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A new software framework for heterogeneous knowledge sharing in healthcare system

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Background & Motivation

• In healthcare system, it is important for health professionals to regularly gather and analyze the health status of patients.

• The analytical results can be further transferred as knowledge, based on which the health professionals can gain deep insight into the way of how the patients perceive their health problems.

• Knowledge Sharing (KS) can be considered as the part of the knowledge-transfer process, and it includes two main tasks: i) forming the data as knowledge; ii) making the knowledge useful for different healthcare actors such as doctors, patients, relatives, and so on.

• KS is however a sophisticated task in term of how to efficiently deal with heterogeneous information gathered from healthcare actors. The corresponding goal is to improve the delivery quality of healthcare services.

Solution Approach: A New Software Framework

• Wearable sensors are used to identify the healthcare objectives and capture the corresponding information, and thus creating the knowledge source.

• Activity theory ontology model is used to represent various healthcare actors and the interactivities among them.

• Web techniques are used to practically implement the platform that stores, distributes and applies the knowledge in the healthcare system.

• Both decision support system and appointment scheduling are two particular applications of knowledge sharing.

Ongoing Works

Prototype for activity theory ontology [1]

Decision support system [2]

On Performance of appointment scheduling [3]