SOFTWARE ARCHITECTURE ABOUT RESTAURANT MANAGEMENT APPLICATION

BY FLCKZ TEAM

TABLE OF CONENTS

The following document pertains or describes the architecture of a mobile application **FLCKZ,** which works as a management system for restaurants . The application gives you access to restaurant menus, bookings,table availabilty , locations and restaurant specialties or information.

The system works on all mobile phone applications and is accessed via app stores on your mobile device. It is a sub system in the android operating system

List of references for the Achitectural Design

1. D. Garlan & M. Shaw, "An Introduction to Software Architecture," *Advances in Software Engineering and Knowledge Engineering*, Vol. 1, World Scientific Publishing Co. (1993).
2. D. E. Perry & A. L. Wolf, "Foundations for the Study of Software Architecture," *ACM Software Engineering Notes*, **17**, 4, October 1992, 40-52.
3. Ph. Kruchten & Ch. Thompson, "An Object-Oriented, Distributed Architecture for Large Scale Ada Systems," *Proceedings of the TRI-Ada '94 Conference*, Baltimore, November 6-11, 1994, ACM, p.262-271.
4. G. Booch: *Object-Oriented Analysis and Design with Applications*, 2nd. edition, Benjamin-Cummings Pub. Co., Redwood City, California, 1993, 589p.
5. K. P. Birman, and R. Van Renesse, *Reliable Distributed Computing with the Isis Toolkit*, IEEE Computer Society Press, Los Alamitos CA, 1994.
6. K. Rubin & A. Goldberg, "Object Behavior Analysis," *CACM*, **35**, 9 (Sept. 1992) 48-62
7. B. I. Witt, F. T. Baker and E. W. Merritt, *Software Architecture and Design—Principles, Models, and Methods*, Van Nostrand Reinhold, New-York (1994) 324p.
8. D. Garlan (ed.), *Proceedings of the First Internal Workshop on Architectures for Software Systems*, CMU-CS-TR-95-151, CMU, Pittsburgh, 1995.

Achitectural Goals and constraints

The goal or what we plan to achieve from the architecture is too show how our application will work and too form a blueprint too make it easier for use too integrate what our app does.

The following diagram helps with show goals we aim to achieve with the architectural design. Which is too show blueprints of our app and its functionalities

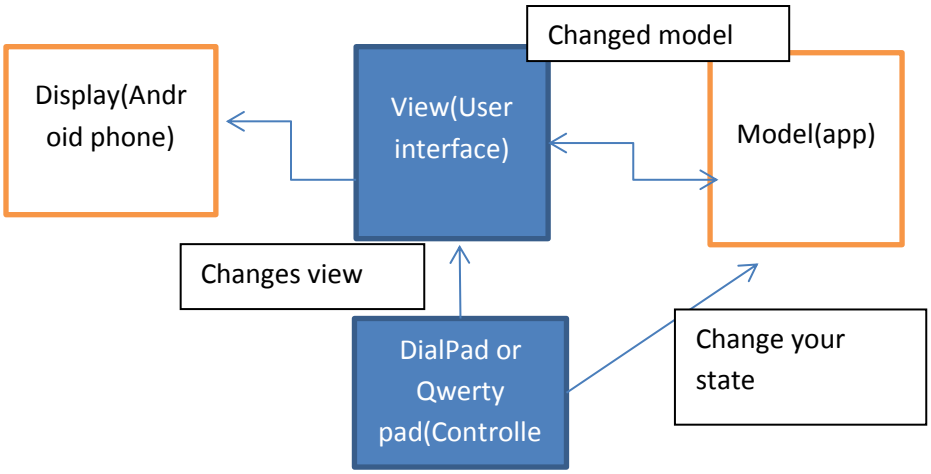


Figure 1: **Model-view-controlller**

Constraints in the Architecture

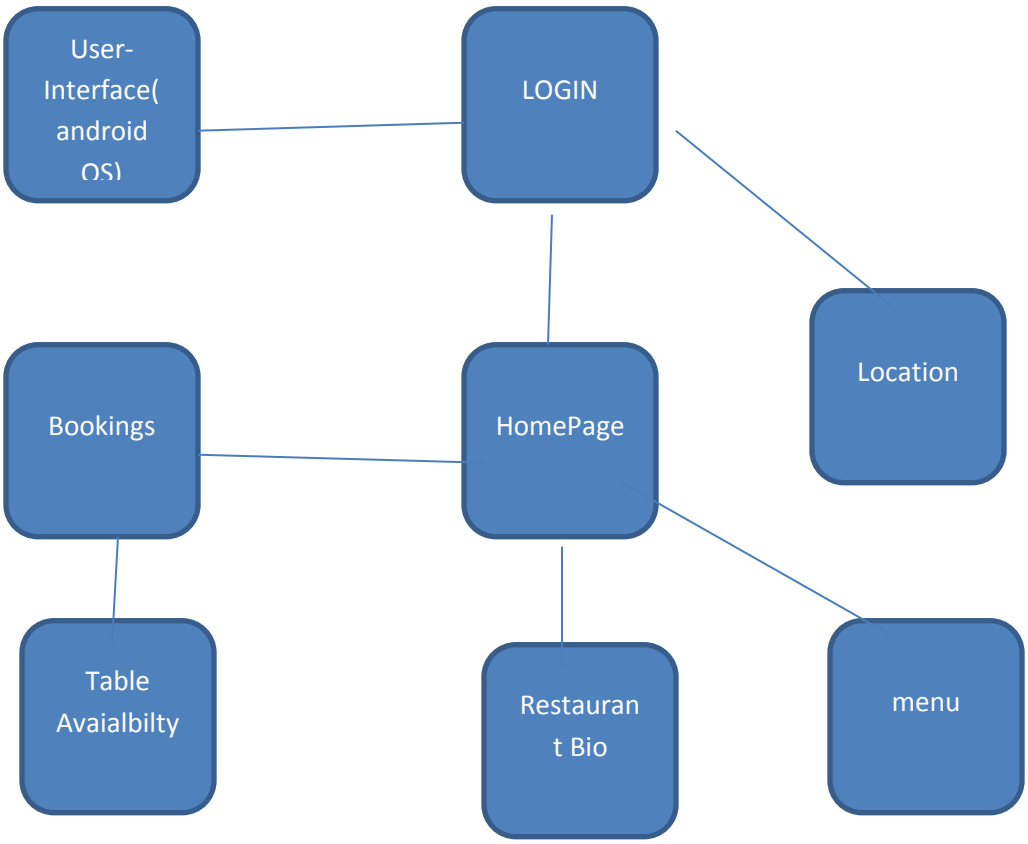
We have to consider the fact that the architecture has no details of the code it just highlights how the app is structured

We also have no idea of the run time of the project.

Have no certainity if the architectures will remain the same or are subject to change.

The Project has to work an all android devices

LOGICAL ARCHITECTURE



Explaination of Architecture

Basically a user accesses his phone and goes to the app but before he can do anything he has to login first. The app produces the users location after he logs in. Application accepts his login details he can access the homepage. Which will give the user access to the restaurants bio,menu and bookings(table reservations) which is associated with table availability.

StakeHolders

The major stakeholders of the project is us the FLCKZ team, and we going to present our project too the restaurants in South Africa. The FLCKZ team is made up of 5 group members. This restaurants will be our customers as they will purchase our software.

Concerns

1. The team has to code the application

2. We have to present a requirement analysis document.

3 Keep a record of daily scrum meetings.

4 Keep track of everyone in group is up too date with their tasks

5 Do continuous integration on software project and design(github).

6.Present the software project

Table Showing which concerns stakeholders are asccociated with.

StakeHolders	Mthulisi Leslie Zimba	Kgopotso Dilebo	Lethabo Nkabinde	Christopher Mashele	Fortune Ndlovu
Concern 1	×	×	×	—	—
Concern 2	×	—	—	×	—
Concern 3	—	—	—	×	—
Concern 4	—	—	×	—	—
Concern 5	×	×	×	×	×
Concern 6	×	×	×	×	×

Viewpoints

In this Section we deal with the project requirements and failures our project might have. There is a number of concern to consider, but we just highlight a few of the problems.

Problem factors in project deployment

1. We considered the fact that it might not be an easy process for restaurants to agree with the concept of orders been taking online rather than waiters taking orders.
2. Customers might complain about having easy access to internet(Not everybody has an android phone).

3. People fear internet banking(transactions).

4.Job security in terms of waiters not having to do much work.

We also looked at what the system would provide in terms of weighing out on the problem factors.

1. The system gives customers the freedom of avoiding long queues.
2. The system will provide accuracy in terms of how long customers will wait for their meals.
3. Cash security in terms of customers do not have to carry their cards and cash when going to dine at the restaurants.
4. Less work on staff all they have to do is prepare orders besides taking orders.

Maintainance Of system

All restuarants will have access to contact us on any faults the system has or requirements the system does not meet. But we as a team also will als odo a routine check up on the system every month tat every restaurant that uses the system.

Process Architecture

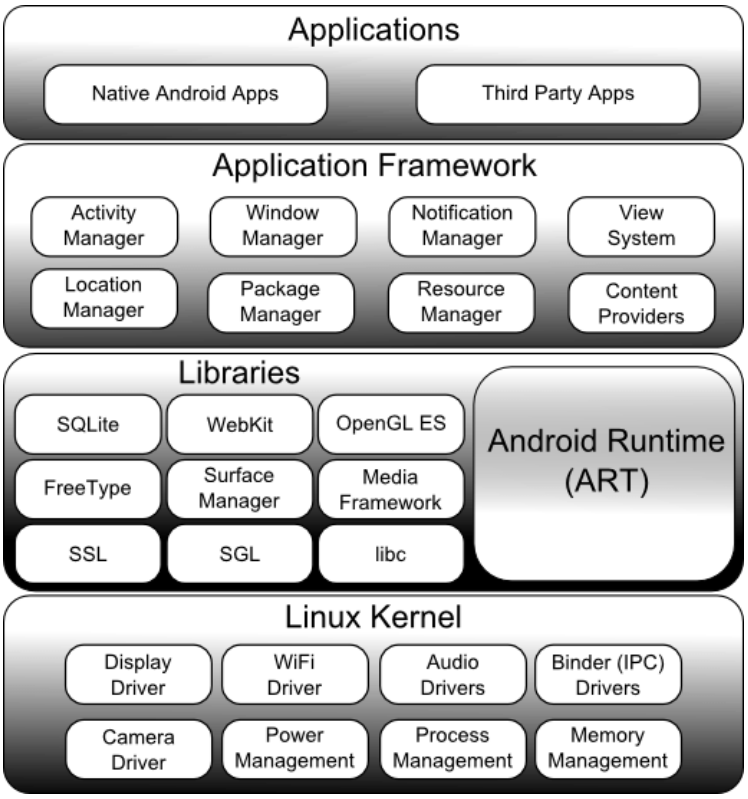


Figure referenced from

https://www.google.com/search?q=process+architecture+of+an+android+project

Explaination Of Process Architecture

The process architecture explains how our application will be executed and gives a clear description of how the application instructions are executed.

Android has a linux kernel(OS) which deals with integrating the android hardware and then it goes to the libraries, application frame work and then to the libraries.

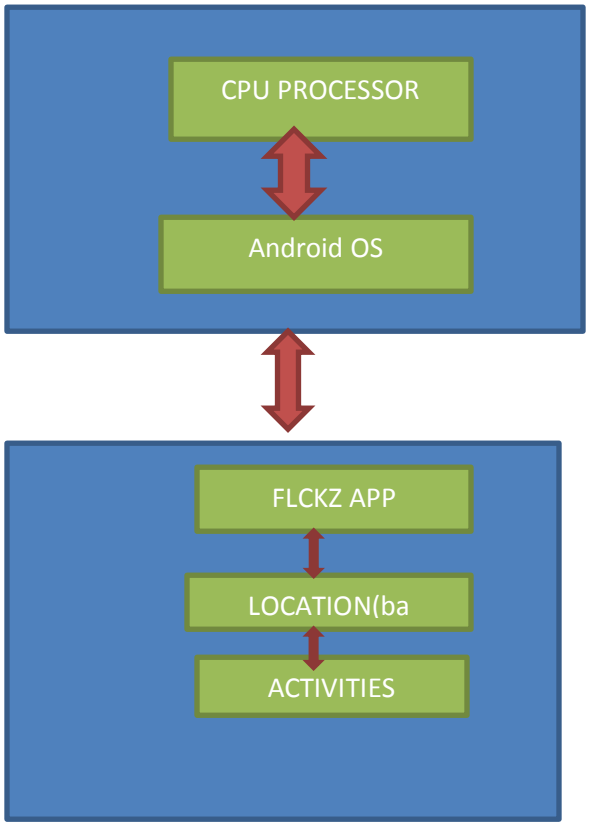
Development Architecture(Layered Approach)

Menu And Bookings	**Menu Class** (getMenu,SetMenu)- methods **Bookings(**GetBooking,setBooking**)**
LOGIN SERVICE	**mySql Database** **LoginClass** **PHP Command**
LOCATION SERVICES	**Lcation class(**getLocation**)** **Android GPS SERVICE**
FLCKS APP	**Activites,layouts,Manifests,main class**
Android Operation System,phone	**Time,Backround services,GUI,API,Qwerty pad,GPS**

Explaination Development Architecture

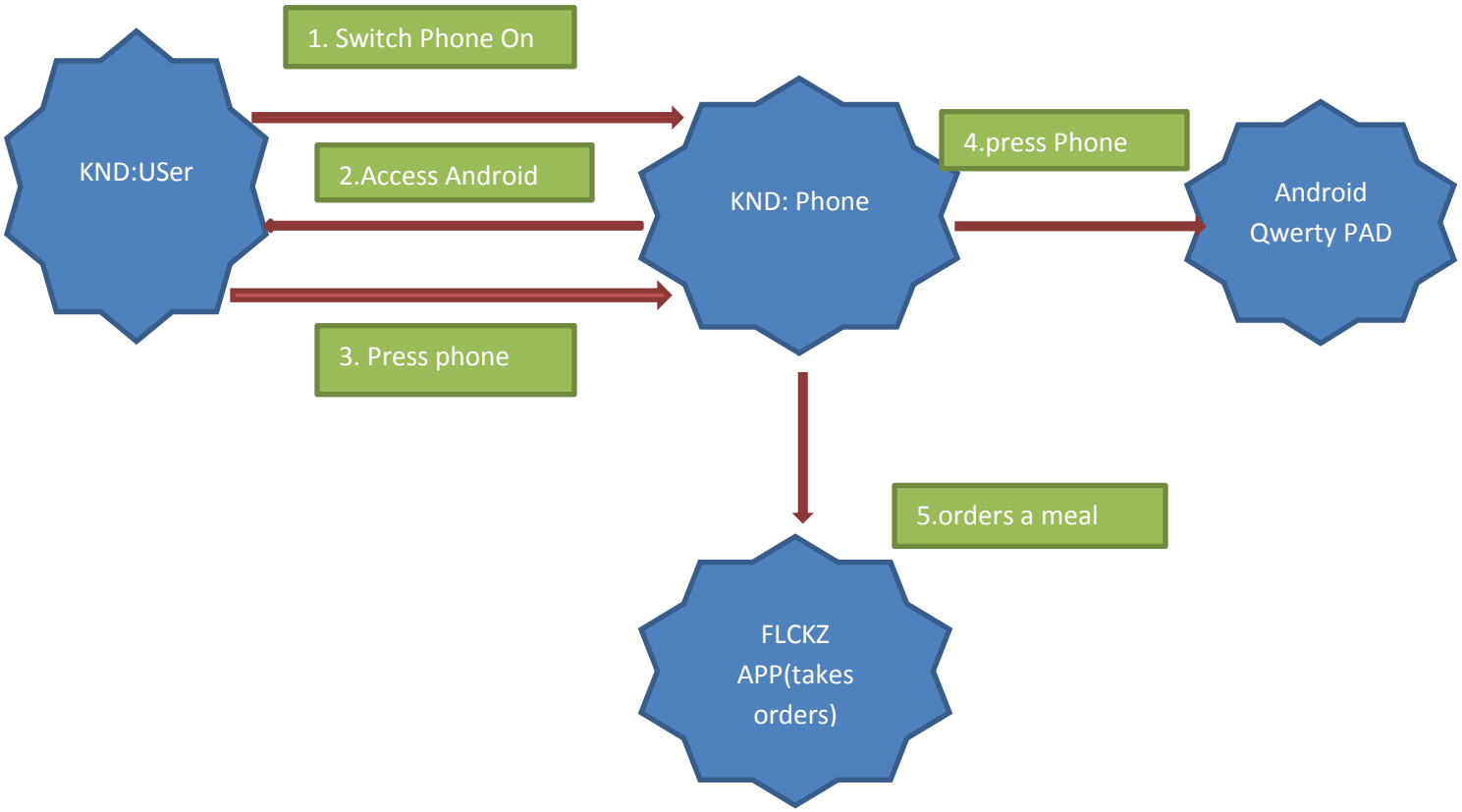
Here we deal with how to implement the software from above diagram we see a change of states going from software to the hardware this architecture will help us programmers(designers) know how we need to structure and implement the software code.

Physical view



Scenarios

The first Scenario we considered is what will happen when a user tries to order a meal.



<u>Explaination of Scenario</u>

1. The user switches on his phone which is done by pressing the power button.(we only explained one scenario)..

2. This gives the user access to the android os. This will serve as a view for the user.

3.The user presses(the phone this will give him access to menus etc..).

4. He can only do this by the qwerty pad.

5.When the student orders a meal it means he has gained access to the app..(he can now order a meal).

Size and Performance

We have not yet done a particular analysis on the design of the software so we not yet sure how the software will perform and the size required to build it.

Quality of Software

We can also not guarantee the quality of the software that we are using. But hopeful the building of the Software architecture will help us come to a solution very soon.

10 .Appendices

1.List of references for the Achitectural Design (page 1).

2.тable Showing which concerns stakeholders are asccociated with.

3.Logical Architecture

4.Physical architecture

5.Process Architecture

6.Development Architecture

7.Scenarios