Wii Network Game

Development and Operation Manual

Version 1.0.0

Confidential

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Version	Revision Date	Description
1.0.0	1/10/2007	Initial Version.

1   Introduction

1.1   Purpose of This Document

This document brings together the information needed to create game software compatible with the Wii network.

With multiple Wii Network Services provided by Nintendo, you can use the information contained in this manual to decide how to proceed in the development of game software according to your design plans.

1.2   Contents of This Document

Chapter 2, "WiiConnect24 Development Procedure," provides a flowchart for the entire WiiConnect24 development process from planning to submission of master ROMs, all with supplemental descriptions of each item. Development of WiiConnect24–compatible titles should proceed according to the included flowchart.

Chapter 3, "Nintendo Wi-Fi Connection Development Phase Flow," provides a flowchart for the entire Nintendo Wi-Fi Connection development procedure from planning to submission of master ROMs and Lot Check procedures after submission, all with supplemental descriptions of each item. Development of Nintendo Wi-Fi Connection–compatible titles should proceed according to the included flowchart.

Note: This process requires more time than is usually required for the Lot Check procedure of normal games.

Chapter 4, "Completing the WiiConnect24 Design Sheet," describes how to complete the WiiConnect24 Design Sheet to be submitted during development of WiiConnect24–compatible titles.

Chapter 5, "Completing the Nintendo Wi-Fi Connection Design Statement Checklist," describes how to complete the Nintendo Wi-Fi Connection Design Statement Checklist to be submitted along with master ROMs and getting special codes required for using servers when developing Nintendo Wi-Fi Connection–compatible titles.

Chapter 6, "Completing the Nintendo Wi-Fi Connection Download Service Application Form," describes how to complete the Nintendo Wi-Fi Connection Download Service Application Form to be submitted when applying to use the data servers operated and managed by Nintendo.

2   WiiConnect24 Development Procedure

2.1   WiiConnect24 Development Phase Flow

Figure 2-1   WiiConnect24 Development Phase Flowchart
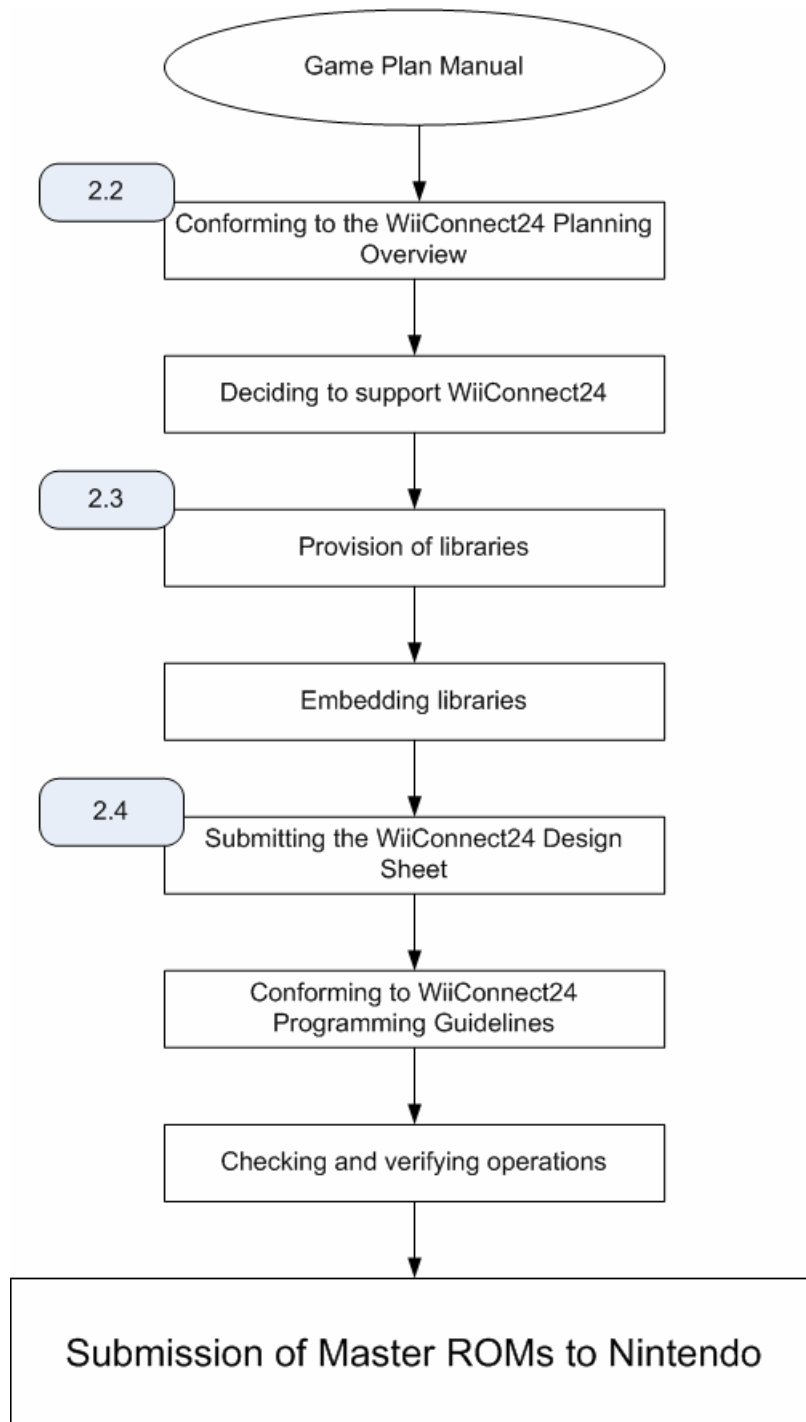
2.2   Conforming to the WiiConnect24 Planning Overview

See the separate document *WiiConnect24 Planning Overview* when preparing a WiiConnect24–compatible title.

This document covers all the information required to create a WiiConnect24–compatible title.

2.3   Providing Corresponding Libraries

The various technical materials, such as libraries, required in the development of a WiiConnect24–compatible title are provided by contacting Nintendo about each planned use of WiiConnect24.

If the publisher of the title will differ for overseas versions, contact the local Nintendo office in each market for questions regarding the contract or other matters. In Japan, contact Nintendo Co., Ltd, and in Europe, contact Nintendo of Europe.

2.4   Submitting the WiiConnect24 Design Sheet

The WiiConnect24 Design Sheet is provided so that Nintendo can understand your plans for WiiConnect24 compatibility of each game software title, and is to be submitted so Nintendo can prepare for its implementation. If there are changes to the information provided on this sheet, re-submit it. If master ROMs are submitted without submitting this sheet or without re-submitting this sheet when there have been changes to the information provided on it, there may be large-scale changes to the Lot Check schedule. This may delay your planned release schedule.

3   Nintendo Wi-Fi Connection Development Process

3.1   Nintendo Wi-Fi Connection Development Phase Flow

Figure 3-1   Nintendo Wi-Fi Connection Development Phase Flowchart
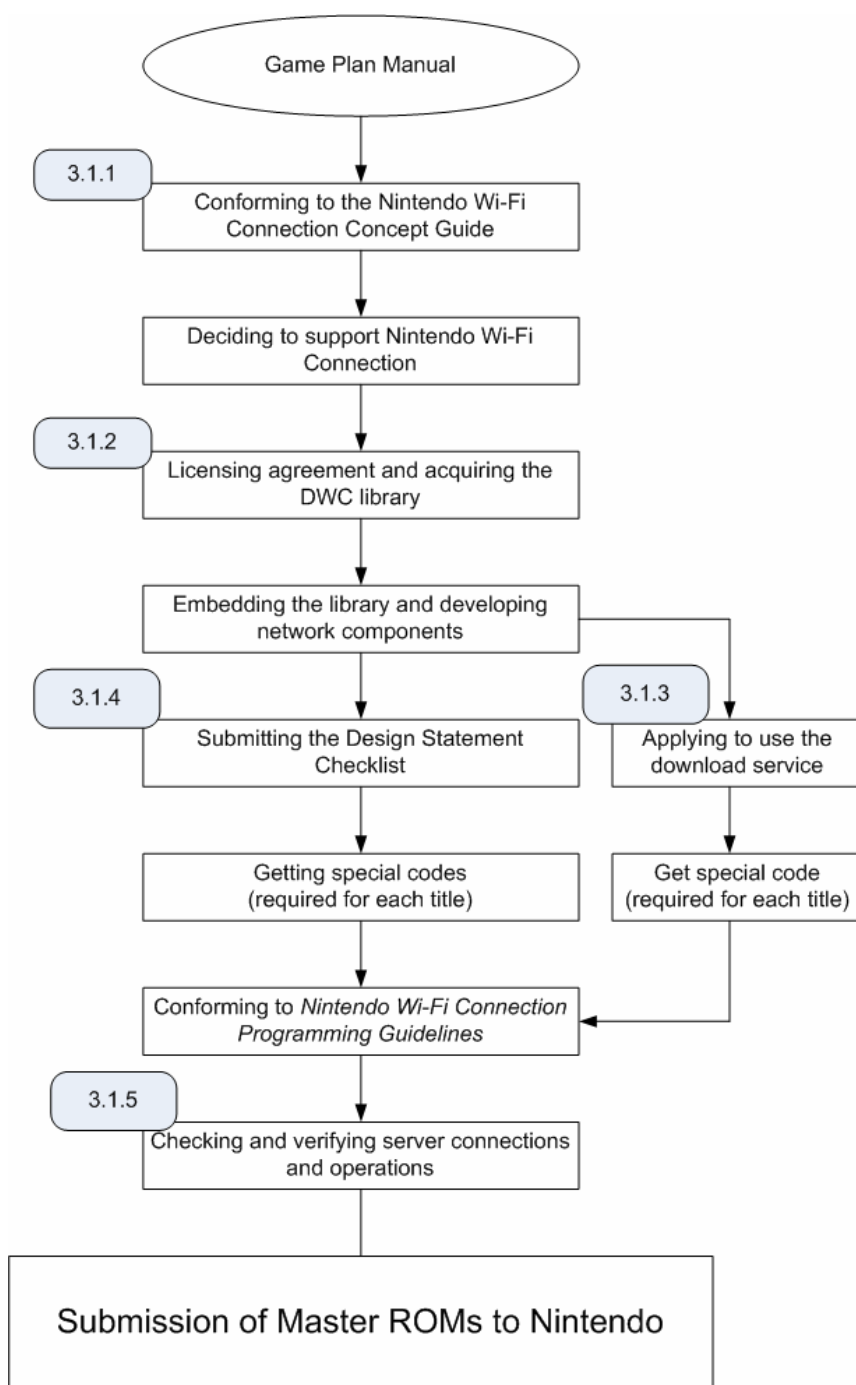
3.1.1   Conforming to Nintendo Wi-Fi Connection Concept Guide

See the separate document *Nintendo Wi-Fi Connection Concept Guide* when planning a Nintendo Wi-Fi Connection–compatible title.

This document covers all the information required to create a Nintendo Wi-Fi Connection–compatible title.

3.1.2   Licensing Agreement and Provision of the RVL DWC Library

If you are creating a Nintendo Wi-Fi Connection–compatible title, you must submit a Nintendo Wi-Fi Connection-Related Development Tool Software Licensing Agreement for Wii prior to submitting the first title to Nintendo. You must contact Nintendo for details.

If you have already entered into an agreement, no new agreement is needed when creating subsequent Nintendo Wi-Fi Connection–compatible titles.

Upon entering into the agreement, you will be given access to the Nintendo Wi-Fi Connection for Wii page of WarioWorld, which contains various libraries, including the RVL DWC library, required to develop Nintendo Wi-Fi Connection–compatible titles. Because libraries and documents required in the development of Nintendo Wi-Fi Connection–compatible titles are located on this page, you can download what you need for required services from this page. See Tables 3.1 and 3.2 for details.

Furthermore, if you are going to use the GameSpy server, you can also test network components using the debug server provided by GameSpy for testing. To get a special server region for each title, see section 3.1.4, "Submitting the Design Statement Checklist."

If the seller of the title will differ for overseas versions, contact the local Nintendo office in each market for questions regarding the contract or other matters. For Asian titles, contact Nintendo Co., Ltd., and in Europe, contact Nintendo of Europe.

3.1.3   Applying to Use the Download Service

You can use the Nintendo Download Server prepared on the network by Nintendo to register data on the server for each Nintendo Wi-Fi Connection–compatible title and distribute data for that game to Wii consoles. For detailed information on using the Nintendo Download Server, see the separate document, *Nintendo Wi-Fi Connection Revolution DWC Programming Manual*. To use this server, you must submit a Nintendo Wi-Fi Connection Download Service Application Form to Nintendo. For information on how to fill out this sheet, see Chapter 6, "Completing the Nintendo Wi-Fi Connection Download Service Application Form."

Once this sheet is submitted, Nintendo will issue you a password to access the server space prepared for each title.

3.1.4   Submitting the Design Statement Checklist

GameSpy operates and administers various servers, such as the matchmaking server, to implement competitive play, cooperative play, and friend features using Nintendo Wi-Fi Connection. The Design Statement Checklist is used to report specifications of the network components of applications to GameSpy and is required when requesting preparation of the production server. Try to submit this sheet to Nintendo after you have obtained a product code but at least four months before the scheduled launch date of the software.

The game server provided by GameSpy also allows the use of a general-purpose ranking feature. This feature is used to generate and display rankings of each user's score and exchange data related to rankings. For details on the general-purpose ranking feature, refer to the *Nintendo Wi-Fi Connection Revolution DWC Programming Manual*.

When you submit this sheet, you will be given a special code for connecting to a server prepared especially for your game software by GameSpy. This special code must be embedded in Nintendo Wi-Fi Connection–compatible titles. Furthermore, to perform lot check and configure the server based on information provided in **the Design Statement Checklist, we request that you re-submit this form whenever there are changes to the information covered by it.** If master ROMs are submitted without notifying us of major changes, there may be problems with the product server, and the Lot Check schedule may be greatly delayed. When submitting master ROMs, submit a final version of the Design Statement Checklist, even if there have not been any changes to the information provided on it.

For details on how to fill out the Design Statement Checklist, see Chapter 5, "Completing the Nintendo Wi-Fi Connection Design Statement Checklist."

We request that the Design Statement Checklist be submitted by the publisher. If the publisher changes when selling the title overseas, be sure that the publishers cooperate with each other to submit completed forms to the local Nintendo office in each market. Submit forms to Nintendo Co., Ltd. for Asian titles and to Nintendo of Europe for European titles.

3.1.5   Checking and Verifying Server Connections and Operations

At the debug stage, you can connect to a server over the Internet and conduct testing.

Nintendo Wi-Fi Connection–compatible titles, undergo not only a conventional Lot Check as described previously, but also a Lot Check for Nintendo Wi-Fi Connection components. Because the results of this test are reported to GameSpy where screening is performed to determine pass/fail status, it can take some time to pass Lot Check.

Nintendo can also check the Nintendo Wi-Fi Connection components of a game if you submit master ROMs as pre-release masters before uploading masters.

Furthermore, an authentication server error simulator can be used to check the display of defined error codes and error messages during verification. For details on existing error messages, see the *Nintendo Wi-Fi Connection Message List.* For details on the authentication server error simulator, see the *Nintendo Wi-Fi Connection Error Simulation Manual*.

The user ID and password required to access the special page for specifying error codes is given on the Design Statement Checklist.

Table 3-1 shows the libraries and forms required for Nintendo Wi-Fi Connection services.

Table 3-1   Libraries and Forms to Be Submitted to Use Services

Services Used	Uses GameSpy Server?	DWC Library Used	Required Forms for Submission
Peer-to-peer matchmaking Friend feature	Yes	RVL DWC	Design Statement Checklist A
General-purpose ranking feature			Design Statement Checklist B
Network Storage			Design Statement Checklist C
Nintendo Wi-Fi Connection Download Service			Nintendo Wi-Fi Connection Download Service Application Form
Nintendo Wi-Fi Connection Download Service Only	No	RVL DWC-DL	Nintendo Wi-Fi Connection Download Service Application Form

Table 3-2 shows an overview of the services provided.

Table 3-2   Overview of Nintendo Wi-Fi Connection Services

Services Used	Summary of Services	Reference Documents
Peer-to-Peer matchmaking Friend feature	Provides a Friend feature, matchmaking, and other features that use the GameSpy server. This is required when performing peer-to-peer communications.	*Nintendo Wi-Fi Connection Revolution DWC Programming Manual*
General-purpose Ranking Library	Ranking feature service using the GameSpy server. Friends and others compete for scores and results are displayed in the game and on the Web.	*Nintendo Wi-Fi Connection Revolution DWC Programming Manual*
Network Storage	Network storage feature using the GameSpy server. A data region is assigned to each user. This is used for small-scale data, such as short messages, data used for authentication, flags, etc.	*Nintendo Wi-Fi Connection Revolution DWC Programming Manual*
Nintendo Wi-Fi Connection Download Service	Download service using Nintendo's data server. Users may download only from this server. Maximum 1 MB per file, maximum 100 files per title.	*Nintendo Wi-Fi Connection Revolution DWC Programming Manual*

It is also possible for each company to prepare their own servers to provide features which cannot be implemented with the services described above. In such cases, be sure to discuss this with Nintendo early in development.

When implementing original features, you may also provide your own servers for providing ranking features and other data services without using any GameSpy or Nintendo servers.

Note: Avoid implementing peer-to-peer matchmaking features on your own servers.

Each application form should be submitted as early as possible after the product code has been obtained and the use of each service has been determined. If detailed specifications are undecided, you may submit a summary. Re-submit this form once details are decided or when specifications have changed.

3.2   Lot Check Phase Flow

Figure 3-2 shows the Lot Check workflow.

Figure 3-2   Lot Check Phase Flowchart
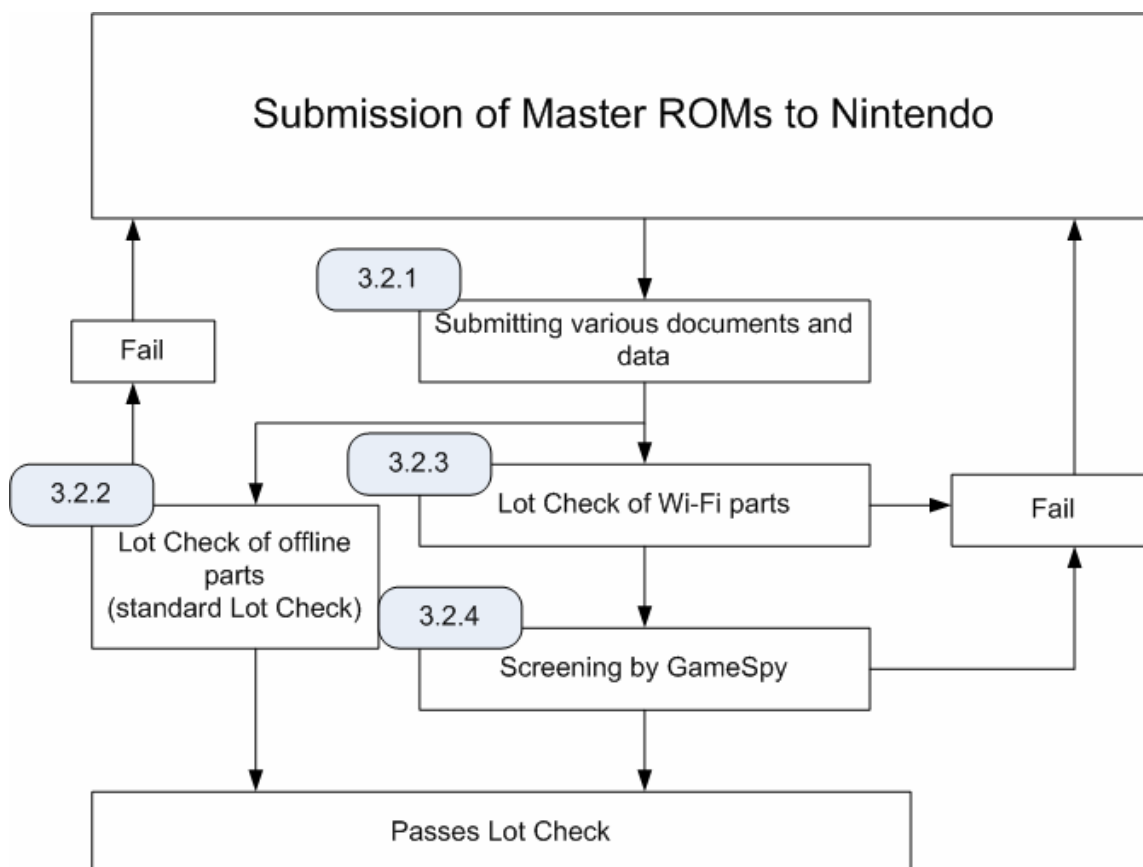
3.2.1   Submitting Various Documents and Data

In addition to the Master ROM Submission Checklist and Master ROM forms that are usually submitted to Lot Check, you must also submit a Nintendo Wi-Fi Connection-Compatible Checklist for Wii and a Design Statement Checklist when submitting the master ROMs for a Nintendo Wi-Fi Connection–compatible title. If you intend to use the Nintendo download service, be sure to submit a Nintendo Wi-Fi Connection Download Service Application Form.

Table 3-3 shows the items to be submitted.

Table 3-3   Items to Be Submitted with the Master ROM

	Items to Be Submitted	References
Conventional Submission Items	Master ROM Various check lists	Refer to *Wii Lot Check Test Instructions*
Items to be submitted for Nintendo Wi-Fi Connection–compatible titles	Nintendo Wi-Fi Connection-compatible checklist	Refer to *Nintendo DS Lot Check Instructions (Only for Nintendo Wi-Fi Connection Compatible Game Software).*
	Design Statement Checklist	See Chapter 5, "Completing the Nintendo Wi-Fi Connection Design Statement Checklist."
	Nintendo Wi-Fi Connection Download Service Application Form (when using the Nintendo Download Server)	See Chapter 6." Completing the Nintendo Wi-Fi Connection Download Service Application Form."

When using Nintendo Wi-Fi Connection Download Service, you must upload data in downloadable form to the production server in order to check whether this service is functioning. Provide at least one instance of all possible types of specifications of data to be uploaded. For example, if specifications call for the upload of scenario data, item data, and character data, be sure to upload all three types of data.

However, this check can be performed by temporarily uploading sample data in the case of data which is not scheduled to be released soon after product release. For example, if plans call for the upload of scenario data some time after the product release, you can upload temporary scenario data to the product server as a sample when submitting master ROMs. Be sure to delete all sample data once you are informed that it has passed Lot Check.

One exception is Lot Check for a title that uses the same server space as a title already published. In this case, users might access sample data that has been uploaded for the published title. Contact Nintendo early in development under these circumstances.

3.2.2   Lot Check of Offline Parts

Pass/fail is determined according to the standard Wii Lot Check Checklist.

3.2.3   Lot Check of Wi-Fi Parts

Nintendo performs a Lot Check for Nintendo Wi-Fi Connection components according to the Nintendo Wi-Fi Connection Lot Checklist for Wii.

3.2.4   Screening by GameSpy

Items to be screened by GameSpy are included in the Lot Check of Nintendo Wi-Fi Connection components. Nintendo checks these items and reports the results to GameSpy, where they are screened. Since this screening takes time, please allow more time than for the standard Lot Check when submitting software with Nintendo Wi-Fi Connection features.

4 Completing the WiiConnect24 Design Sheet

This chapter describes how to complete each item on the WiiConnect24 Design Sheet.

This sheet is used so that Nintendo can understand your plans for titles that use WiiConnect24 and to make necessary preparations for implementation.

If the same game software is to be sold in different markets, you may use one design sheet for all markets.

4.1 Basic Information About the Game

4.1.1 Title

Enter the title of the WiiConnect24–compatible software. If an official name has not been decided, you may supply a temporary name.

4.1.2 Number of Times the Design Sheet Has Been Submitted

Enter the appropriate number of times that you have submitted this WiiConnect24 Design Sheet.

4.1.3 Market, Publisher, Developer, Game Code, Preliminary Version Submission Schedule, Scheduled Sales Date

Check all items that apply to the marketing region of the title.

Enter the publisher and the developer when decided for each marketing region.

Enter the Game Code for each marketing region, and the scheduled date of submission for the pre-release version and the scheduled date of sales (if these dates have been decided). Although you do not need to include the scheduled date of submission for the pre-release version or the scheduled date of sales if they are undecided, **you must include the Game Code**.

4.2 Overview

4.2.1 Features Used with WiiConnect24

Be sure to check "Message Send/Receive" and "Download Tasks" according to your support plans.

Be sure to select "Include PCs and mobile telephones as message recipients" when using the message send/receive feature and including PCs or mobile telephones as message recipients. Select "Display messages on the Wii Message Board" when displaying text messages on the Wii Message Board, and select "Use attached files" and enter all file types that may be attached when sending messages that include attached files between Wii consoles.

4.2.2   Planning Details with WiiConnect24

Give a detailed summary of the WiiConnect24 features to be supported by the game.

In particular, be absolutely sure to include information that will impact Nintendo network facilities, such as the amount of data.

4.2.3   For Use by Nintendo

This area is for use by Nintendo. Do not write in this area.

5   Completing the Nintendo Wi-Fi Connection Design Statement Checklist

This chapter describes how to complete each of the items on the Nintendo Wi-Fi Connection Design Statement Checklist.

Be absolutely sure to submit a Design Statement Checklist when you receive special codes (See Figure 3-1   Nintendo Wi-Fi Connection Development Phase Flowchart and section 3.1.4, "Submitting the Design Statement Checklist."). Although you do not need to complete information about specifications which are not decided when you receive special codes, re-submit this form after any changes to information provided in it.

When transferring data between the same game software located in different marketing regions, such as for matchmaking, you need only fill out one form. For example, you need only submit one copy of the Design Statement Checklist when allowing competitive play over Nintendo Wi-Fi Connection between software localized for the Japanese, North American, and European markets. Three copies are required if communications are going to be allowed only between the same software in each given region.

The Design Statement Checklist consists of Sheet A through Sheet C. Complete and submit each sheet as necessary.

Sheet A must be completed for all Nintendo Wi-Fi Connection–compatible titles.

Sheet B must be completed when implementing the general-purpose ranking features using back-end servers provided by GameSpy.

Sheet C must be completed when implementing network storage features using back-end persistent storage servers provided by GameSpy.

For details on general-purpose ranking features or network storage features, see the separate document entitled *Nintendo Wi-Fi Connection Revolution DWC Programming Manual*.

5.1   Sheet A

5.1.1   Basic Information about the Game Software

5.1.1.1   Title

Enter the title of the Nintendo Wi-Fi Connection–compatible software. If the official title has not been decided, you may supply a temporary one.

5.1.1.2   Platform

Select the platforms supported by the above title.

5.1.1.3   Number of Times this Checklist Has Been Submitted

Enter the number of times the Design Statement Checklist has been submitted.

5.1.1.4 Market, Publisher, Developer, Game Code, Preliminary Version Scheduled Submission, and Scheduled Sales Date

Complete all items that apply for the marketing region for the title.

Enter the publisher and developer associated with each marketing region once they have been determined.

Enter the Game Code for each marketing region and, if scheduled for submission, the scheduled pre-release version submission date and scheduled release date . Although you do not need to fill out this item if the scheduled date for the pre-release version and scheduled release date have not been decided, **you must enter the Game Code.**

5.1.2   Game Overview

5.1.2.1 Game Overview and Features

Give an overview of the Nintendo Wi-Fi Connection features to be supported by the game. Provide as much detail as possible, particularly about server-related service specifications such as the genre, size of data to be transferred, and the frequency of data transfers.

5.1.2.2 Player Modes

Select Single-Player Mode for games that can be played without another party, and Multi-Player Mode for games that require another party. Do not select either if matchmaking using Nintendo Wi-Fi Connection is not going to be performed.

5.1.2.3 Players Can Enter While Game is in Progress

After matchmaking has been completed by the GameSpy matchmaking server, select whether players are allowed to join games midway when connected peer to peer. Do not select either if matchmaking using Nintendo Wi-Fi Connection is not going to be performed.

5.1.2.4 Number of Players Who Can Participate in Game

Enter the number of players that can participate in a single game.

5.1.2.5 Estimated Maximum Number of Players Who Will Be Connected to the Matchmaking Server at the Same Time

To estimate the load on the matchmaking server, select the highest number as the maximum number of users that will connect to the server at a given time.

There is no need to complete this if you will not be using the Nintendo Wi-Fi Connection matchmaking service.

5.1.2.6 Network Connections Used Between Users

Select those that apply: After connection has been established between users, are there peer-to-peer communications during the game? Are there communications using a dedicated game server?

There is no need to complete this if you will not be using the Nintendo Wi-Fi Connection matchmaking service.

5.1.3   Game Development Environment

Enter the compiler used in development, its version, the OS of the PC used, and the manufacturer, model and number of the wireless router.

If you are using more than one wireless router, enter information for one of them.

5.1.4   Library Usage

Select "Only Uses DWC Library" if you are only going to be using libraries provided by Nintendo in the development of Nintendo Wi-Fi Connection–compatible titles.

Select Other when using other libraries, and be sure to include details.

5.1.5   General-Purpose Ranking Feature

For details on the general-purpose ranking feature, refer to *Nintendo Wi-Fi Connection Revolution DWC Programming Manual*.

If you are using the general-purpose ranking feature, select "Used," and include this fact on Design Statement Checklist B, as well.

5.1.6   Network Storage Feature

For details on the network storage feature, refer to *Nintendo Wi-Fi Connection Revolution DWC Programming Manual*. If you are using this feature, select "Used," and include this fact on Design Statement Checklist C, as well.

5.1.7   Compatibility with Other Games

If specifications call for communications with other Nintendo Wi-Fi Connection titles, check "Yes" and include the Game Codes and gamenames assigned by GameSpy for all titles.

5.1.8   GameSpy Comments

This area is provided for comments by GameSpy. Do not write anything in this area.

The Design Statement Checklist you submit will be returned with comments in this area after approval by GameSpy. Various information for accessing the server will be given under "Backend Access Identification."

5.1.9   Nintendo Comments

This area is for use by Nintendo. Do not write in this area.

When the Design Statement Checklist is returned, a user ID and password for using the authentication server error simulator will be provided here.

5.2   Sheet B

5.2.1   General-Purpose Ranking Feature

5.2.1.1   Feature Overview

Write the purpose of this feature and a summary of your plans.

Example: After connecting to Nintendo Wi-Fi Connection, players can view a list of top-rated players by selecting the Player Ranking menu.

5.2.1.2   Game Mode for Statistical Data Transfer

If sending or receiving statistical data, select whether such data is to be sent and received in Single-Player Mode and/or Multi-Player Mode.

5.2.1.3   Data Output Destination

Ranking data can be viewed not only on the game screen, but also on a typical Web page. Select all destinations for such data. Furthermore, give details if you are planning output destinations other than those shown.

5.2.2   Ranking Details

Since the general-purpose ranking library can be used for multiple applications in a single game, describe data send/receive timing with the server and how user-defined data is used for each separate application.

Enter how the game uses the general-purpose ranking library under Intended Use.

Enter the interval at which data is sent and received under Send/Receive Timing. Be sure to avoid accessing the ranking server too frequently.

If the game uses user-defined data, enter the size and content of such data under User-Defined Data. Make sure the total size does not exceed 2048 bytes.

5.2.3   For Use by Nintendo Only

This area is for use by Nintendo. Do not write in this area.

Whether your plan has been approved will be entered in this area when the Design Statement Checklist is returned.

5.3   Sheet C

5.3.1   Network Storage Features

5.3.1.1   Types of Data to Be Saved

Enter both the character data and binary data to be saved.

Example:

- Character: Short messages written to friends (256 bytes).

- Binary: Progress status and item-collection rate within the game (16 bytes).

5.3.1.2   How Will Save Data Be Shown to Users?

Give details regarding how the user will access network storage.

Example: Even if a player's friend is offline, communication with the friend is possible by saving a short message in the player's own network storage. After connecting to Nintendo Wi-Fi Connection, the player can go to a friend's network storage area and read any messages left by selecting the Short Message menu.

5.3.1.3   Access Rights to Stored Data

Select whether the owner of data has permission to access saved data and whether other players (friends) also have permission.

5.3.1.4   Data Access Timing

Select the times when access to network storage will occur.

5.3.1.5   Download Data Transfer Volume

Enter the amount of data that can be written from the Wii to network storage at once and the amount of data that can be loaded from network storage to the Wii at once.

5.3.1.6   Data Area Necessary for Each Player

Fill in the size of the data area to be assigned to each player.

6   Completing the Nintendo Wi-Fi Connection Download Service Application Form

The Nintendo Wi-Fi Connection Download Service Application Form must be submitted if you plan to use the download server operated by Nintendo.

For details on the Nintendo download server, refer to the *Nintendo Wi-Fi Connection Revolution DWC Programming Manual*.

Unlike the Design Statement Checklist, you may use just one of these application forms for the same game software, even if it will be sold in more than one market region.

See Section 5.1.1, "Basic Information about the Game Software" for information on completing the Title, Developer, Publisher, Number of times submitting this form, Market, Game Code, and scheduled date of sale.

6.1   Details of Service and Contact Information

6.1.1   Details of Service to be Provided by this Server

Give details regarding services that use the download server. Be as specific as possible about how data will be downloaded, conditions for downloading, and an overview of the data itself.

6.1.2   Service Period / Interval

Enter the period during which download service will be provided. Contact Nintendo immediately when shutting down all download services.

If you are going to update downloadable data, include how frequently updates will be made available after product sales begin.

6.1.3   Number of Files Expected to be Registered

Provide the number of files to be registered on the server, the average size of a file, and the maximum size of a file, even if these are only estimates.

6.1.4   Use Same Server Space for Different Game Codes

Select Yes if titles having different Game Codes will use the same area of the download server, and list the Game Codes of all titles that will share this area.

If the same title in different marketing regions will share space on the download server, list the Game Codes used in the Japanese, North American, and European markets.

6.1.5   Contact Information

Include your company name, department name, supervisor's name, E-mail address, and telephone number. This contact information will be used to notify you of developments related to the download server and emergency maintenance.

6.1.6   Terms of Service

This section gives precautions on using the download service. In addition to these terms, be sure to select "I agree to the above terms of use."