LAMPIRAN J

POLITEKNIK MALAYSIA

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT *INFORMATION*
Program *Program*	Diploma Kejuruteraan Elektronik Komunikasi (DEP 5A)
Jabatan *Department*	Jabatan Kejuruteraan Elektrik
Semester/ Tahun *Semester/ Year*	Semester 5
Tajuk Projek *Project Title*	Smart Roller Painter by Using Air Compressor
Jenis Projek *Type of Project*	Hardware
Kategori Kluster Penyelidikan *Category/ research Cluster*	Tanda " / " pada yang berkenaan: *Please tick " / " where applicable:* [ ] Sains tulen (*Pure Science*) [ ] Sains gunaan (*Applied Science*) [/] Teknologi dan kejuruteraan (*Technology and Engineering*) [ ] Sains kesihatan dan klinikal (*Clinical and Health Sciences*) [ ] Sains sosial (*Social Sciences*) [ ] Sastera dan sastera ikhtisas (*Arts and Applied Arts*) [ ] Warisan alam dan budaya (*Natural Sciences and National Heritage*) [ ] Teknologi maklumat dan komunikasi (*Information and Communication Technology*)
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Abstrak *Abstract*	Paint roller is a hardware used for the painting of a building or flat surface. Typically paint rollers are used to paint large and high flat surfaces. On the other hand, paint brushes are used to paint a hard surface to paint. There are many types of modern paint rollers that are still in use today. But without users aware of the use of modern paint rollers, they will be easy to get joint pain and wastage of paint time and paint spills. Smart Roller Painter using Air Compressor is an innovation for paint rollers which serves as a paint to paint automatically into paint rollers where users no longer need to bow down to paint. Smart Roller Painter using Air Compressor uses Air Compressor as the core for this project which works as a paint rejection into the roller and it uses direct current where the AC circuit to DC power supply needs to be used as a drive for air compressor

Keyword *Keyword* (max 5 word)	Roller Inovation By Using Pressure
Objektif Projek *Project Objectives*	• To design a roller for paint can inject inside it and split at roller paint (direct feeding). • To use concept of air pressure in container for push paint into a roller • To reduce time in preparing the paint and roller also a portable container so it is easy to move it
Skop Projek *Project scope*	• Input voltage for Air Compressor 15VDC • Height 180 cm • Capasity of paint 5 liters
IP No	Tiada
Dapatan *Finding* *(500 words max)*	Value of circuit voltage,Our product need to use minimum 12 VDC and maximum 15 VDC to operated meanwhile value of current must be 12 amperage and above.If current low then 12 amperage this product can't be operated. Time taken for painting this product make 34% increment for completely painting then use traditional roller..Method Time to paint 18.25m² of area(s) Time per Area(s/m²)Smart Roller 120 second 6.58Traditional roller 182 second 9.97Calculation :182-120 = 62 second (different) (120/182)*100= 34% (increment in percent)Duration for the air compressor can be operated.The air compressor can worked only for 20 minutes – 30 minutes. When the air compressor reach it limit of heat, we need to switch off it and let it rest around 20 – 25 minutes. Overheating can damage the air compressor. Height of roller rode can reachCaused uses of air compressor is limited and it pressure are not to high, it make our roller paint have a limit to reach below to 1.5 meters to the 2.5 meters meter only.
Cadangan untuk kerja-kerja akan datang *Suggestion for future work*	Roller The tube for paint flow can be increase it radius for make paint easier and fast to flow into roller core. While roller cover can be remove from the roller frame. The type of fabric at the roller which is felt type can be upgraded to the fluffy type but still maintain the concept of the roller. Which is the roller and the paint

(*500words*)	can be used simultaneously. The flow of paint in the concept direct feeding, so the paint will automatically and continually refill the roller. The uses of the fluffy type of fabric will increase the absorption of the paint to the roller. Paint bucket Can make more bigger bucket then our product to make capacity of paint can store in bucket are more increases. Also make it easy to wash and remove by using good material for bucket. Power supply Use mini power supply to make product more easy to move anywhere or use dc battery that have high current such as car battery. Converts it to the 90W Power Supply AC to DC Adapter Car Cigarette Lighter Socket 12V/7.5A DC Power Convert. The simple power supply can work in flexible way and more efficient. The voltage of the power adapter is automatic adjustable to the suitable voltage of equipment. Air compressor The uses of the air compressor can be changes to paint pump. But in this case, the paint pump is quite expensive. Besides of paint pump, the air compressor can be changes to the higher pressure. Change air compressor and replace it high dc motor pump because it can make more pressure for paint flow into roller and also dc motor smaller than air compressor to make this product not too big.
Gambar berkaitan projek *Picture related to project* (700kb)	  *Figure 2*

	Figure 1	
Rating/Level	Jabatan/ *Departments*	

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