

## My-Pet-My-Quest: Using Authoring Tool in Open Content Environment to Extend Learning Quests

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**Abstract:** In this paper, we describe an Authoring tool to help users sharing their learning content and design quest in an open content environment. Authoring tool is a quest editing tool which can help users to design materials and scripts in the quest easily. In the My-Pet-My-Quest system, game quests play a significant role in guiding players to accomplishing tasks. Therefore, we transform the Authoring tool into an opened content model to collect more useful materials and produce a large number of tasks. Open content environment also can maximize the educational values of learning content and stories in the quest.

### Introduction

Digital game-based learning has attracted many researches interest. Game-based learning environments can inspire students to learn, and provide students with a great deal of learning opportunities to improve their learning (Gee, 2003). In addition, many researches have shown that game-based learning has positive effects on student's spatial abilities and attention (Barlett, 2009). Therefore, we design a game-based learning environment with pets, entitled My-Pet-My-Quest system, to help students learning based on the impact of pets (Chen, 2009). Students will play the role of pet-trainer who can interact with My-Pet that sustains his/her motivation and engage him/her in learning tasks and competition activities (Liao, 2009). Our research shows that quests and scripts design is the most significant two factors in the quest-driven learning content. Thus, how to maximize the educational values of learning content and stories in the quest design and how to balance learning subjects and learning content in the quest design is very important.

In this paper, we want to extend our developing quest tool, which called Authoring tool, to facilitate users sharing their learning content to achieve student-centered learning and let students learning by doing in an open content environment.

### My-Pet-My-Quest System

A My-Pet-My-Quest includes three main parts: fostering pets, accomplishing learning quests (playing small games which included learning content) and getting rewards. In the My-Pet-My-Quest, students mainly interact with NPCs (Non-Player Characters). An information provider NPC would invite the pet-keeper and request for help. It then tells the pet-keeper information about the quest, such as quest content, condition, and rewards. The pet-keeper needs to go to somewhere to find another quest-giver NPC in the environment for accepting the quest and to help the quest-giver NPC (to complete the quest) then get the rewards. Figure 1 shows the snapshot of the quest by information provider NPC. The NPC tells the pet-keeper that have some events require players to help. Pet-keeper can go to the location which told by quest-giver NPC to start quests, the quest content may contain language, mathematics or problem solving. Pet-keeper must complete the mission condition (e.g., speed or accuracy of the questions, etc.) for the quest rewards.



Figure 1. Snapshot of the Quest Delegated by the Information Provider NPC.



Figure 2. An Example of a Quest.

### The Authoring Tool

This study has developed a simple quest edit tool which called Authoring tool (Shown as Figure 3 and 4). Authoring tool mainly provide four functions: edit quest content, add new quest, and edit scripts, quest setting

and management. Authoring tool allows users to easily design a new quest, create a script, replaced learning content, and setting reward. The main purpose of Authoring tool is to make user through this tool to design task and learning content. The user maybe a student also can be a teacher. Users through the tool can completely self-made question, script, learning content and select the corresponding NPC. User also can choose from an online library to get some question or script which from other experts or teachers. Teaching (which may be teachers or students) not only make the task easier but also can set appropriate learning tasks and objectives. Open content model can maximize the educational values of learning content and stories. The content was provided by many users that maybe a teacher or expert. It also supplies an opportunity of students to construct their own knowledge by design content. Balance learning subjects and learning content will be possible to achieved because open content design by these professions.

編號	類型	名稱	說明	npc	條件說明	條件	獎勵說明	獎勵數量	任務地點	任務系列
1	主線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	250	forest
2	主線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
3	支線任務	牛刀小試	擊敗森林怪	村民	達成90%	80	金錢20元	money	20	forest
4	支線任務	牛刀小試	擊敗森林怪	村民	達成90%	80	金錢20元	money	20	forest
5	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
6	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
7	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
8	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
9	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
10	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
11	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
12	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
13	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
14	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
15	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
16	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
17	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest
18	支線任務	接力量初學	只要通過	村民	達成90%	80	經驗+1	exp	150	forest

Figure 3. Snapshot of the Authoring Tool.

選擇系列	任務名稱	任務地點	任務系列	任務數量	任務地點
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	
<input type="checkbox"/>	牛刀小試	森林	1	forest	

Figure 4. Function of Assign Quests to System.

## Conclusion and Discussion

My-Pet-My-Quest used in an elementary school to help students learning mathematics now. We wish to extend the editing tools into an open content environment to be more application. Open quest environment will collect all created quests and materials into library that can give the other one use and provide their teaching methods. Quest created by teachers or students are more appropriate for their own curriculum. Students edit the script of the quest and exchange task learning materials can be achieved "learning by doing". Quest design by teachers or students not only can truly achieve student-centered learning but also reach a long-term, more sustainable, and more appropriate for students. Finally, we hope that students can edit good stories and creative content and construction their knowledge by design quest.

Open content model may have some problems: (1) someone shared the incorrect or inappropriate materials (2) teachers or students were reluctant to use this tool. If student create a wrong or indecent quest that must be deleted or edited by administrator or system. The management problem may increase system and teachers burden. Another problem is users didn't want change the existing pattern to use the tool. However, open content model is a solution to expand learning materials and reach a long-term learning in My-Pet-My-Quest system.

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