

Scintilla Session 4 Electronic Tools

01-04-2020

Abstract

Session 4 of scintilla was held on 24th of October 2019. The session was held at Computer center. Staff-in-charge Vinod G as well as lab-instructor Rahul Menon was also present. The full team of Scintilla and other Elacsta members endeavoured to make the event possible.

earliest EDA tools were produced academically. One of the most famous was the "Berkeley VLSI Tools Tarball", a set of UNIX utilities used to design early VLSI systems. Still widely used are the Espresso heuristic logic minimizer and Magic. EasyEDA is one of the mostly used another electronic tool. EasyEDA is one of the mostly used electronic tool.

1 Objectives of the Session

The session was conducted with three major objectives. The former objective is to give a brief introductions to electronic tools that are used nowadays for circuit designing, PCB designing etc. The second objective is to introduce one of such electronic tool, EasyEDA by which they can design and implement different electronic circuits. The final objective is to give training for the students on pcb designing using EasyEDA. Thus we ensure to give a practical knowledge on electronic tools to enhance their knowledge about electronic world.

2 Participation

Details about attendees here.

List of Participants

No. of First year attendees: 8
No. of Second year attendees: 7
No. of Third year attendees: 0
No. of Fourth year attendees: 0

Total No. of attendees: 16

3.2 Introduction to EasyEDA

EasyEDA is a web-based EDA tool suite that enables hardware engineers to design, simulate, share - publicly and privately - and discuss schematics, simulations and printed circuit boards. Other features include the creation of a bill of materials, Gerber files and pick and place files and documentary outputs in PDF, PNG and SVG formats. EasyEDA allows the creation and editing of schematic diagrams, SPICE simulation of mixed analogue and digital circuits and the creation and editing of printed circuit board layouts and, optionally, the manufacture of printed circuit boards. In this session, circuit designing and simulation of different electronic circuits like power supply are briefly described.

3.3 PCB Designing in EasyEDA

PCB designing is a most important part of circuit designing and implementation. We can use several electronic tools for the designing of PCB. EasyEDA is a free and open-source software suite for electronic design automation (EDA) - for printed circuit boards (PCB) layout.

3 Technical Details

3.1 Electronic Tools

Electronic design tools is a category of software tools for designing electronic systems such as integrated circuits and printed circuit boards. The tools work together in a design flow that chip designers use to design and analyze entire semiconductor chips. Since a modern semiconductor chip can have billions of components, EDA tools are essential for their design. The

3.4 Schematic and PCB

Schematic has been done on the open source cloud platform EasyEDA. PCB file of power supply was created. The attendees were really encouraged to realize the circuit designing and simulation. They have also designed its PCB. The files are readily available at: <https://easyeda.com/SCINTILLA01/power-supply>

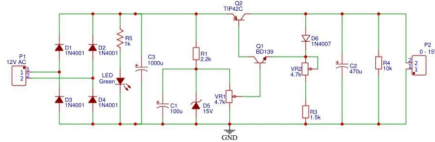


Figure 1: Circuit Schematic

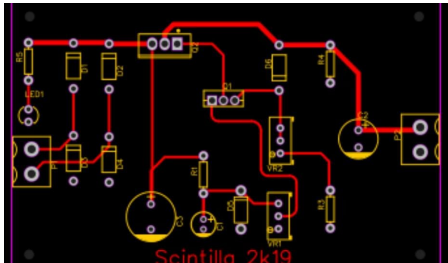


Figure 2: Artwork

4 Images

These are the pictures captured during the session.



Figure 3: Introducing EasyEDA Platform



Figure 4: Circuit Simulation and PCB Designing

5 Poster

This is the poster released as a part of the session



Figure 5: Testing the circuit

6 Conclusion and Suggestion

This session was really fruitful for the first year and second year students since it will help them to design circuits for their upcoming projects. There were some troubles for the attendees due to the unfamiliarity of the new online platform EasyEDA. So we are planning one more section based on the power supply circuit to get more practical knowledge.