











preferences of a user based on the collected information about preferences of user groups, are used. The knowledge about the user type, the problem requiring a decision, and the user preferences are used to recommend a decision that the members of the group to that this user belongs would make in a similar context.

The problem requiring a decision occurs in some context. Context-dependent user characteristics make the user type context-dependent. This means that the same user can belong to different user groups and be of different decision maker types in different contexts. When the user is in a decision situation, context enables the context-aware inference of user type and the context-aware identification of user group.

## VI. CONCLUSION

In this paper, we proposed the principles for intelligent decision support based on user digital life. These principles postulate the purpose of decision support, define kinds and originations of information and knowledge sources to achieve this purpose, and provide suggestions about requiring processes.

The principles form the basis of the conceptual framework for intelligent decision support based on user digital life model. The main components of the framework are user profiles, models of user digital lives, and a decision maker ontology. The user profiles provide information characterising the users including their preferences. The models of user digital lives are sources of information about the problems caused decision situations and the decisions that the users made in these situations. The decision maker ontology represents knowledge for the classification of users into decision maker types. The user profiles and models of user digital lives are used to organize group of users with similar preferences and behaviors. The ontology serves to determine to which group the user in decision situation belongs relating to the user context. The proposed framework enables to recommend to the user a decision that is predicted based on the knowledge about preferences and decision-making behaviours of the users from the group to which this user belongs.

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