INTRODUCTION

- Research is being conducted into the use of a Multi-Agent framework to support individuals during the day and night
- Expected that the framework will provide assistance and support with Assisted Living activities and tasks which are tailored to the individuals requirements
- We are programming our system as a team of agents who cooperate to translate contextual information into context infused interactions that may help to assist an individual in an AL scenario

RESEARCH IDEAS

1. Control and dynamically update an interface based on the individual’s requirements, detected context, location and activities being carried out
2. Provide interventions that are tailored to an individual’s specific requirements, detected context and whether it is day or night and make use of the current time and time zone to accurately offer time critical interventions
3. To follow the individual and continue interventions and interactions which may have been started in another location and enable the interface that is displayed to move from a portable device to a static wall mounted device

MULTI-AGENT ARCHITECTURE

- Architecture is shown by Figure 1. Consists of the Sensor, Context, Intervention, Interface and Profile Agents. Messages are exchanged between agents
- Messages contain information regarding what has occurred, current time, context, event details and sensor data

Table 1 – Current and Future Functionality

<table>
<thead>
<tr>
<th>CURRENT FUNCTIONALITY</th>
<th>FUTURE FUNCTIONALITY</th>
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<tbody>
<tr>
<td>Intervention messages offered based on current time, event that occurred and profile selected</td>
<td>Combine sensor, intervention, interaction messages to form a more accurate picture of events that have occurred</td>
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<tr>
<td>One individual is provided with tailored, context aware, time sensitive interventions through an interface</td>
<td>Provide multiple individuals with interventions through an interface. Research and implement ways to do this without RFID and invading privacy</td>
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<td>Interaction method tailored based on 4 sets of requirements: Limited hearing, limited vision, slightly limited vision, no specific requirements</td>
<td>Provide more interaction methods and allow interaction methods to be further adapted</td>
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CONCLUSIONS

- It is believed that conducting research in the area will help to provide worthwhile and effective assistance and support in an Assisted Living scenario
- We are combining the research that has been conducted in the area of context aware systems with our approach of making use of a MAS to dynamically self-configure interventions
- To enable further tailoring of interventions and the method used to present the interventions by providing the MAS with profile requirements and other relevant information