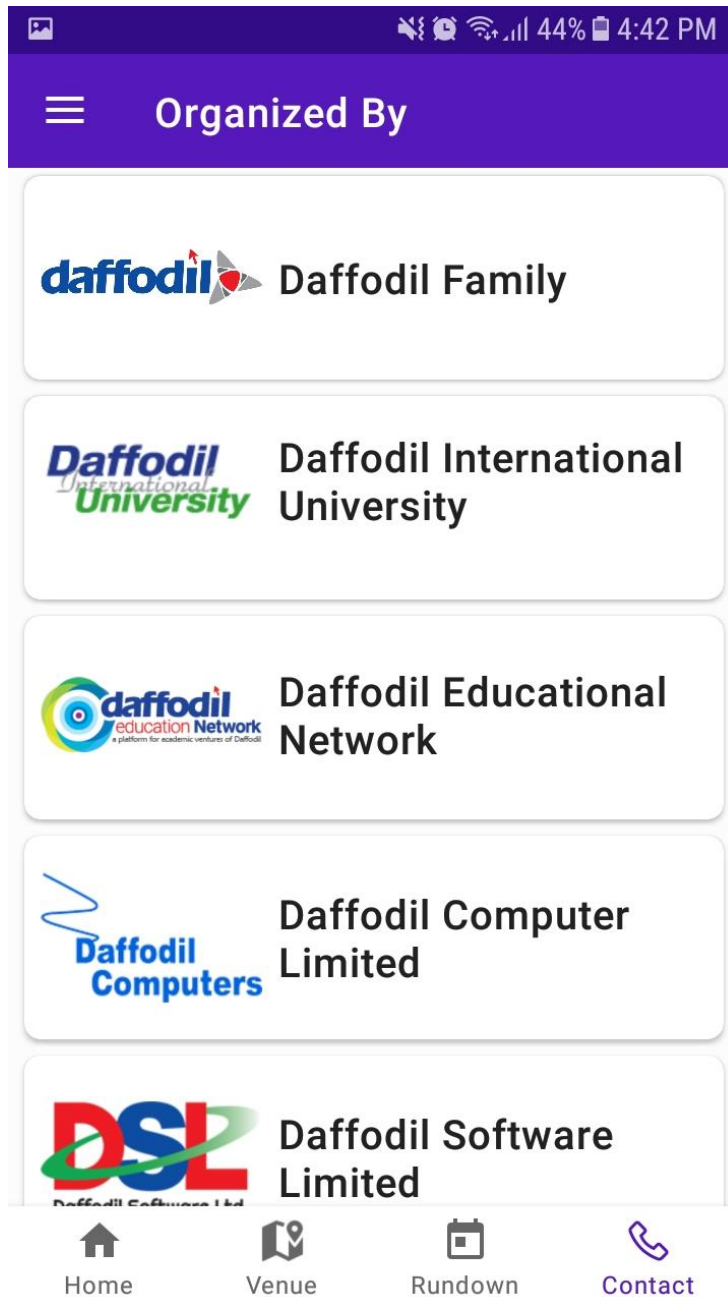
Fig: 3.9- Organized by

In this page user can found all the organizer who organize the event. User can see all detail about organizer. Show the layout in (fig: 3.9).

3.3.4 API (Application Programming Interface)

Those are application I mentioned before some of them we use API (Application Programming Interface). API is an interface or communication protocol between a client and a server intended to simplify the building of client-side software. CDC one of application I user API by the API we done some work in this application. This CDC application there is a service job notice by this service user gets all the job notification by the application and this operation done by API. And another service announcement were user get all announcement by this application and this operation performed by API. And I learn many things about API where I work through those part of work in CDC application.

3.3.5 Firebase Real-time Database

The Firebase Real-time Database is a cloud-hosted database. Data is stored as JSON and synchronized in real time to every connected client. This is very user full for develop cross-platform apps like iOS, Android. I user firebase one of my application where I user firebase real time database for storing data and user authentication. I learn many thin about firebase when I work with firebase real time database.

3.4 Challenges

Every work has challenging in the world. The internship experience to share my friends and I have found some common challenges. I think there is three things in internship that is -temporary, Unpaid and run to gain knowledge. Sometimes I am bored and not enough work assigned to me. Interns are just get foot in the door. Some work places are given advantage of young workers by giving them long hours of work.

All of the students are influx of work when they are ask questions without any hesitation. I prove myself to ask questions. I feel myself independent and self -sufficient worker. Interns can help you for future job opening. Before I get internship I don't know about the corporate work and their activities. After internship I know about that and faces many challenges.

CHAPTER 4
COMPETENCIES AND SMART PLAN

4.1 Competencies Earned

The skills earned or the learning outcomes encourage student to review to identify, understand or express learning outcome. Fulfillment the software demand local and International market. Funds produce for student association workplace and intern learning outcomes-Information gathered and arranged into a project description. Each application connected to web server or database. Collecting data to create applications. You will be working along-side other engineers and developers working on several layers of the infrastructure. Therefore, assurance to collaborative problem solving, the latest design, and establishing quality products is unavoidable.

4.2 Smart Plan

The every organization needed to be a smart plan to have a success. Smart plan create some combination of basic things**.**

4.3 Reflection

Daffodil Software are Established in 2002.They have been presenting the activity throughout the past year and providing services to the client. They take into account demand of your time. Daffodil Software limited working with national and international organizations. In the meantime they achieved superb name within the national and international market. They are efficient to generate state of software supply, software lifecycle management and infrastructure solutions with an extremely virtuoso technical experience bunch.

CHAPTER 5
CONCLUSION AND FUTURE CAREER

5.1 Discussion and Conclusion

The internship has been exquisite and regardful expertise in my life. Ready to be able to facilitate Maine with the opportunities to android with lot of individuals and that I am seen the longer term of it.

One main problems I actually have learn the time management skills also as self-motivation and nice expertise regarding the duty. Once I was started the intern it absolutely was difficult on behalf of me. Eight hours daily, and six days every week goes to be ready to sit within the workplace. That's why I maintain the time. I used to be find out how to inspire myself. Numerous varieties of proposals and ideas came to the corporate and searching for that .I'm enjoying the work and that I need to still work effortless for my position conjointly to be find out about the business and new folks. This internship is marvelous expertise in my life and that I suppose different intern post got lots of things out of it.

5.2 Scope of Further Career

When it comes to the IT industry, there are plenty of career paths to take. But one field that has seen a tremendous rise in popularity, of late, is that of mobile App Development.

Mobile devices have become ubiquitous—two-thirds of the world's population is connected with a mobile device. That's more than 5 billion unique mobile subscribers. This means that using mobile apps for everything from shopping to getting a ride, scheduling appointments, design, playing video games, and more all on a mobile device has become commonplace.

As a result, the need for mobile app developers has surged, and will likely remain upwardly mobile for a long time to come. The blossoming startup scene has also

contributed a large chunk of the demand for mobile app developers, and many of these startups are prepared to pay very competitive salaries to deserving candidates. Many startups are already switching to only mobile and no web environments; in a sense, the revolution in computing devices witnessed two decades ago is now being played out on the mobile front

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     [Accessed 7 October 2019].

Appendix A: Internship Reflection

The basic goal of my internship is practical solution to real world. The classroom knowledge apply the practical world. Professionally relevant and learning to deal with the new knowledge, skills, ability, to determine and develop plans. Needed to add the network to the other Professional Supervisors and the employees to learn and understand through their behavior. To fulfill my internship I think about the proper business plan and planning how to contact with the colleagues and outcome of the organization. After the end of my internship experience take a professional opinion of my internship supervisor. To prepare for life in a global society internship experience is must be needed and also leadership and service gift to be able to put it to use.

Appendix B: Company Details

Head Office

Name: Daffodil Software Limited

Address: DF Tower (Level: 6-B)
                               House # 11, Road # 14,
                               Dhanmondi, Dhaka-1209, Bangladesh

Telephone: +8802-9116600, +880966-6414074.

Hotline: +8801713493026, 01811458825.

E-mail: info@daffodilsoft.com

Website: www.daffodilsoft.com

Type of Organization: Software Development and Website design
                               company

Internship_3