Architecture

The online gaming environment consists of two components:

* A robust client
* A server

Client

Runs any game content. Is able to operate offline under certain restrictions. The content must not be altered or restricted in any way while operating offline. Gameplay in this case shall lack the interactiveness present in online mode, accompanied with the inability to receive new features that are unlocked through online play.

Content will be downloaded to the client before any sort of play. If any updates occurred to the content while the client was offline, it must be updated before playing that content online.

Server

Stores the most updated content of all teachers. Responsible for synchronizing play between various players at a current game instance. Provides chat capabilities.

At the core of the system is the Game Engine (GE). The GE is responsible for delivering gameplay experience through the content provided to it (language exercises). The GE acts as the presenter of content, supplying the ground rules and restrictions by which content can be presented and manipulated, while allowing any additional loose features to be fully customized by an editor.

The server should act as a mediator of messages between different GE instances running at different clients while implementing little or no rules concerning the gameplay. It should supply only features that are unavailable offline.

Content may vary when working offline vs. online.

Types of question (from “Living English Structure”)

1. Modify the following sentence (by a given criteria)
2. Add missing words where necessary
3. Replace words with…
4. Replace parts of sentence with…
5. Choose the correct word
6. Answer the following questions

Game Loop Architecture

PLAYGAME( Game, Players, Subject, Questions, RoundCount )

{

FOREACH( P in Players )

{

IF PassedPrequisit( Subject, P ) IS FALSE

Players.Remove( P );

IF Players.count < Game.minPlayers

Game.Cancel;

}

WHILE RoundCount > 0

{

Start New Round

Show Instructions

Start Timer

Present Questions by Exercise Format

WHILE( Timer.isRunning )

Play

Stop Play

Show Feedback

Calculate And Present Points Accumulated Individually

}

Calculate Group Points And Determine Winner

If Winner == NONE //draw