

Preface

This book covers the design and development of a Wellness Protocol that forecasts the wellness of individuals living in AAL environment. The Protocol is based on wireless sensors and networks that are applied to data mining and machine learning to monitor the activities of daily living. The heterogeneous sensor and actuator nodes, based on WSNs, are deployed in the home environment. These nodes generate the real-time data on object usage and other movements inside the home, in order to forecast the wellness of any individual. The new Protocol has been designed and developed to be suitable especially for smart home systems. The protocol has proven to offer a reliable, efficient, flexible, and economical solution for smart home systems and AAL environment.

According to consumers' demand, the Wellness Protocol-based smart home systems can be easily installed with existing households without any significant changes and with a user-friendly interface. Additionally, the Wellness Protocol has led to designing a smart building environment for apartments. In the endeavour of smart home design and implementation, the Wellness Protocol deals with large data handling and interference mitigation. A Wellness Protocol-based smart home monitoring system is the application of automation with integral systems of accommodation facilities to boost and enhance the everyday life of an occupant.

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