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Thesis Title : Automatic Water Level Control for Irrigation Channel by Water Gate  
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### Abstract

Nowadays the water supply is more necessary for the agriculture and industry including water consumption in general. How to control water distribution efficiently, quickly and in a timely manner in order to meet the demand, and without excessive loss has become more and more necessary. At present the appropriate water level control in the channel by water gate is done by human being. There are so many restrictions for example, the inability to control at all time, delay in receiving water level data, etc. In case of a complicated system, it is even more difficult to control.

In this thesis, a microcomputer-based control system is developed to control water levels though a set of four sluice-gates in a  $0.5 \times 0.5 \times 17$  m. flow channel using downstream control strategy. The system consists of an electronic PID control circuit distributed to and controls the movement of each gate, and a microcomputer which integrates the overall control actions for the entire channel.

Preliminary test results indicate that the control system developed is technically feasible provided that

better instrumentation such as level transducers and more reliable electronic control circuits are used.