

G-Link Test Plan

Group 4 CS1530



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1. Purpose – This document outlines the testing procedures designed to ensure the validity and performance of G-Link in accordance with its requirements and specifications.

2. Unit Testing

2.1. User module: This module maintains the information of user

2.1.1. Equivalence classes for User module

2.1.1.1. Equivalence classes for item “email”

- 1. valid, existing email address acceptable
- 2. non-existent email or incorrectly formatted error

2.1.1.2. Equivalence classes for item “userId”

- 1. Positive integer acceptable
- 2. Negative integer error

2.1.1.3. Equivalence classes for item “name”

- 1. String between 5 and 32 alphanumeric characters acceptable
- 2. String of less than 4 alphanumeric characters error
- 3. String of more than 32 alphanumeric characters error

2.1.1.4. Equivalence classes for item “profileId”

- 1. Positive integer acceptable
- 2. Negative integer error

2.1.1.5. Equivalence classes for item “password”

- 1. String of less than 4 alphanumeric characters error
- 2. String of more than 32 alphanumeric characters error

2.1.1.6. Equivalence classes for item “friends”

- 1. Positive integer acceptable
- 2. Negative integer error

2.1.1.7. Equivalence classes for item “about”

- 1. String of less than 512 alphanumeric characters acceptable
- 2. String of more than 512 alphanumeric characters error

2.1.2. Checklist: The following black-box tests will be performed

	Create a new user
	Search the items of user
	Modify the items of user
	Delete a user

2.2. GamePage module: this module contains information about game pages

2.2.1. Equivalence classes for the GamePage module

2.2.1.1. Equivalence classes for item “gameID”

- 1. String of length greater than zero, less than 32 acceptable
- 2. String containing symbols error
- 3. String greater than length 32 error

- 2.2.1.2. Equivalence classes for item "gameName"
 - 1. String of length greater than zero, less than 32 acceptable
 - 2. String equal to NULL, greater than length 32 error
- 2.2.1.3. Equivalence classes for item "info"
 - 1. String of length greater than zero, less than 1024 acceptable
 - 2. String equal to NULL, greater than length 1024 error
- 2.2.1.4. Equivalence classes for item "comments"
 - 1. Array of Comments of size no greater than 512 acceptable
 - 2. NULL, or an array larger than 512 error
- 2.2.1.5. Equivalence classes for item "pictures"
 - 1. Array of Pictures of size no greater than 64 acceptable
 - 2. NULL, or an array larger than 64 error
- 2.2.1.6. Equivalence classes for item "videos"
 - 1. Array of Pictures of size no greater than 64 acceptable
 - 2. NULL, or an array larger than 64 error
- 2.2.2. Checklist: The following black-box tests will be performed:

	Create a new empty GamePage
	Modify an existing GamePage
	Delete an existing GamePage
	Add info to existing GamePage
	Modify info in existing GamePage
	Add comment to GamePage
	Retrieve comment
	Add photo
	Remove photo
	Add video
	Remove video

2.3. Profile module: This module is the main page for the user. It saves information about the user and allows the user to freely manage friends, post, and files.

- 2.3.1. Equivalence classes for Profile module
 - 2.3.1.1. Equivalence classes for item "friends"
 - 1. Array of Friends of size 0 to 2048 acceptable
 - 2. Array with length greater than 2048 error
 - 2.3.1.2. Equivalence classes for item "photos"
 - 1. Array of size less than or equal to 64 acceptable

- 2. anything else or NULL error
- 2.3.1.3. Equivalence classes for item “posts”
 - 1. String of length 1 to 256 acceptable
 - 2. anything else error
- 2.3.1.4. Equivalence classes for item “comments”
 - 1. Comment of length 0-256 from a valid Friend acceptable
 - 2. anything else error
- 2.3.1.5. Equivalence classes for item “games”
 - 1. Array of length 0-256 containing valid gamelds acceptable
 - 2. anything else error
- 2.3.1.6. Equivalence classes for item “videos”
 - 1. Null Video Array error
 - 2. Video Array with size greater than 32 error
 - 3. Video Array with size less than or equal to 32 acceptable
- 2.3.2. Checklist: The following black-box tests will be performed

Display Friends on Profile
Add Photo to Profile
Remove a Photo
Add Video to Profile
Remove a Video
Add a Post of 1 characters
Add a Post of 255 characters
Add a Post of 100 characters
Add a platform to profile
Remove a platform from profile
Add a game to the profile
Remove a game from the profile

2.4. Video module: This module handles information regarding the Video uploaded to the network.

2.4.1. Equivalence classes for Video module

2.4.1.1. Equivalence classes for item “comments”

- 1. Comment is from a valid user acceptable
- 2. Comment of zero characters error
- 3. Comment of 256 or more characters error

2.4.1.2. Equivalence classes for item “videoFile”

- 1. Valid AVI, MP4, or WMV file under 64MB acceptable
- 2. Non-existent file error

2.4.1.3. Equivalence classes for item “postedBy”

1. Valid user id acceptable
2. Non-Valid id error

2.4.2. Checklist: The following black-box tests will be performed

	Play Video
	Add Video to Profile
	Remove a Video
	Add a Comment of 1 characters
	Add a Comment of 255 characters
	Add a Comment of 100 characters
	Add Video under different users

2.5. Picture module: This module handles information regarding the Picture uploaded to the network.

2.5.1. Equivalence classes for Picture module

2.5.1.1. Equivalence classes for item "comments"

1. Comment of size less than 256 from a valid user acceptable
2. Comment of zero characters error
3. Comment of 256 or more characters error

2.5.1.2. Equivalence classes for item "pictureFile"

1. Valid JPEG file under 4MB acceptable
2. Non-existent file error

2.5.1.3. Equivalence classes for item "postedBy"

1. Valid user id acceptable
2. Non-Valid id error

2.5.2. Checklist: The following black-box tests will be performed

	View Picture
	Add Picture to Profile
	Remove a Picture
	Add a Comment of 1 characters
	Add a Comment of 255 characters
	Add a Comment of 100 characters
	Add Picture under different users

2.6. Comment module: This module maintains all the comments

2.6.1. Equivalence classes for Comment module

2.6.1.1. Equivalence classes for item "commentId"

1. Positive integer acceptable
2. Negative integer error

- 2.6.1.2. Equivalence classes for item "postedBy"
 - 1. String between 4 and 32 alphanumeric characters acceptable
 - 2. Anything else error
- 2.6.1.3. Equivalence classes for item "time"
 - 1. mm/dd/yy hh:mm:ss acceptable
 - 2. anything else error
- 2.6.1.4. Equivalence classes for item "text"
 - 1. String less than 256 alphanumeric characters acceptable
 - 2. String of more than 256 alphanumeric characters error
- 2.6.1.5. Equivalence classes for item "responseld"
 - 1. Positive integer acceptable
 - 2. Negative integer error

2.6.2. Checklist: The following black-box tests will be performed

	Create a new comment
	Search for a comment
	Modify a comment
	Delete a comment
	Modify the items of a comment

2.7. Article module: This module maintains all the articles

- 2.7.1. Equivalence classes for Article module
 - 2.7.1.1. Equivalence classes for item "articleId"
 - 1. Valid Id, positive integer acceptable
 - 2. Negative integer error
 - 2.7.1.2. Equivalence classes for item "postedBy"
 - 1. String between 4 and 32 characters acceptable
 - 2. Valid userId containing no symbols acceptable
 - 3. Anything else error
 - 2.7.1.3. Equivalence classes for item "time"
 - 1. mm/dd/yy hh:mm:ss acceptable
 - 2. anything else error
 - 2.7.1.4. Equivalence classes for item "text"
 - 1. String of length up to 256 characters acceptable
 - 2. String of size greater than 256 error
 - 2.7.1.5. Equivalence classes for item "commentId"
 - 1. Positive integer acceptable
 - 2. Negative integer error
 - 2.7.1.6. Equivalence classes for item "viewCount"
 - 1. Positive integer acceptable

2. Negative integer error

2.7.2. Checklist: The following black-box tests will be performed

	Create a new article
	Search for an article
	Modify an article
	Delete an article
	Modify the items of an article

2.8. PlayableGame module:

2.8.1. Equivalence classes for Article module

2.8.1.1. Equivalence classes for item "playableGameId"

1. Valid, established gameId acceptable
2. Negative integer error

2.8.1.2. Equivalence classes for item "players"

1. Array of valid playerIds acceptable
2. Anything else error

2.8.1.3. Equivalence classes for item "highscores"

1. Positive integer acceptable
2. Negative integer error

2.8.1.4. Equivalence classes for item "pictureId"

1. Positive integer acceptable
2. Negative integer error

2.8.2. Checklist: The following black-box tests will be performed

	Create a new playable game
	Search for a playable game
	Modify the items of playable game
	Delete a playable game

2.9. Recommender module: This module recommends users, games, and articles to user

2.9.1. Equivalence classes for Recommender module

2.9.1.1. Equivalence classes for item "userId"

1. Positive integer acceptable
2. Negative integer error

2.9.1.2. Equivalence classes for item "gameId"

1. Positive integer acceptable
2. Negative integer error

2.9.1.3. Equivalence classes for item “articlesId”

1. Positive integer acceptable
2. Negative integer error

2.9.2. Checklist: The following black-box tests will be performed

	Create a list of recommended users for a given user
	Create a list of recommended games for a given user
	Create a list of recommended articles for a given user
	Search by common userId
	Search by gameId
	Search by articleId

2.10. Testing will be performed by Jonathan Witsberger, Chun Ping Ng, Mike Fehr and Liam Kerr.

3. Integration Testing

3.1. Purpose – Add each module to the system and continue to check that all features still work.

3.2. Integration Testing Checklist

	Add User module and repeat all test cases for both the Login module and the User module.
	Add Profile module and repeat all test cases Login, User and Profile modules.
	Add Comment module and repeat all test cases Login, User, Profile and Comment modules
	Add Picture module and repeat all test cases Login, User, Profile, Comment and Picture modules
	Add Video module and repeat all test cases Login, User, Profile, Comment, Picture and Video modules
	Add Article module and repeat all test cases Login, User, Profile, Comment, Picture, Video, and Article modules
	Add GamePage module and repeat all test cases Login, User, Profile, Comment, Picture, Video, Article and GamePage modules
	Add Recommender module and repeat all test cases Login, User, Profile, Comment, Picture, Video, Article, GamePage and Recommender modules
	Add PlayableGame module and repeat all test cases Login, User, Profile, Comment, Picture, Video, Article, GamePage, Recommender and PlayableGame modules

- 3.3. Who will perform the tests – David Clark, Jonathan Witsberger, Chun Ping Ng, Mike Fehr and Liam Kerr.

4. System Testing

- 4.1. Purpose – The following tests are designed to ensure the system functions as a whole in the manner dictated by the specifications. They are to be performed in a top-down fashion with the intent of replicating a typical user's experience with the entire system upon release.
- 4.2. System Testing Checklist

	Enter the product's URL in a webbrowser and test that the login page displays properly
	Click the "Create New Account" button to load the create new account screen
	On the create new account screen, enter a valid email address and password
	Provide all specified information in the proper fields and click "Create New Account" which logs into the server and causes the profile page to display
	Click on the "My Photos" tab to load the photos page
	Click "Add new photo" and enter the absolute path to a valid image file on the host computer, causing the photo to upload and the "My Photos" page to display
	Return to the profile page by clicking the "My Profile" tab
	Click on the "My Videos" tab to load the videos page
	Click "Add new video" and enter the absolute path to a valid video file on the host computer, causing the video to upload and the "My Videos" page to display
	Return to the profile page by clicking the "My Profile" tab
	Click on the "My Games" tab to load the photos page
	Click "Add Game" and enter the name of a popular video game, causing the game to be added to the user's list of games and displaying the "My Games" page
	Return to the profile page by clicking the "My Profile" tab
	Click the "Find Friend" button, enter the name of an existing user and click "Add," taking the browser to their page
	Click "Add Comment," type a message between 0 and 256 characters in length and click "Comment," causing the comment to be displayed on the friend's page
	Click "Play Game" while on the friend's profile to display the Game Room page
	Select a game from the drop down list and play a game with the friend
	Click on the Game link to return to the Game Page for that game
	Click "Add Comment," type a message between 0 and 256 characters in length and click "Comment," causing the comment to be displayed on the Game Page

	Return to the profile page and modify user information ensuring it updates properly
	Test the “Recommend Game” function using given information and played games
	Add a recommended game
	Test the “Recommend Friend” function using given information and friends
	Add a recommended friend
	Click “Log out” to return to the home page

5. Acceptance Testing

5.1. Purpose – The Acceptance Testing phase is meant to ensure that the functionality of the system meets the requirements of the project to at an adequate level. Specifically, this includes that it operates at the specified speed and capacity.

5.2. Acceptance Testing Checklist

	Perform all of the above System tests and ensure that no page loads in more than 5 seconds
	Create 10,000 users and ensure the server can store them
	Test to see that 100 users can be logged in at once
	Test performance limitation by making sure no more than 300 users can log in at once
	For a standard 256kb jpg, ensure it takes no longer than 5 seconds for the server to accept the upload
	Ensure games can be played with the Kiect interface at a proper speed
	Make sure Admin level users can take down or edit any post, comment, information, and pictures posted by users.
	Make sure at least 500GB of user data can be stored by the system.

5.3. These tests will be performed by Liam Kerr and Jonathan Witsberger.

6.0 - Revision History

Version	Date	Description of Change
0.1	11/09/11	Added section 1.1 – Purpose and sections 2.1 through 2.6
0.2	11/10/11	Added sections 2.7 and 2.8
0.3	11/11/11	Added sections 2.9 and 3 – Integration Testing
0.4	11/12/11	Added sections 4 – System Testing, 5 – Acceptance Testing
1	11/14/11	Added Table of Contents and all test cases

G-Link

