Web Interface Requirements for
Educational Computer Games
Version 0 - Preliminary

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1. Introduction

This document presents web interface requirements for all games in the networkgames project. It is assumed that the server resides on v-i-p-site.com and the games reside on satnet.fgcu.edu host. The assumed sequence of actions to proceed with the game is as follows:

1) The user logs on to the server and selects the game from the server's menu.
2) On behalf of the user, the server sends a request to the game host to activate the game, passing to it the initial information.
3) The game host responds to the server's request by sending to it an initial screen in a specified format.
4) The server displays the initial screen received from the game host and relinquishes control of the screen to the game host.
5) The game is played as long as the user does not quit it, or until a timeout expires.

2. Definitions

Category – a set of inter-related words and respective definitions, or a set of inter-related questions and respective answers.

EdGame Software (EdGame) – any software that can assist a user in acquiring knowledge by playing a computer game.

Server – an Internet entity with which the EdGame Software interacts to exchange data.

Topic – synonym of category.

3. Specific Requirements

Requirement I-1

The EdGame software shall be able to respond to a connection request from the Server, by sending to the Server the initial screen information in response to the request.

Requirement I-2

The EdGame software shall be able to make a request to the Server to obtain user characteristics in the following format:

```
http://api.v-i-p-site.com/user/{userId}
```

Requirement I-3

Upon making a request to retrieve user characteristics, as per Requirement I-2, the EdGame software shall be able to handle the Server's response in the following format:

- userID (integer)
- user name
- user email address.

Note 1. This requirement may change in the future, once user characteristics are expanded.

Note 2. Example of a response from the Server may look as follows:

```
<users>
  <user>
     <userid>123</userid>
     <name>RealUserName</name>
     <email>username@domain.edu</email>
  </user>
</users>
```

Requirement I-4

The initial screen information to be sent to the Server shall be in the format defined in the game's software requirements specification.

Note. This means that all formats defined in the game's software requirement specification are acceptable to the server, but have to be clearly defined. This requirement may change later.

Requirement I-5

The EdGame software shall be able to make requests to the Server to retrieve specific category in the following two formats:

```
http://api.v-i-p-site.com/user/{userId}/kahrdsets
http://api.v-i-p-site.com/user/{userId}/kahrdsets/{parentId}
```

where {userId} is the userId retrieved as per Requirement I-3, and {parentId} is the ID (integer) of the top-level category.

Note. Examples of respective requests can be as follows:

```
http://api.v-i-p-site.com/user/1/kahrdsets
http://api.v-i-p-site.com/user/1/kahrdsets/1
```

Requirement I-6

Upon making a request to retrieve a specific category, as per Requirement I-5, the EdGame software shall be able to handle the Server's response in the following format:

- First item: number of an instance (integer)

- Second item: number of category (parentId – integer)

- Third item: name of category (string)

- Fourth item: child category (optional)

Note. Example of a response from the Server may look as follows:

```
<kahrdsets>
  <kahrdset>
    <kahrdsetid>1</kahrdsetid>
    <parentid>0</parentid>
    <name>FirstCategory</name>
    <childsets>0</childsets>
  </kahrdset>
</kahrdsets>
```

Requirement I-7

The EdGame software shall be able to make a request to the Server to retrieve the list of words for a particular category, as follows:

```
http://api.v-i-p-site.com/user/{userId}/kahrdsets/{kahrdsetId}/kahrds
```

where {kahrdsetId} is the instance ID retrieved as per Requirement I-6.

Note. An example of a respective request can be as follows:

```
http://api.v-i-p-site.com/user/1/kahrdsets/1/kahrds
```

Requirement I-8

Upon making a request to retrieve the list of words, as per Requirement I-7, the EdGame software shall be able to handle the Server's response in the following format:

- First item: word ID

- Second item: first word

- Third item: first word's definition

- Next items: subsequent incorrect words

- Last items: corresponding incorrect definitions.

Note. Example of a response from the Server may look as follows:

```
<kahrds>
  <kahrd>
    <wordid>1</wordid>
    <word>FirstWord</word>
    <definition>FirstDefinition</definition>
    <wordincorrect1>FirstIncorrectWord</wordincorrect1>
    <wordincorrect2>FirstIncorrectWord2</wordincorrect2>
    <definitionincorrect1>FirstDefinitionIncorrect1</definitionincorrect1>
    <definitionincorrect2>FirstDefinitionIncorrect2</definitionincorrect2>
  </kahrd>
  <kahrd>
    <wordid>2</wordid>
    <word>SecondWord</word>
    <definition>SecondDefintion</definition>
    <wordincorrect1>SecondIncorrectWord</wordincorrect1>
    <wordincorrect2>SecondIncorrectWord2</wordincorrect2>
    <definitionincorrect1>SecondDefinitionIncorrect1</definitionincorrect1>
    <definitionincorrect2>SecondDefinitionIncorrect2</definitionincorrect2>
  </kahrd>
</kahrds>
```