

<b>ID:</b>	<b>JCP-06</b>
<b>SUPERVISOR:</b>	Justin Pead
<b>TITLE:</b>	Access + Lab Automation Tool
<b>DESCRIPTION:</b>	<p>Lab utilization and optimisation is particularly difficult without information on who is using the space.</p> <p>We need a device capable of integrating with a DB system that helps facilitate lab resources such as</p> <ul style="list-style-type: none"> <li>highlighting available benchtops for sessions</li> <li>Colour Code reserving benches for multiple classes using the same space</li> <li>Decline access for students not allocated to particular slot &amp; Highlight faulty benchtops</li> </ul> <p>Etc.</p> <p>I plan on using an ESP32 in a Mesh network.</p>
<b>DELIVERABLES:</b>	Design a PCB utilizing an ESP 32 which can perform the desired specifications. It will need to be operational and tested to the design requirements
<b>SKILLS/REQUIREMENTS:</b>	Embedded Coding and PCB Design.
<b>GA 1: Problem solving:</b>	This project involves specification, design, prototyping and testing of the Equipment.
<b>GA 4**: Investigations, experiments and analysis: <i>Demonstrate</i></b>	In order to prove deliverables, experimentation and simulation would need to be conducted
<b>EXTRA INFORMATION:</b>	
<b>BROAD Research Area:</b>	
<b>Project suitable for ME/ ECE/EE/ALL?</b>	All suitable.

#### Ethics clearance questionnaire

		Yes	No
<b>Q1</b>	Does this project involve data collection		No
<b>Q2</b>	Does this project involve utilizing a third-party data set		No
<b>Q3</b>	Does this project utilize machine learning (ML) or artificial intelligence (AI)?		No

<b>Q4</b>	Does it exceed the minimum risk defined here: <a href="#">Link</a> [Answer is No here if your project does not utilize ML and AI]		No
<b>Q5</b>	Does this project involve external parties, funders, etc		No