

Project I Description

Project Name: Smart Interactive Breadboard

Sponsor: LAU

Team Size: 1 MEE and 1 COE Students

Project Overview

The Smart Interactive Breadboard (SIB) is a breadboard with smart features for educational and prototyping applications. SIB pairs with a mobile app enabling users to interact with the board. It will have a Hardware (ICs, Motors, Sensors, etc...) auto detection feature, hardware debugging, voltage measurement, built-in power supply, create & view interactive step by step tutorials, save prototypes, export to PCB, and share designs with a worldwide community.

Project Areas and Majors needed

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| <ul style="list-style-type: none"> • Instrumentations and Measurement | <ul style="list-style-type: none"> • Computer Programing |
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Project Deliverables

- Research hardware detection features using impedance measurements
- Design means to multiplex the impedance and voltage measurement and scan all the pins on the breadboard
- Design a wireless communication link between breadboard and mobile computer
- Design an app to visualize the physical circuit on a mobile device
- Create a functioning prototype