DEVELOPMENT OF SCHEDULING APPLICATION USING GENETIC ALGORITHM AND JAVA API FOR XML WEB SERVICE TECHNOLOGIES ON ANDROID PLATFORM

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Abstract

Application made in this final project is the automatic lecture schedule generator application based on the ITS Information Technology college campus. Schedule will be generated based on campus resources to the data limitations that have been previously entered. The resources in such as classrooms, lecturer, and college participants. The method used for preparation of the schedule is the Genetic Algorithm. This algorithm is a search algorithm to search for the optimization of a given problem by creating a population of cases and apply the theory of natural law so that this algorithm can produce the best individual in the last generation. This application is web-based scheduling application and built using Vaadin framework. In addition it also made an application on the Android platform to view the stored schedule. RaspinDroid retrieve data from the server using the Web Service created using JAX-WS. JAX-WS is connected directly to the database server to process the XML data directly and ready to be sent to the application RaspinDroid. The other features in JadwalWeb applications, there are features of the course order, and features to manage lecturer personal schedule. Evaluation will be done on this application will be made whether the Genetic Algorithm is used to achieve optimum results in accordance with a schedule that has been built.
manually. Evaluation results are obtained that fit the data even-numbered year a list of courses 2011/2012, Genetic Algorithms can put the courses on schedule with fitness values as expected. For the evaluation of web communications services, JAX-WS can send the database query server and convert it into XML form before sending. Issue a replacement class schedule can be overcome with a feature request on RaspinWeb and RaspinDroid class. These features facilitate communication for every actor in the application.

Keywords: Android, Genetic Algorithms, Schedule, JAX-WS