

BORANG INVENTORI PROJEK PELAJAR

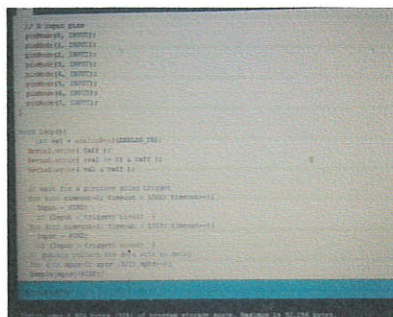
PERKARA	MAKLUMAT																
Program	DEP 5B																
Jabatan	JABATAN KEJURUTERAAN ELEKTRIK																
Semester/ Tahun	SEMESTER 5																
Tajuk Projek	PORTABLE OSCILLOSCOPE USING ARDUINO																
Jenis Projek	REKA BENTUK																
Kategori Kluster Penyelidikan	Tanda “ / ” pada yang berkenaan: <table border="1"> <tr><td>☐</td><td>Sains tulen</td></tr> <tr><td>☐</td><td>Sains gunaan</td></tr> <tr><td>☐</td><td>/ Teknologi dan kejuruteraan</td></tr> <tr><td>☐</td><td>Sains kesihatan dan klinikal</td></tr> <tr><td>☐</td><td>Sains sosial</td></tr> <tr><td>☐</td><td>Sastera dan sastera ikhtisas</td></tr> <tr><td>☐</td><td>Warisan alam dan budaya</td></tr> <tr><td>☐</td><td>Teknologi maklumat dan komunikasi</td></tr> </table>	☐	Sains tulen	☐	Sains gunaan	☐	/ Teknologi dan kejuruteraan	☐	Sains kesihatan dan klinikal	☐	Sains sosial	☐	Sastera dan sastera ikhtisas	☐	Warisan alam dan budaya	☐	Teknologi maklumat dan komunikasi
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☐	Teknologi maklumat dan komunikasi																
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Penyelia Bersama	Nama: KHADIJAH BINTI ABDUL RAHMAN No. Kad Pengenalan:																
Objektif Projek	The objectives of the project are to : 1. Want to simplify conventional oscilloscope 2. To expand the market of user for portable use. 3. To design and implement a lightweight, compatible oscilloscope																
Skop Projek	To ensure the success of this project, some preliminary work has identified scope. The scope of this work is as follows : 1. Limit measurements to 5V 2. Build an easy system where it is controlled by a program of Arduino 3. Use TFT LCD ILI9431 chip.																

Abstrak Projek	Oscilloscopes are very useful electronic instruments that enable one to see voltage wave-shapes in an electronic circuit. But these instruments are very expensive and average students can hardly afford to buy one. This paper describes the design and development of a low-cost portable oscilloscope based on Arduino and Graphical Liquid Crystal Display (GLCD). We use an Arduino board which is used to capture multiple input values and pass them via USB serial port to a laptop that takes the values decode it and display them on the screen. An oscilloscope is a voltage sensing instrument which is used for displaying, analyzing electrical signals and to visualize certain voltage waveform. An oscilloscope has a screen to display a signal trace that is offset in the X and Y axis by measurements taken from two different inputs. In this project, we use Arduino which is an open source electronics prototyping platform based on flexible easy to use hardware and software. This portable oscilloscope is very cheap, uses low power, uses few components and easy to operate. In the end of this project, we can conclude that portable oscilloscope is a useful project as it wave signal measured easily and anywhere.
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Cadangan untuk kerja-kerja akan datang <i>Suggestion for future work</i>	Based on the weaknesses and shortcomings of this system, some improvements and improvements need to be taken into account to ensure the system is always at a high level. Firstly, we can add the audio feature that can produce sound as it displays readings when measuring. To make this portable oscilloscope easier, adding a larger computational range. This design has the advantage that, the portable oscilloscope can be upgraded to provide more features without doing changes to hardware, which helps to improve the device standards and user experience. Lastly, making the addition in terms of the ohms meter or ammeter.
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Gambar berkaitan projek

Picture related to project



Show the result for programme



The connection from arduino to LCD



The portable oscilloscope

Level	Jabatan/ Politeknik/ Kebangsaan/ Antarabangsa
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* Borang ini perlu diisi oleh pelajar dan dihantar kepada penyelia/ penyelarar projek dalam bentuk hardcopy dan softcopy (borang LAMPIRAN J dan gambar hasil projek dalam format jpeg/bitmap) bersama laporan akhir dan hasil projek.