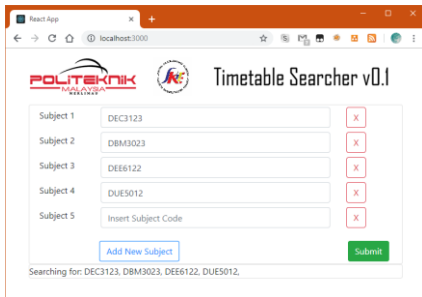


BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT INFORMATION																
Program <i>Program</i>	DIPLOMA KEJURUTERAAN ELEKTRONIK (KOMPUTER) (DTK)																
Jabatan <i>Department</i>	JKE																
Semester/ Tahun <i>Semester/ Year</i>	4																
Tajuk Projek <i>Project Title</i>	WEB-BASED APPLICATION FOR AUTOMATIC OPTIMIZATION OF CARRY STUDENT'S TIMETABLE																
Jenis Projek <i>Type of Project</i>																	
Kategori Kluster Penyelidikan <i>Category/ research Cluster</i>	Tanda “ / ” pada yang berkenaan: Please tick “ / ” where applicable: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 30px;"></td><td>Sains tulen (<i>Pure Science</i>)</td></tr> <tr><td></td><td>Sains gunaan (<i>Applied Science</i>)</td></tr> <tr><td>/</td><td>Teknologi dan kejuruteraan (<i>Technology and Engineering</i>)</td></tr> <tr><td></td><td>Sains kesihatan dan klinikal (<i>Clinical and Health Sciences</i>)</td></tr> <tr><td></td><td>Sains sosial (<i>Social Sciences</i>)</td></tr> <tr><td></td><td>Sastera dan sastera ikhtisas (<i>Arts and Applied Arts</i>)</td></tr> <tr><td></td><td>Warisan alam dan budaya (<i>Natural Sciences and National Heritage</i>)</td></tr> <tr><td>/</td><td>Teknologi maklumat dan komunikasi (<i>Information and Communication Technology</i>)</td></tr> </table>		Sains tulen (<i>Pure Science</i>)		Sains gunaan (<i>Applied Science</i>)	/	Teknologi dan kejuruteraan (<i>Technology and Engineering</i>)		Sains kesihatan dan klinikal (<i>Clinical and Health Sciences</i>)		Sains sosial (<i>Social Sciences</i>)		Sastera dan sastera ikhtisas (<i>Arts and Applied Arts</i>)		Warisan alam dan budaya (<i>Natural Sciences and National Heritage</i>)	/	Teknologi maklumat dan komunikasi (<i>Information and Communication Technology</i>)
	Sains tulen (<i>Pure Science</i>)																
	Sains gunaan (<i>Applied Science</i>)																
/	Teknologi dan kejuruteraan (<i>Technology and Engineering</i>)																
	Sains kesihatan dan klinikal (<i>Clinical and Health Sciences</i>)																
	Sains sosial (<i>Social Sciences</i>)																
	Sastera dan sastera ikhtisas (<i>Arts and Applied Arts</i>)																
	Warisan alam dan budaya (<i>Natural Sciences and National Heritage</i>)																
/	Teknologi maklumat dan komunikasi (<i>Information and Communication Technology</i>)																
Ahli Kumpulan <i>Group member</i>	1. Name: AHMAD AMIRUL 'ADLI BIN MAT ALI No. Identification card: 970704-06-5011																
Penyelia <i>Supervisor</i>	Name: MOHD. FAUZI BIN HASSAN No. Identification card:																
Penyelia Bersama <i>Co-Supervisor</i>	1. Name: No. Identification card:																
Abstrak <i>Abstract</i>	Abstract This project aims to ease the process of putting together a timetable for students who have to repeat at least one subject. The applications automates the process of searching for viable permutations of subjects and ranking them according to a specified metric. Two different frameworks were used to create the application, Django REST Framework (DRF) and React.js, to develop the project. With the API of the project being developed standalone using DRF, the API has the potential to be interfaced with many different operating platforms not limited to PC, iOS, and Android. The current front-end is developed using React.js making the code mostly portable to other platforms via React Native. This project successfully searches for optimized permutations via the implementation of genetic algorithm and is capable of returning an almost complete timetable should there be a perfect combination, all within a matter of seconds.																
Keyword <i>Keyword</i> (max 5 word)	'Web-application', 'Genetic Algorithm', 'Django', 'React.js', 'Automation'																

Objektif Projek <i>Project Objectives</i>	1. Develop a functional database model to store data. 2. Develop a functional API to interface between the database and the user while also processing the data using DjangoRestFramework. 3. Develop a functional and user-friendly front-end as an interface layer between the user and the API using React.js.	
Skop Projek <i>Project scope</i>	The project will use DjangoRestFramework to develop the API while using React.js to develop the frontend.	
IP No	nil	
Dapatan <i>Finding</i> (500 words max)	i. From the project, users can fully automate the timetable arranging process according to the needs of each user. ii. It takes approximately 10 seconds for a complete search to be completed, returning up to 5000 results, but only showing the top 10. iii. The finding shows that the application can effectively search through the many permutations of arrangement following the space complexity of (nPn), at 15 subjects represents a total permutation of 1.3077×10^{12}	
Cadangan untuk kerja-kerja akan datang <i>Suggestion for future work</i> (500words)	There are quite a bit of improvements that can be done to improve the ease of use of the application: 1. A user-based system where a user can simply login to begin the search by obtaining for the subject data from SPMP either via scrubbing or some kind of API. 2. The application can be integrated with the Google Calendar API to give one-click addition of all subjects listed into a user's Google Calendar.	
Gambar berkaitan projek <i>Picture related to project</i> (700kb)	 <i>Figure 1 The front-end interface of the application generated using React.js</i>	<i>Figure 2</i>
Rating/Level	Jabatan/ Politeknik/ Kebangsaan/ Antarabangsa <i>Departments / Institutes / National / International</i>	

* 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.