الآية

الرحمن (1) علم القران (2)

خلق الإنسان (3) علمه البيان (4)

صدق الله العظيم

(سورة الرحمن)

Dedication

To

my father

To

my mother

my uncle and ante

brothers and sisters

ACKNOWLEDGEMENT

I would like to thank all my parents, my brother, my sisters and my friends. Special thanks are due to my Supervisor, Dr.ALAAELDEEN AWOUDA, A lot of thanks for dal groups specially sayga flour mills for there help and synergy and many thanks for Eng. Muaaz abbas .

ABSTRACT

The Supervisory Control and Data Acquisition (SCADA) system monitors and controls many applications such as:

(Water distribution network including water reticulation,pump stations ,Public utilities, including electrical power generation, oil and gas pipelines, and water and sewage treatment plants).

The main objective of this research to design SCADA system for remote monitoring of sayga water there are many problems in the traditional control system such as : stop of water supply , flooding of water from the main tank and the difficult location of the damaged part in the system all of this problems leads to stop the work for long periods and it causes huge losses .

the problems were solve by monitor and control the filling of tanks to prevent flooding and facilitate the location of damaged device in the system . providing the system with sound alarm to notify workers from that we sure the system will continue without any stop .

also we add Pumps to work when one of these pump stopped , and there are many sensors in any tanks to detect the limit of water also you can supervisor the woter by scada system

الملخص

تستخدم أنظمه مراقبه التحكم ونظام اكتساب البيانات في العديد من التطبيقات على سبيل المثال (شبكة مضخات المياة متضمنه مد شبكات المياة ومحطات الضخ وفي المرافق العامة مثلا محطات توليد الكهرباء وحقول النفط والغاز ومحطات معالجة المياة والصرف الصحي) .

الهدف الرئيسي من هذا البحث هو تصميم انظمه مراقبه التحكم للمياة في مصانع سيقا حيث أن النظام التقليدي للتحكم يحتوى على عدة مشاكل منها انقطاع أو فيضان المياة من الخزان الرئيسي كما أنه عند حدوث عطل في اي جهاز يتطلب الامر ساعات طويله لمعرفة مكان الجهاز المعطوب واصلاحه وكل هذة المشاكل تؤدي الي توقف العمل لساعات طويله مما يكلف مبالغ ضخمه .

وقد تمت معالجه المشكلة بالمراقبه والتحكم والتأكد من عدم فيضان المياة بوضع حساسات للايقاف التام للنظام عند امتلاء الخزان كما يوجد انذار صوتى للتنبيه عن وجود عطل وبذلك يتم التأكد من تواصل العمل من غير انقطاع .

وقد تم عمل مضخات احتياطيه للعمل في حاله توقف احد المضخات كما ان هذه المضخات تعمل بالتناوب

كما انه توجد حساسات في كل حزان ليحدد مستوى المياة كما انه يمكن مراقبه سريان المياة عن طريق نظام الاسكادا .

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List of abbreviations

Abbreviation	Description
PLC	**Programmable logic controller**
AC	**Alternating current**
DC	**Direct current**
SCADA	**Supervisory control and data acquisition**
IEC	**International Electrotechnical commission**
CPU	**Center processing unit**
MODICON	**Modular digital controller**
PC	**Personal computer**
AF	**Animal feeding**
I0.0	**Input number 0**
Q0.0	**Output number 0**
BLL	**Low level switch**
BLH	**High level switch**

PS	**Pressure switch or dry run switch**
FC	**Filter**
M	**Motor**

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