

Manga: Edutainment Project on Profession-Related Language Training

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Abstract: This paper reports on the design, development, implementation and evaluation of Manga, an edutainment platform on profession-related language training with focus on the interface of technology and pedagogy. The aim of Manga is to provide a contextualized and immersive environment for learning English as a foreign language. Manga provides interactive and customized modules for learning English for disciplines including logistics, accounting, hotel and tourism management, nursing, and marketing.

Keywords: edutainment applications, profession-related language training, business and social applications, e-learning

Language Training

Teaching of English as a Foreign Language (TEFL) refers to teaching in a country where the linguistic environment is not primarily English. In Hong Kong universities where English is taught as a foreign language, special attention is required since local students are embedded with different assumptions and customary learning styles to students in UK or US. McCarty's case study in East Asia (2005) called attention to the context of educational practices and shed light on important contexts at the interface of technology and pedagogy. His study demonstrated that cultural context must be considered for learning to be transformative. This paper reports on the design, development, implementation and evaluation of Manga, an edutainment platform on profession-related language training with focus on the interface of technology and pedagogy. Manga provides a contextualized and immersive environment for learning English as a foreign language. The aim of Manga is to help students to apply profession-related language training theories in an online interactive multimedia simulation of a business English environment. These skills include writing e-mails, writing memos, writing business letters, and reading business correspondence. Manga provides interactive and customized modules for learning English for disciplines including logistics, accounting, hotel and tourism management, nursing, and marketing.

Manga

Manga means comic strips in Japanese. As an analogy to comic strips, Manga allows English teachers to create interactive story and immersive virtual environment for learners to learn English individually or in teams. Manga has 3 views: teacher, student, and administrator. In administrator view, administrators can login with password, and register language teachers to domains including logistics, accounting, hotel and tourism management, nursing, and marketing. Manga is provided with multi-user mode, full-screen mode, real-time replay mode,

and help videos. In teacher view, teachers can login with password to enter the teacher mode of one of the following tasks: covering memo, e-mail to colleagues, e-mail to subordinates, e-mail to superiors, enquiry letter, complaint letter, or adjustment letter. Using the non-player character setup editor, teachers can assign gender, head, body, hair style and clothing to non-player characters (Fig. 1), and can then move these characters in different rooms in the scene.



Figure 1 (left): *Non-player characters*

Figure 2 (right): *Scene objects and viewpoints*

Using the scene setup editor (Fig. 2), teachers can select from a pool of furniture, equipments, decorations, and accessories, select different viewpoints, and setup the scene for different disciplines. Using the dialogue setup editor, teachers can create sets of non-player character dialogues and thought bubbles (Fig. 3).



Figure 3 (left): *Setup dialogue, and thought bubble*

Figure 4 (right): *Setup expression, gesture, and relationship point*

Teachers can also assign to the dialogues corresponding relationship points, character facial expressions and gestures (Fig. 4). Teachers can save the settings and check the scene

settings (Fig. 5). Teachers can check the interactive simulation, such as dialogues and thought bubbles, as if they are in the student view (Fig. 6).



Figure 5 (left): *Save and check the scene settings*

Figure 6 (right): *Check the dialogues and thought bubbles*

In student view, students can register to domains including logistics, accounting, hotel and tourism management, nursing, and marketing. Students can select their gender, and from a list a registered teacher. Students can then login with a password to enter the pre-defined scene created earlier by this responsible teacher. During loading of the scene, students are provided with information of the learning task. To prevent plagiarism, non-player character names and gender are randomly selected from a list, so that each student will meet different characters for different learning task (Fig. 7). Using the avatar character setup editor (Fig. 8), students can choose head, body, hair style and clothing to represent them. Students can choose from pre-defined sets of dialogues to converse with the non-player characters and see what these non-player characters are thinking through these thought bubbles (Fig. 9, 10).



Figure 7 (left): *Study the non-player character*

Figure 8 (right): *Setup avatar*

Figure 9 (left): *Converse with mentor*Figure 10 (right): *Converse with other non-player characters*Figure 11 (left): *Chat with other students*Figure 12 (right): *Playback simulation*

Depending on the choice, the system will calculate the final relationship point, so that students will know how well they have done in the task. To facilitate peer-learning in teams, multi-user chat environment is provided (Fig. 11). Up to 3 students are allowed in the same room, and new students will be automatically provided another virtual room. Upon completion of dialogues, students can save the simulation and receive the total relationship point. Using the playback function, students can review and playback this simulation (Fig. 12). Students can then work on the assigned writing task (Fig. 13). Students can also check the spelling before submission. Upon submission of the writing task, students will receive instant and automatic feedback on the content, organization, register, accuracy, and conventions (Fig. 14).

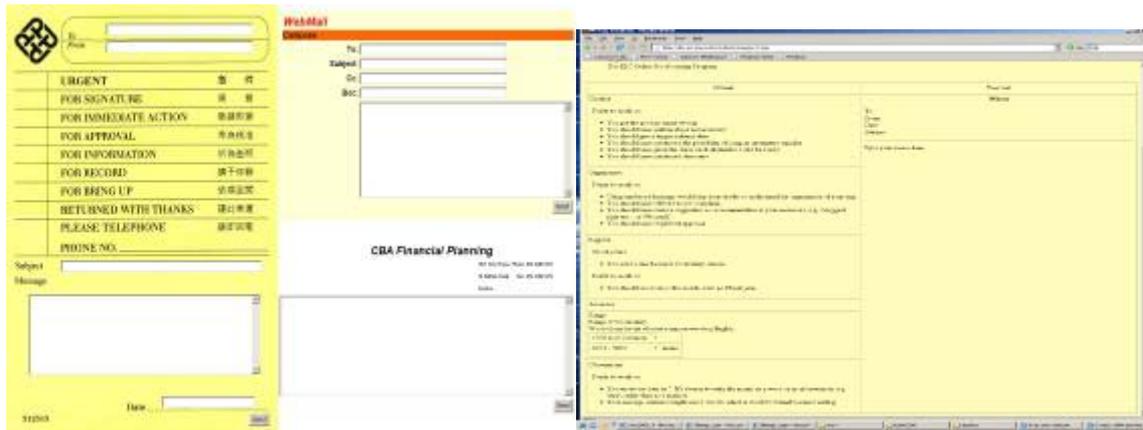


Figure 13 (left): Write memo, email, or report

Figure 14 (right): Receive instant and automatic feedback

Usability Testing

Two usability testing were organized. In Mar 2006, preliminary usability testing with university staffs was undertaken. The result showed that respondents looked for videogames features available in the market. Respondents suggested the following improvements: i) enable options in speech bubbles so that they are clickable; ii) Show the NPC's speech bubble should firstly animate the NPC with a thinking/puzzled posture and secondly show the thought bubble; iii) use softer colours for the thought bubble; iv) provide separate menu buttons for going to the writing interface, and for playback; v) prompt to confirm play back of the entire interaction at the same speed as the original; vi) allow learner to click on a NPC to make him/her talk; vii) allow learner to click on a NPC to move avatar to him/her; viii) highlight NPC when he/she is selected; and ix) improve program response time for showing clothes on learner's avatar.



Figure 15: Usability Testing

In April, 14 English language students participated in a workshop (Fig. 15) organized by the English Language Centre, The Hong Kong Polytechnic University. The result showed

that respondents focused on features that could help them to choose appropriate dialogue and collect required information for a writing task. 7.1% strongly agreed, 64.3% agreed, and 28.6% were neutral that Manga helped improving their writing skills. Results showed that students are quite positive; they liked the interactive content, realistic 3D graphics, interface design, synchronous multi-user and chat environment, thought bubble, and automatic correction of writing. Results suggested the following improvements: i) allow user to select individual mode or group mode; ii) provide location map for orientation; iii) provide more options; iv) improve navigation and loading speed; v) provide low quality version for remote user; vi) provide memo for taking notes.

Conclusion

The goal of Manga is to inspire. Kolb (1984) stated three stages of lifelong growth and development, namely integration where self as process (transacting with the world), specialization where self as content (transacting with the world), and acquisition where self as undifferentiated (immersed in the world). Manga provides a technology-enriched profession-related language training environment. Manga to: i) allows active learning that focuses on thinking, task, teamwork, and transcendence (Leung, 2004); ii) promotes interactions of teacher, students, and experts; iii) get student engaged cognitively, physically, and socially; iv) provides a universe to collect, connect, create and donate (Schneiderman, 2002); v) provides functions for knowledge management; vi) provides an intelligent, immersive, and integrated environment for teachers, students, and administrators.

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