

CENTRALIZATION AND MATCHING OF AN ELECTRONIC COMPONENTS AND SCHEMATICS USING ANDROID APPLICATION

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Abstract

Our Project('ELECTROMATICS')which is an android application, is to provide a complete, full-fledged and centralized information of electronic components and providing a successful alternative for their characteristics. In addition to that of the objective we are focused on providing a complete and collective schematics of laptop motherboards. There is numerous application that are developed for providing an information of the components and finding a specific value. So, we are planned to develop the components information that are only published in the internet into a centralized specification. An information of finding some matching components are only come by experience of the circuit developer and obtaining those information by experimental test which would also be the part of the project. In this application, Electromatics focused on developing a certain spot collective information of MOSFET matching, Integrated Chips matching and Laptop board schematics.

Keywords: Laptop Board Schematics, MOSFET Matching, IC (Integration Circuit) Matching.

1. INTRODUCTION:

There have been a several applications that are developing and emerging in our life every day. These provide a comfort in our life in every aspect of it. In the event of providing a comfort to the Technicians, service engineers and circuit developers, we are providing this application to the next level of their comfort. Through this application we would like to solve one of the difficult problem i.e. (matching of transistor, MOSFET, IC chips and collection of datasheet of each and every component and finding the alternative to an optimum range) facing in the electronics field.

2. SOFTWARE PLATFORM USED:

2.1 Android Studio:

The platform which we used to develop an application is Android Studio. It is an open source integrated development environment which is an official for Google's Android operating system. It is built on JetBrains' IntelliJ IDEA software. It is designed especially for Android development. This is an user friendly platform which is common to all the course of user that means beginners, intermediate and professional. Now-a-days the several

professional application developers are preferring this platform as it contains a pre-defined template and much easier to interface to the system. Android studio learning process is quite simpler. Development process is simpler for intense application. This application supports the JAVA language to develop the application. Additional features of this platform is supports KOTLIN language. One of the features of this application built-in support for Google Cloud Platform. It enables the integration with Firebase Cloud Messaging which is the earlier 'Google Cloud Messaging' and App engine. It has rich layout editor which allows user to drag and drop UI components, option to preview on configuration. Creation of common Android designs and components is accomplished through Template-based wizards. This provides AVD (Android Virtual Device) which is an android emulator configuration. It helps to configure for any manuscript by defining particular hardware and software description.

3. LANGUAGE USED:

3.1 JAVA:

It is a general-purpose programming language. It is concurrent, class-based, object-oriented which is specifically designed to have implementation and dependencies possible. It can run on any Java Virtual Machine(JVM) because it is compiled to bytecode which is typically in nature. It does not depend on computer architecture. Derivation of the syntax is from C and C++ and it has fewer facilities than either of them. Java library is considered as the Standard library. The android SDK is an alternative software platform, used primarily for developing Android applications. In Android studio the backhand coding process is an efficient and user-friendly process. This is an esteemed development of providing a predefined syntax.

4. OVERALL VIEW OF PROJECT:

Our project is mainly focused on the profession of service engineer and circuit developer. At this application, we focused on providing laptop schematics of the motherboard, matching of some electronic components which are the difficulty in the certain area.

The following are the three objectives viewed in our android app.

- Laptop Boards Schematics,
- MOSFET Matching,
- IC Chips Matching.

4.1 Laptop Board Schematics:

A Schematic, or Schematic Diagram, is a representation of the elements in the board. In this the graphic symbols, circuit Diagrams and realistic pictures are identified in the board. In an electronic circuit diagram, the layout of the symbols may not resemble the layout in the circuit. In this the symbolic elements are arranged to be more easily interpreted by the viewer. In electrical and electronic industries, a schematic diagram is often used to describe the design of equipment.

We provide the all branded laptop's schematic diagram which are randomly arranged in the internet. We collectively provide all the schematic which are developed before as it helps the circuit developer and service engineers. In this application, schematics are properly sorted as such the element is obtained by the experience of several engineers in the field of it. In Fig-1 Shows the block diagram for the arrangement of Laptop Schematics in Our Android Application.

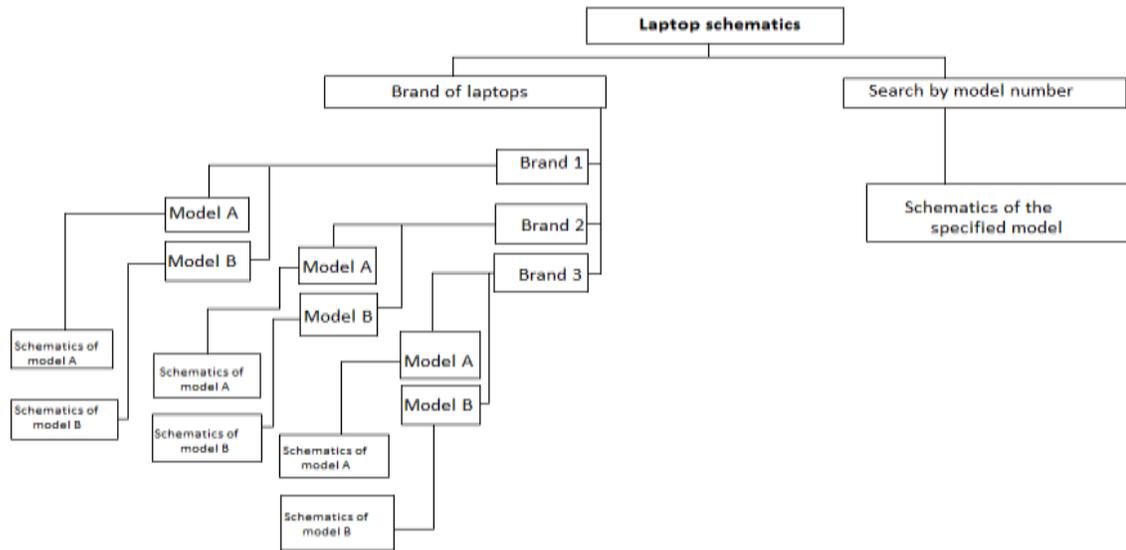


Fig -1: Block Diagram of Arrangement of Laptop Schematics in Our Android Application

4.2 MOSFET Matching:

It is an electronic component which highly used in motherboards. There are some difficulties in finding an alternate mosfet with an exact parameter. But this problem is overcoming by several engineers by means of years of experience. In this application, we provide the matching of mosfet with a relative parameter and which can be obtained in regular market. Addition to this, mosfet’s pinout and datasheet is added. The main parameter is Drain-Source Voltage(Vdss), Gate-source current(Igss) and in-built resistance (Rdgs). In Fig-2 Shows the block diagram for the arrangement of MOSFET Matching in Our Android Application.

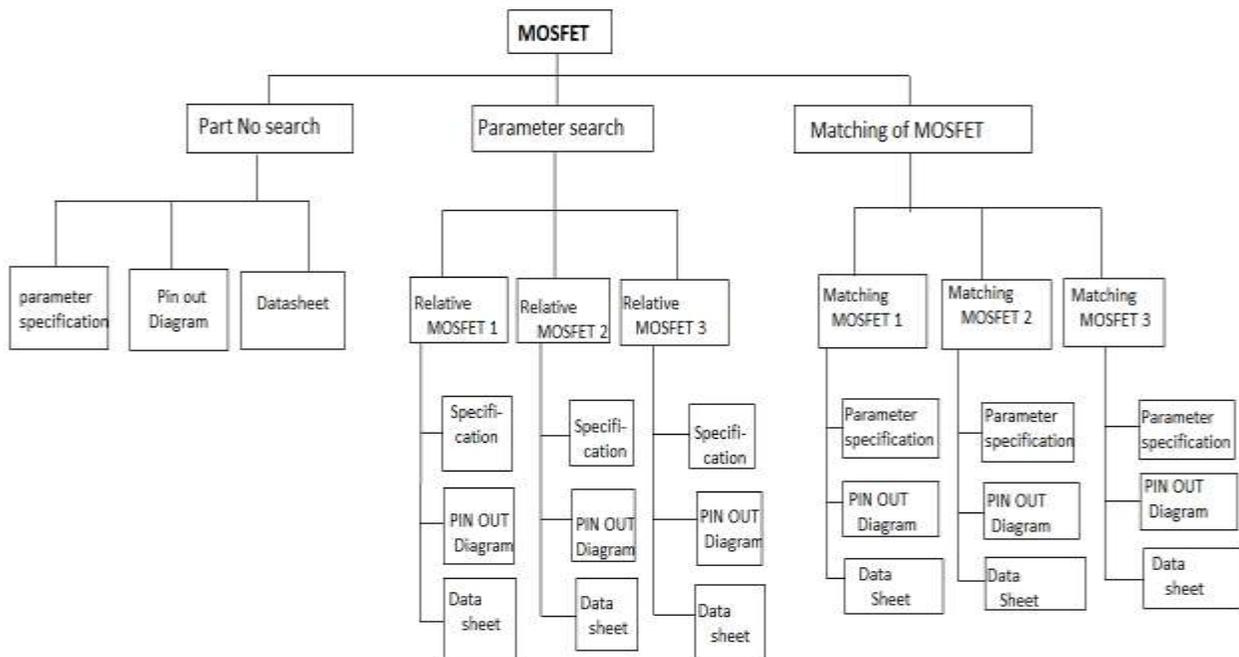


Fig -2: Block Diagram of Arrangement of Mosfet Matching in Our Android Application

4.3 IC (Integration Circuit) Matching:

Finding the IC with an exact parameter and distribution is quite possible. IC finding application are already there. But the alternate IC for the specific parameter is not there. As said before, certain Integrated chip's alternatives are emerged by the experience of the service engineer. This is mainly for the Chip level service engineer and circuit developers. Specific config of the IC and its matching sub-products are given in this application. In addition to this, IC's pinout and datasheet are provided. IC are sorted out in the arrangement of model and its application.

5. CONCLUSIONS

We developed this android application mainly for the concern about profession and technicians in the field of electronics whom are service engineers and circuit developers. We implemented Collection of data information about Electronic Components and Laptop Board Schematics in this ELECTROMATICS Android Application. This Android Application is useful for Analysing and Matching.

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