

Context aware



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Topic: Context Awareness Context awareness is the employment of information to a particular situation of entity. More specifically, context awareness is related to the user and application system relevant to mobile usage. The context awareness in relation to entity refers to a place, object or person. When the mobile is in usage, the interaction of the application of the device is depended on its connectivity with device and environment.

A) Features of Context Awareness

In the case of mobile devices, there is no general feature to be highlighted, as every mobile device has its own unique application. According to Chian(2009)“ When designing context aware tools, especially for mobile computing technologies it is crucial to recognize the reciprocal relationship between context and activities”. However three features of context awareness can be jotted down here:

- a) Reduce the user interventions and present the information to the user easy.
- b) Execute the services and information automatically and save users time and effort.
- c) As per Cisco (2012) “ By providing the location of rogue access points and devices, the system simplifies and enhances detection. This helps in improving the overall security of the enterprise network”.

B) General Framework of Context awareness

The structure of general framework of context awareness can be pointed out by the shown figure.

Fig: 1 General Framework of Context Awareness

The context awareness consists of many layers called device layer,

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interpretation layer, context layer, storage layer and application layer.

- a) Device layer: A device layer refers to the physical device alone.
- b) Interpretation layer: the semantics mapping between the context layer and device layer is described in this layer. It includes the context interpreter and context aggregation.
- c) Context layer: the context information is controlled and generated in this layer.
- d) Storage Layer: The context data generated in this layer can be used to identify the application services. All historical data is storage in database. According to Gay (2009) “ The storage layer stores not only the context data of the current status but also the historical context data in the context-aware system”.
- e) Application Layer: The application services can be executed and defined in this layer through querying the current status of context and the related historical context data from the below layer.

C) Context-aware Components

- a) Context Acquisition: The context aware system usually begins with the contextual data’s sensing and subsequent reunion of the contextual data.
- b) Context Representation: The representation scheme that provides well-organized structuring and retrieval is required by the gathered contextual data.
- c) Context Storage: this component aims to storages the historical data of the system in a database. As per Shiffrin, (2005) “ Operations that increase the strength with which item information is stored on a given study trial also increase the storage of context information on that study trial”.
- d) Context Interpretation: The interpreted context plays a key role in

providing a bird's eye view of context data and enables adaptation process.

e) Context Adaptation: when the interpretation and reasoning of the contextual data is completed, the context adaptation starts.

Work Cited

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