This poster/demo will illustrate and demo the Axon Spark 3D game and game engine for students learning foreign languages. The 3D Game allows students to be immersed in a RPG (Roll Playing Game) type game where students must interact in a foreign language to complete missions/quests. The Game Engine includes a tool that allows teachers to create lessons/missions.

1 Project overview

The Axon Spark 3D Game Engine is a 3D environment where students of foreign languages can practice speaking, listening, and conversing while interacting in an RPG (Role-Playing Game) style game. The project is divided into 3 major components:

1. 3D game engine
2. Actual game
3. Toolset for teachers to create the game

2 Game engine

The game engine provides a 3D environment where players can move around and interact with NPC (Non Playing Characters). It provides the character, AI, communication, and language components needed for the 3D space. It is language independent, so the same game engine can be used for any language including languages which are character based like Japanese.

3 Actual game

A demo game was created that uses the 3D game engine and the data created from the toolset to create a Chinese murder mystery. In this game, the learner must interview NPC characters to find out who killed Mr. Lin. The game includes a splash screen, main menu, options screen, and game. The learner interacts by approaching a NPC and pressing the tab key. Then the learner can input the Chinese to answer the question from the NPC or to ask the NPC a question.
4 Toolset

The toolset allows foreign language teachers and professors without much computer or technical skills to easily create new lessons or games for their students. The can add NPC’s, objects, and structures to the 3D environment. For NPC’s, they can add dialog and storylines. Games can be saved, opened, and loaded so that teachers can share the games they create.

5 Conclusion

This project is important for CALL (Computer Assisted Language Learning) because many of today’s students are passionate about games. Having an educational game is not new, but having a 3D fully immersed game where students interact with the environment to complete quests is. Another unique aspect of the project is that a language instructor with little computer skills can create customized lessons/quests for their students. World of Warcraft, another RPG style game has over 9-million monthly subscribers, which means the questing RPG model is attractive. This game uses the same model, but with a foreign language learning twist.