Improving the usability of an approach for visually supporting the creation of Personal Development Plans

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Abstract

With the aim of visually supporting learners in the creation of their personal development plans, this paper describes the functionalities added to a preliminary approach for improving its usability and satisfying better the learners’ needs taking into account the findings from a previous user study.

1. Introduction

Within the field of Visual Design Languages and Applications for Technology Enhanced Learning there has been significant research around supporting teachers when designing instruction [2]. However, there are not many efforts considering the role of learners in the creation of their own learning paths. In this paper we introduce an enhanced (version 2.0) graphical planning tool (GPT), developed in the context of the TENCompetence project [6], which supports learners in the visual design and creation of their Personal Development Plans (PDP).

The GPT version 1.0 was based on the approach of concept mapping [1, 3] and a metaphor of “bubbles” [5], where each bubble represents a learning activity. Learners could explore and plan the learning activities related to the competences of a certain competence profile (set of competences that define the requirements for a specific function or job) by dragging and dropping the bubbles. For instance, learners who want learn about driving, could use the GPT for planning the learning activities related to it (see [5] for further description of the scenario).

In order to evaluate the GPT 1.0, we carried out a user study [5] for analysing the understanding of the tool purpose, the suitability of the graphic elements shown in the interface, and the changes or additions that would improve the usability and functionality of the tool. The findings resulting from the user study were generally positive (participants found quite easy the use of the tool, they found that the tool facilitates the planning task, etc), despite some problems that learners had (using the scrollbar for seeing all the information, not being able to delete activities, difficulties for discerning the activities related to a competence, etc). The contribution of this paper represents a step forward for better satisfying the learners’ needs in the creation of PDPs. Next section describes the functionality and visual approaches of the GPT 2.0 pointing out the changes accomplished (in GPT 1.0) as the result of the user study.

2. Enhanced Graphical Planning Tool

Table 1 summarizes the solutions for improving the tool’s usability according to the most important findings of the user study presented in [5].

<table>
<thead>
<tr>
<th>Problem in GPT 1.0</th>
<th>Solution in GPT 2.0</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using of the scrollbar for seeing all the information of the interface.</td>
<td>Visualizing all the information in one page by resizing the tool according the browser’s window.</td>
<td>sol1</td>
</tr>
<tr>
<td>Difficulties for discerning the activities related to a competence.</td>
<td>Doing a click on a competence, the activities related to it keep highlighted with the same color.</td>
<td>sol2</td>
</tr>
<tr>
<td>Bubbles come back at the original place every time the learner drops them.</td>
<td>Enabling to move away the bubbles without having to come back at the original place.</td>
<td>sol3</td>
</tr>
<tr>
<td>Difficulties for closing the tooltip’s (by doing a click on the related activity).</td>
<td>Adding a cross button to each tooltip for closing it.</td>
<td>sol4</td>
</tr>
<tr>
<td>Difficulties for understanding the “long-mid-short term” areas.</td>
<td>Adding a calendar for having and overview of the planned activities.</td>
<td>sol5</td>
</tr>
<tr>
<td>The unwished activities cannot be deleted.</td>
<td>Including a garbage bin for dropping the unwished activities.</td>
<td>sol6</td>
</tr>
</tbody>
</table>

The interface, organized in four areas, shows all the information in one screen, avoiding the use of the scrollbar [sol1]. At the top, there is the list containing the competences related to a competence profile. Depending on the topic area, each competence has a different colour (see Figure 1a), and doing a click on a
competence, the activities related to it change into the same colour of the competence (see Figure 1) [sol2].

The learning activities situated in the main area of the interface (Figure 1b), contains the personal plan computed using a service developed within the TENCompetence project called the Hybrid Personalizer [5]. It suggests to the learner a possible path which can be followed in order to acquire a specific competence profile. The path is organized among a vertical axis based on the activities’ relations, and a horizontal axis which takes into account the learner’s preferences. This main area (Figure 1b) can be used for exploring the suggested learning activities by dragging and dropping each bubble wherever the learner wants [sol3]. Each bubble has associated a “tooltip” (a small window that pops-up when a user clicks on the bubble, see Figure 1c) where learners can find a description of the learning activity, and specify both the start and end dates when they have planned to do the specific activity. For closing each tooltip, the learner should click on the red-cross [sol4].

A calendar, located at the top-right area (see Figure 1d), contains an overview of the planned activities [sol5]. Doing a click on a dark-blue colour day, a tooltip shows the information of the planned activities for that day (see Figure 1e). Besides, at bottom-right area, there is a garbage bin (see Figure 1f) which contains the learner’s unwished bubbles [sol6].

3. Conclusion

This paper has presented the modifications performed in a preliminary approach for visually supporting learners in the creation of personal learning plans. These modifications are based on the findings from a user study carried out for evaluating this tool, and seek for improving its usability and fitting better the learners’ needs. The integration of this graphical approach in the TENCompetence infrastructure will provide us interesting opportunities to evaluate the tool in authentic lifelong learning scenarios for competence development.

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4. References