

e-HOME

**A Project Report Submitted in partial fulfillment of the requirement
for the Award of the Degree of Bachelor of Engineering in
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Submitted by

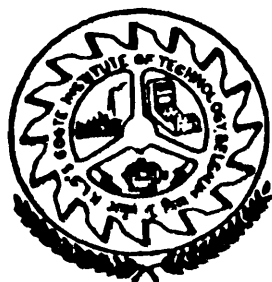
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ABSTRACT

Just when you think that there is everything you could possibly ever need or want a home to do, there is more. Smart-home conception has emerged in recent years and played a very important part in the formation of future houses. Making current homes more adaptable and autonomous is the main focus of smart home research. Achieving these goals won't be possible without giving today's home enough intelligence to make quick rational decisions to operate itself which usually we as inhabitants of the home make these decisions in everyday life to manage home appliances automation and achieve comfort that we desire. The physical picture of a home being rational is very plausible. A home that is capable of making coherent decisions could possibly offer a level of self-sufficiency that is not available in the current home environment. By automating the home many residents prefer that home tasks such as security and power consumption can be carried out by the smart-home systems automatically without their need for exercising authority. By monitoring the home inhabitant's devices usage patterns and forming a knowledge base of how often and at which occasion a particular device is operated, by using reinforcement learning techniques and prediction we can design system that analyze the collected device usage data and perform rational decision on behalf of the smart-home inhabitant. Our project deals with various time and energy conserving methods using basic sensors and a microcontroller. It is an embedded controller sensor device.