



كلية الهندسة الإلكترونية

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اسم الباحث:

تاريخ اعتماد تسجيل البحث: 2013/01/17

نوع البحث: أكاديمي

عنوان البحث:

نموذج تطبيقي عالي الكفاءة لنظام المعلومات الجغرافية العام: دراسة حالة

طريقة البحث:



تاريخ اعتماد تسجيل البحث: 2013/01/17

نوع البحث: أكاديمي

عنوان البحث:

جودة البيانات في تطبيق البرمجيات كخدمة في نظام المعلومات الجغرافية العام

طريقة البحث:

Public Geographic Information system (GIS) is a system that automates the process of collecting community contributions of spatial data cross referenced to base maps. It provides the capabilities of analyzing such spatial data giving effective decision support information such as decisions for appropriate land use planning, planning pedestrian areas in crowded streets. On the other hand, the easiest and lowest cost of ownership way to let people to consume public GIS services is to provide those services over cloud using software as a service (SaaS) model. The probability of introducing low quality data over base map through community contributions represents a major drawback in SaaS implementation model for public GIS. This paper's objective is to overcome such drawback, by introducing new method for map layer's content verification. Which depends on five factors, voting on map-layers; user complains as per user type individual, group user /corporate; existence of agreed Service Level Agreement (SLA), and reputation of spatial data's author. Based on a combination of these factors data quality was measured so that decisions for adding, merging new or cross referencing map-layers can be taken based on predefined percentage of measured-data-quality; hence data quality of new map data presented to users could be enhanced. A reference data quality percentage of 0.75 was proposed to help taking decision confidently for adding, merging or cross referencing new map layers with base map; The quality scoring for sample map layers was extracted from running public GIS in private cloud using the proposed factor over four contributed map layers, which are accessed by 77 users, and the result was two layers passed with data quality percentage of 77.5%, and 75.9% respectively. A reliable method was introduced in SaaS implemented public GIS to approve new map layers with reasonable quality contributed by community.



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عنوان البحث:

اجراء مسح علي تقنية الاكتشاف الصدفي المبكر RED ومشتقاته

طريقة البحث:

**Active Queue Management (AQM) algorithms are an Implementing schemes, So that packets are transmitted with higher priority than others. Random Early Detection (RED) is the first active queue management algorithm proposed for deployment in TCP/IP networks. RED has some parameter tuning issues that need to be carefully addressed for it to give good performance under different network scenarios. Various algorithms come from RED such as Stabilized RED (SRED), Dynamic RED (DRED), Adaptive RED (ARED) and Flow RED (FRED) these algorithms control congestion by discarding packets with a load dependent probability whenever a queue in the network appear to be congested, this paper will introduced some features about RED and its variants**



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عنوان البحث:

تصميم يعتمد علي مصفوفه البوابات القابلة للبرمجة لتطبيق خوارزم

طريقة البحث:

Pairwise sequence alignment is often used to reveal similarities between sequences, locate patterns of conservation, study gene regulation, and infer evolutionary relationships [1]. Although the Smith-Waterman (SW) algorithm is the only optimal local sequence alignment algorithm, it is also the slowest one as it costs  $O(mn)$  for computation & space. Also the volume of biological data is doubling about every six months so the total cost is  $O(kmn)$  where  $k$  is the size of the database [2, 3]. By using High Performance Computing (HPC) accurate results can be achieved in reasonable time. In this paper we present a design of FPGA based linear systolic array for smith-waterman algorithm which calculates the highest alignment score during calculation of the similarity matrix cells which repeals the requirement of storing the whole matrix to traverse it to find the optimal alignment score. Our FPGA based design of smith-waterman algorithm shows speedup of up to 200x as compared to a C++ implementation on general purpose processor (GPP).