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A Novel Approach to Design and Implement Context Aware Mobile Phone

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Abstract : Context-aware computing refers to a general class of computing systems that can sense their physical environment, and adapt their behaviour accordingly. Context aware computing makes systems aware of situations of interest, enhances services to users, automates systems and personalizes applications. Context-aware services have been introduced into mobile devices, such as PDA and mobile phones. In this paper we are presenting a novel approaches used to realize the context aware mobile. The context aware mobile phone (CAMP) proposed in this paper senses the users situation automatically and provides user context required services. The proposed system is developed by using artificial intelligence techniques like Bayesian Network, fuzzy logic and rough sets theory based decision table. Bayesian Network to classify the incoming call (high priority call, low priority call and unknown calls), fuzzy linguistic variables and membership degrees to define the context situations, the decision table based rules for service recommendation. To exemplify and demonstrate the effectiveness of the proposed methods, the context aware mobile phone is tested for college campus scenario including different locations like library, class room, meeting room, administrative building and college canteen.

Keywords : context aware mobile, fuzzy logic, decision table, Bayesian probability
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