سامية محمد مصطفى

شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

سامية محمد مصطفى

شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

سامية محمد مصطفى

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

سامية محمد مصطفى

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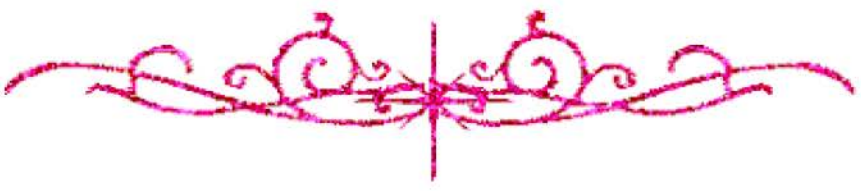
بعض الوثائق الأصلية تالفة



سامية محمد مصطفى

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بالرسالة صفحات لم ترد بالأصل

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LINEAR REFERENCING GIS SYSTEM FOR IRRIGATION NETWORK OF FAYOUM

By
Eng. Waleed Sayed EL-Dash

B.Sc. in Civil Engineering. Cairo University, 1988

A Thesis Submitted to the
Faculty of Engineering at Cairo University
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Under Supervision of
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Prof. of Surveying and Photogrammetry
Faculty of Engineering
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Approved by the Examining Committee

Prof. Dr. Osman Abu Beah
Prof. of Surveying and Photogrammetry, ain shams University

Prof. Dr. Mohamed Shawky EL-Gazale
Prof. of Surveying and Photogrammetry, Cairo University

Prof. Dr. Moustafa Ahmed Baraka
Prof. of Surveying and Photogrammetry, Cairo University

أ.د / مجدى صلاح نور الدين
رئيس مجلس القسم
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FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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ABSTRACT

The rate of growth in available water resources in Egypt is much slower than the rate of increase on the demand side hence there is a serious gap between available resources and water requirements which will increase over time; the use of Information Technology and GIS techniques more over planning, development and management available water in Egypt is needed.

Canals and all irrigation ways defined as linear feature system using relative position. Transformation theses data from linear feature to one dimensional linear referencing system give more flexibility and easier storing, display and analysis of data spatially with changing of the data also linear reference system is very effective for locating of structure or any specification of spatial phenomena along water ways.

Linear reference system is applied to a canal sinnures el-omomi and its branches in Fayoum governorate. Base map of Fayoum in irrigation department is not accurate a lot of errors in digitizing trim and extent, data missing, non defined irrigation network and data shifted. because of that the first step is upgrading canal layer in a tested area these done by using high resolution satellite image Quick bird and GPS points to help as reference data second create Routes and route events created from a base map of tested area were defined and segments along the canal' reaches by using a unique identifier and a measurement system.

Locating structure features along canal route as point event and reaches of sinnures el-omomi canal and its branches as line event. Fayoum irrigation department has about 6300 structure can be installed in a canal map also all canals are divided to reaches according to water distribution and canal properties used for analysis and water management also can be installed in a canal map by applying these technique linear reference system in all canal layers more over theses system can applied in all irrigation and drainage water ways even features are structure, reaches or any specification of spatial phenomena.

Finally verification that all data in data base was installed to the canal. Also verification of structure location by using EGNOS GPS.