Memory aid to structure and support daily activities for people with dementia

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The Prevalence of *Dementia in Europe (EU-28)* - 2014

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<tr>
<th>Country</th>
<th>Total (m)</th>
<th>% of Population</th>
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<td>Netherlands</td>
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<td>1.47</td>
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<td>EU</td>
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Dementia is increasing worldwide due to changes in the population profile and aging.

Use of technology particularly digital planning boards to support the memory by structuring the daily activities of the residents in old people home is a new innovation in Netherlands.
Purpose:

❖ To develop a memory application to structure and support daily activities for clients with dementia that contributes to the improvement of independency. The daily structure of clients was digitised and visualised using touch screens.
How did we go about it?

- During all phases of three development cycles an inventory of users’ needs was collected, which was applied in the application.

- Pilots in the ‘real life setting’ took place to evaluate its usability and to gather directions for further development.
Development cycle 1 (user-centred design)

1. Exploring the needs
2. Programme of requirements
3. Prototype
4. Testing
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A qualitative method was chosen, data was collected using semi structured individual interviews with the residents (n=6) and focus groups interviews with informal carers (n=5) and members of staff (n=6).
Main themes arising from Findings

- Issues regarding the implementation of the memory aid.
- The needs for further development
- The learning experiences acquired during the development process.
Residents:

Advantages that are indirectly mentioned include: confidence, peace of mind and convenience.

‘Yes, it can say what I have to do at certain times. For example, when I have to eat again. If we eat around quarter past twelve, and that I know that I can have another cigarette at half past two. And when I can have a cup of coffee. This makes things easy’ (1f1).
‘In my opinion, it is not perfect yet. But it already has an added value. I can safely say that, an added value, yes. This mainly concerns the event, showing that there is an activity; coffee time, dinner time. The tune that can be heard when it is time for an activity. You are often early or late. And then there is a resident, saying: Hello, the coffee, or dinner, should already be here. Or, we are already having coffee. Just the fact that something is happening up there, I consider that a positive thing’ (3f2).
Informal carers

This is confirmed by some informal carers who also mentioned the advantage that the planning board keeps repeating activities, which increases the recognisability of the activities that take place in a day.
The needs for further development

An informal carer indicated: ‘For example, they’re playing shuffle board tomorrow evening; put that on the planning board. Then they have something to look forward to, but it is just coffee and dinner. And some are fairly clever, for resident y already knows what he/she has to do, and does not need it. So he/she does not check it’ (2m4).

One resident indicated that she would like to have a say with regard to the activities that take place in a day and that these should be displayed on the planning board ‘Well, they could discuss with you what things you already have to do. And that you can say that, I do not want, and that I do want to do. Then you have an overview. Then the things you do not want to do are gone’ (1f6).
The occurrence of installation errors, inefficient use, limited ease of use and a lack of knowledge regarding the function and use of the memory aid are highlighted as the most important issues that prevented a successful implementation.

The majority of the residents were however, happy with the use and function of the memory aid when it worked.

The informal carers were not very positive but indicated opportunities for improvement.

This was echoed by the staff, although they saw an added value for the current use of the device.

The findings highlighted shared views about ways of improving through adaptation of the software programme and additional technological applications such as Internet connectivity, improving its accessibility by using a remote control, adding videos and photos.
Conclusions

✦ A number of lessons are learned about the use and transferability of this innovation in general health care setting as well as in people with dementia.

✦ The process of user centered design and development was then followed in the 3rd cycle of development to obtain solutions that can be effectively implemented in their living environment.
Conclusions

- A clear insight is gained for further development of the memory application also within other vulnerable target groups as well as for other innovation projects related to assistive technology.
- Further research is necessary to examine the generalisability of findings for people with intellectual disabilities and within people with dementia.
In Summary

- The usability study showed that the memory application has the potential to contribute to the independence of clients.
In summary…

- The tablet has gone through first, second & third cycle of development.
- The first one was made by students from Saxion for people with dementia (master thesis).
- The second & third for people with intellectual disabilities made by the software company: Coachend zorgen van Auger BV, Deventer, The Netherlands.
- The tablet is now an app and is available in app store named: “the pictoplanner”.