SII

SII URL Print Agent for Android™ and iOS
Application Programmer's Guide

Rev.07

[Products]

SLP720RT Series	MP-B30 Series
SLP721RT Series	MP-B30L Series
RP-F10 Series	MP-B21L Series
RP-G10 Series	MP-B20 Series
RP-E10 Series	MP-A40 Series

Seiko Instruments Inc.

Introduction

This manual describes "SII URL Print Agent" provided by Seiko Instruments Inc. (hereinafter referred to as "SII").

Target Products

The printers supported by this manual are listed below.

iOS

Printer	Interface
SLP720RT Series SLP721RT Series*1	TCP/IP
RP-F10 Series	Bluetooth
	TCP/IP
RP-E10 Series*2	TCP/IP
MP-B30 Series MP-B30L Series	Bluetooth
	TCP/IP
MP-B21L Series	Bluetooth
	TCP/IP
MP-B20 Series	Bluetooth
MP-A40 Series	Bluetooth
	TCP/IP

*1: The sales destination is Japan only.
*2: The firmware of the printer to be supported by SII URL Print Agent is Ver.1.11 or later.

Android

Printer	Interface
SLP720RT Series SLP721RT Series[*1]	USB
	TCP/IP
RP-F10 Series	USB
	Bluetooth
	TCP/IP
RP-G10 Series	USB
RP-E10 Series [*2]	USB
	TCP/IP
MP-B30 Series MP-B30L Series	USB
	Bluetooth
	TCP/IP
MP-B21L Series	USB
	Bluetooth
	TCP/IP
MP-B20 Series	USB
	Bluetooth
MP-A40 Series	USB
	Bluetooth
	TCP/IP

*1: The sales destination is Japan only.
*2: The firmware of the printer to be supported by SII URL Print Agent is Ver.1.11 or later.

Terms

The terms used in this manual are defined as below.

Term	Description
User's guide	The following user's guide. ・SLP720RT SERIES Thermal Printer USER'S GUIDE ・RP-F10 SERIES Thermal Printer USER'S GUIDE ・RP-G10 SERIES Thermal Printer USER'S GUIDE ・RP-E10 SERIES Thermal Printer USER'S GUIDE ・MP-B30 SERIES Thermal Printer USER'S GUIDE ・MP-B30L SERIES Thermal Printer USER'S GUIDE ・MP-B21L SERIES Thermal Printer USER'S GUIDE ・MP-B20 SERIES Thermal Printer USER'S GUIDE ・MP-A40 SERIES Thermal Printer USER'S GUIDE
Printer command	Instruction to control the printer, described in "RP-E10 SERIES THERMAL PRINTER TECHNICAL REFERENCE".

Supported Paper and Names in This Manual

The supported paper by the software and their names in this manual are listed below.

All Type	By type	By function	Abbreviation	Support			
				SLP720RT SLP721RT	MP-B30L MP-B21L	RP-E10 MP-B30 MP-A40	RP-F10 RP-G10 MP-B20
Paper	Receipt	Receipt	Receipt	✓	✓	✓	✓
		Marked paper	Marked paper	-	✓	✓	-
	Linerless label	Linerless label	Label	✓	-	-	-
		Marked linerless label	Marked paper	✓	-	-	-
	Label	Label	Label	-	✓	-	-
	SLP Label	SLP Label	Label	✓	-	-	-

Notation in This Manual

The notation in this manual is described below.

Symbols

The symbols used in this manual are described below.

> **Caution**
> ◆ Notes and limitations are described.

> **Reference**
> • Supplemental information and related matters are described.

Chapter 5   Error Handling   5-1

Chapter 1 Overview

SII URL Print Agent (hereafter referred to as the "software") is a native application that relays print data to SII printer from the URL scheme cooperative application.

Using the software allows a system development for printing with SII printer from a Web application or FileMaker Go.

Call queries defined by the software in the URL scheme.
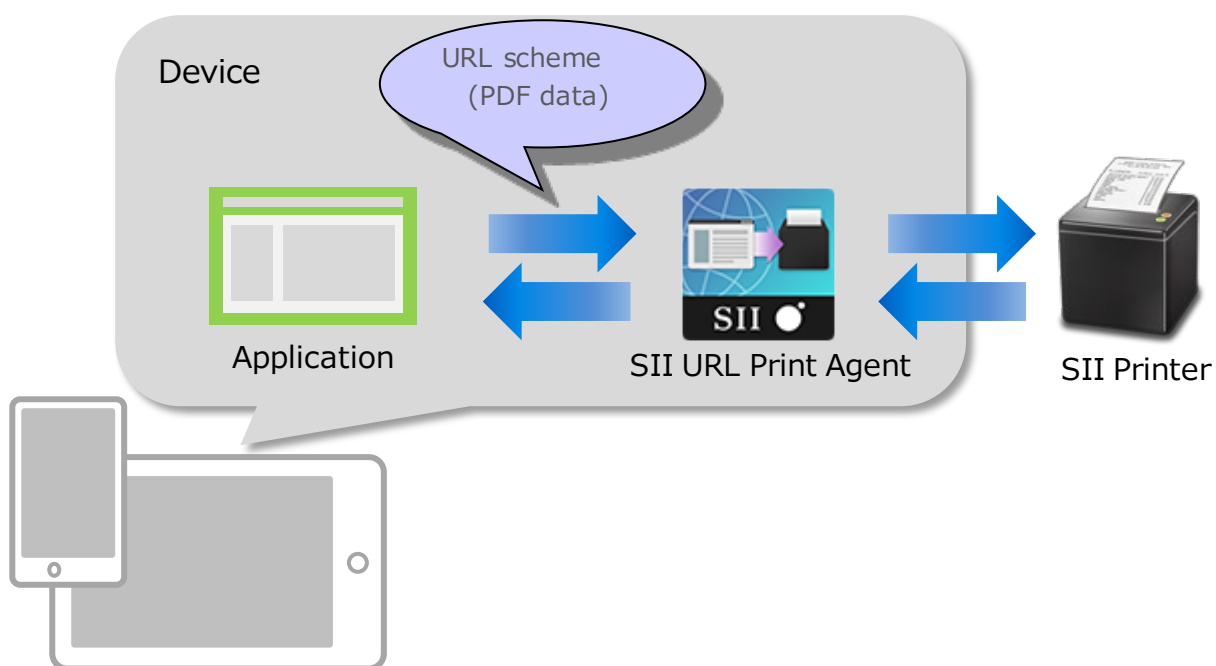
Reference

- For the system development with the URL scheme cooperative application, the development conditions such as the upper limit character numbers of the URL scheme may vary depending on the development environment.
  Please confirm the development conditions carefully in advance with your actual device.

1.1 Download

For iOS:
Search for "SII URL Print Agent" on App Store and download the software.
When update notification is sent from App Store, please confirm the notification and update the software.

For Android:
Search for "SII URL Print Agent" on Google Play and download the software.
When update notification is sent from Google Store, please confirm the notification and update the software.

1.2 Operating Environment

The operating environment supported by the software is described below.

1.2.1 Common to iOS and Android

Target product

- SII printer. See "Introduction - Target Products" for details.

Interface

- The interface supported by each SII printer.

1.2.2 iOS

Web browser / Application

- Safari
- FileMaker Go
- The applications that can launch the software by specifying the URL scheme with the format described in this manual

Device

1) RP-F10-x27J1-5 (USB Type-C + Bluetooth + USB host model)

1. iPhone models

- iPhone 11
- iPhone 11 Pro
- iPhone 11 Pro Max
- iPhone XR
- iPhone XS
- iPhone XS Max
- iPhone X
- iPhone 8
- iPhone 8 Plus
- iPhone 7
- iPhone 7 Plus
- iPhone SE
- iPhone 6s
- iPhone 6s Plus

2. iPad models

- iPad (7th generation)
- iPad (6th generation)
- iPad Pro 12.9-inch (2nd generation)
- iPad Pro 10.5-inch
- iPad (5th generation)
- iPad Pro 9.7-inch
- iPad Pro 12.9-inch (1st generation)
- iPad Air (3rd generation)
- iPad mini (5th generation)
- iPad mini 4

3. iPod models

- iPod touch (7th generation)
- iPod touch (6th generation)

2) RP-F10-x27J1-4 (Bluetooth + USB host model), MP-B30

1. iPhone models

- iPhone XR
- iPhone XS
- iPhone XS Max
- iPhone X
- iPhone 8
- iPhone 8 Plus
- iPhone 7
- iPhone 7 Plus
- iPhone SE
- iPhone 6s
- iPhone 6s Plus

2. iPad models

- iPad Pro 11-inch
- iPad Pro 12.9-inch (3rd generation)
- iPad (6th generation)
- iPad Pro 12.9-inch (2nd generation)
- iPad Pro 10.5-inch
- iPad (5th generation)
- iPad Pro 9.7-inch
- iPad Pro 12.9-inch (1st generation)
- iPad mini 4

3. iPod models

- iPod touch (6th generation)

3) MP-B30L

1. iPhone models

- iPhone 12
- iPhone 12 Pro
- iPhone 12 Pro Max
- iPhone 12 mini
- iPhone SE (2nd generation)
- iPhone 11
- iPhone 11 Pro
- iPhone 11 Pro Max
- iPhone XR
- iPhone XS
- iPhone XS Max
- iPhone X
- iPhone 8
- iPhone 8 Plus
- iPhone 7
- iPhone 7 Plus
- iPhone SE
- iPhone 6s
- iPhone 6s Plus

2. iPad models

- iPad (8th generation)
- iPad Pro 11-inch (2nd generation)
- iPad Pro 12.9-inch (4th generation)
- iPad (7th generation)
- iPad Pro 11-inch
- iPad Pro 12.9-inch (3rd generation)
- iPad (6th generation)
- iPad Pro 12.9-inch (2nd generation)
- iPad Pro 10.5-inch
- iPad (5th generation)
- iPad Pro 9.7-inch
- iPad Pro 12.9-inch (1st generation)
- iPad mini (5th generation)
- iPad mini 4

3. iPod model

- iPod touch (7th generation)
- iPod touch (6th generation)

4) MP-B21L

1. iPhone models

- iPhone 14 Pro Max
- iPhone 14 Pro
- iPhone 14 Plus
- iPhone 14
- iPhone SE (3rd generation)
- iPhone 13 Pro Max
- iPhone 13 Pro
- iPhone 13
- iPhone 13 mini
- iPhone 12 Pro Max
- iPhone 12 Pro
- iPhone 12

- iPhone 12 mini
- iPhone SE (2nd generation)
- iPhone 11 Pro Max
- iPhone 11 Pro
- iPhone 11
- iPhone XS Max
- iPhone XS
- iPhone XR

2. iPad models

- iPad Pro 12.9-inch (6th generation)
- iPad Pro 11inch (4th generation)
- iPad (10th generation)
- iPad Air (5th generation)
- iPad mini (6th generation)
- iPad (9th generation)
- iPad Pro 12.9inch (5th generation)
- iPad Pro 11inch (3rd generation)
- iPad Air (4th generation)
- iPad (8th generation)
- iPad Pro 12.9inch (4th generation)
- iPad Pro 11inch (2nd generation)
- iPad (7th generation)
- iPad Air (3rd generation)
- iPad mini (5th generation)
- iPad Pro 12.9inch (3rd generation)
- iPad (6th generation)
- iPad Pro 12.9inch (2nd generation)

5) RP-E10, MP-A40, MP-B20

1. iPhone models

- iPhone X
- iPhone 8
- iPhone 8 Plus
- iPhone 7
- iPhone 7 Plus
- iPhone SE
- iPhone 6s
- iPhone 6s Plus
- iPhone 6
- iPhone 6 Plus

2. iPad models

- iPad Pro 12.9-inch (2nd generation)
- iPad Pro 10.5-inch
- iPad (5th generation)
- iPad Pro 9.7-inch
- iPad Pro 12.9-inch (1st generation)
- iPad mini 4
- iPad Air 2
- iPad mini 3

3. iPod models

- iPod touch (6th generation)

Version

- iOS 15 to 15.7.8
- iPadOS 15 to 15.7.8
- iOS 16 to 16.7.1
- iPadOS 16 to 16.7.1
- iOS 17 to 17.1.1
- iPadOS 17 to 17.1.1

1.2.3 Android

Web browser / Application

- Chrome
- The applications that can launch the software by specifying the URL scheme with the format described in this manual

Version

- Android 7.0 (API 24)
- Android 7.1 (API 25)
- Android 8.0 (API 26)
- Android 8.1 (API 27)
- Android 9.0 (API 28)
- Android 10.0 (API 29)
- Android 11.0 (API 30)
- Android 12.0 (API 31)
- Android 12.1 (API 32)
- Android 13.0 (API 33)
- Android 14.0 (API 34)

1.3 Printer Settings

The memory switches of the printer have been set to the [Value] in the following table in using the software. See the following for details of the memory switches.

    ·RP-E10 series: "RP-E10 SERIES THERMAL PRINTER TECHNICAL REFERENCE"
    ·Except for RP-E10 series: "User's guide" for SII printer described in "Introduction - Target Products"

- SLP720RT/SLP721RT Series

MS	Function	Value
1-3	Mark Mode Selection (Mark Mode)	1 : Disable [*1] 0 : Enable [*2]
4-4	Paper Width Selection (Paper Width)	1 : 58 mm
5-2	Initialized Response Selection (Init. Response)	0 : Enable
5-3	Data Discard Selection When Error Occurs (Error Through)	0 : Enable
5-4	Data Discard Selection When Output Buffer Full Occurs (Response Data Discarding)	1 : Disable
5-6 5-7	Initialization Performance Selection After Paper Setting (Paper Set Handle)	10B : Initial cut [*3]
13-3	Realtime Command Selection (Realtime Command)	1 : Enable
17-3	Feed Backward Setting After Paper Cutting (Backfeed After Cut)	1: Disable

*1: When [yes] or [no] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Disable".
    Set the memory switch MS 4-6 (Paper Auto Detection Selection) of the printer to "Disable" and select the paper to be used in MS 7 (Thermal Paper Selection) when using the receipt (other than marked paper) or the Linerless label (other than the marked paper).
*2: When [mark] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Enable".
    When performing marked paper from feed, one of the following settings is necessary.
        ·To automatically detect paper, set the memory switch MS 4-6 (Paper Auto Detection Selection) of the printer to "Enable".
        ·To specify the paper, set MS 4-6 (Paper Auto Detection Selection) to "Disable" and set MS 1-3 (Mark Mode Selection) to "Enable".
        In addition, select the paper to use as follows.
            ·For marked linerless label:
                Set MS 7 (Thermal Paper Selection) to "Linerless label".
            ·For SLP Label:
                Set MS 7 (Thermal Paper Selection) to "SLP Label".
*3: When [mark] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Initial cut".

Caution

◆ When printing continuously on linerless label, set the memory switch MS 1-2 (Taken Mode Selection) of the printer to "Enable".

◆ Set the memory switch MS 1-2 (Taken Mode Selection) of the printer to "Disable" in the following cases.

    • When performing partial cut in multiple pages printing

    • When printing continuously on receipt or SLP Label

- RP-F10, RP-G10, RP-E10 Series

MS	Function	Value
1-3	Mark Mode Selection[*1] (Mark Mode)	1 : Enable[*2] 0 : Disable[*3]
4-4	Paper Width Selection (Paper Width)	1 : 58 mm[*4] 0 : 80 mm[*5]
4-5	Number of Effective Dots Selection (Number of Effective Dots)	1 : 576 dots / 432 dots
5-2	Initialized Response Selection (Init. Response)	0 : Enable
5-3	Data Discard Selection When Error Occurs (Error Through)	0 : Enable
5-4	Data Discard Selection When Output Buffer Full Occurs (Response Data Discarding)	1 : Disable
5-6 5-7	Initialization Performance Selection After Paper Setting[*1] (Paper Set Handle)	10B : Initial cut[*6]
13-3	Realtime Command Selection[*7] (Realtime Command)	1 : Enable

*1: Supported only by RP-E10 series.
*2: When [mark] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Enable".
*3: When [yes] or [no] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Disable".
*4: When [58] is specified to the setting value in **PaperWidth** query in the URL scheme, the value is set to "58 mm".
*5: When [80] or nothing is specified to the setting value in **PaperWidth** query in the URL scheme, the value is set to "80 mm".
*6: When [mark] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Initial cut".
*7: RP-E10 series executes printer command "Realtime Command Enable or disable" with "Enable".

- MP-B30, MP-A40 Series

MS	Function	Value
1-2	Mark Mode Selection (Mark Mode)	1 : Disable[*1] 0 : Enable[*2]
1-3 to 1-5	Command System Selection[*3] (Command System)	000B : ESC/POS
1-6	Data Discard Selection When Error Occurs (Error Through)	0 : Enable
1-8	Data Discard Selection When Output Buffer Full Occurs (Response Data Discarding)	1 : Disable
2-1	Initialization Performance Selection After Paper Setting (Paper Set Handle)	0 : Form Feed[*4]
2-2	Realtime Command Selection (Realtime Command)	0 : Enable

MS	Function	Value
3-1 to 3-6	Paper Width Selection[*3] (Paper Width)	011000B : 80 mm / 576 dots[*5] 101100B : 100 mm / 736 dots[*6] 110001B : 105 mm / 776 dots[*7] 111000B : 112 mm / 832 dots[*8]
9-2	Initialized Response Selection (Init. Response)	0 : Enable

*1: When [yes] or [no] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Disable".
*2: When [mark] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Enable".
*3: Supported only by MP-A40 series.
*4: When [mark] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Form Feed".
*5: When [80] is specified to the setting value in **PaperWidth** query in the URL scheme, the value is set to "80 mm / 576 dots".
*6: When [100] is specified to the setting value in **PaperWidth** query in the URL scheme, the value is set to "100 mm / 736 dots"
*7: When [105] is specified to the setting value in **PaperWidth** query in the URL scheme, the value is set to "105 mm / 776 dots".
*8: When [112] or nothing is specified to the setting value in **PaperWidth** query in the URL scheme, the value is set to "112 mm / 832 dots".

- MP-B30L Series

MS	Function	Value
1-2	Mark/Gap Mode Selection (Mark/Gap Mode)	1 : Disable[*1] 0 : Enable[*2]
1-3 to 1-5	Command System Selection (Command System)	000B : ESC/POS
1-6	Data Discard Selection When Error Occurs (Error Through)	0 : Enable
1-8	Data Discard Selection When Output Buffer Full Occurs (Response Data Discarding)	1 : Disable
2-1	Initialization Performance Selection After Paper Setting (Paper Set Handle)	0 : Form Feed[*3]
2-2	Realtime Command Selection (Realtime Command)	0 : Enable
2-7	Paper Form Feed Selection By FEED Switch (SW Paper Form Feed)	1 : Form Feed To Cut Position
3	Print Width (Print Width)	45 to 72[*4] (mm)
9-2	Initialized Response Selection (Init. Response)	0 : Enable
26 to 27	Mark Detection Print Position Correction (Print Position Correction)	0 to 2400[*5] (dot)

*1: When [yes] or [no] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Disable".
*2: When [mark] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Enable".
*3: When [mark] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Form Feed".
*4: The [Value] is automatically determined by the combination of [Setting Value] of **PaperWidth** query and **LeftRightMargin** query in the URL scheme.
*5: The value is rewritten to the same setting as "Mark Detection Cut Position Correction (MS 21-22)".

- MP-B21L Series

MS	Function	Value
1-2	Mark/Gap Mode Selection (Mark/Gap Mode)	1 : Disable[*1] 0 : Enable[*2]
1-3 to 1-5	Command System Selection (Command System)	000B : ESC/POS
1-6	Data Discard Selection When Error Occurs (Error Through)	0 : Enable
1-8	Data Discard Selection When Output Buffer Full Occurs (Response Data Discarding)	1 : Disable
2-1	Initialization Performance Selection After Paper Setting (Paper Set Handle)	0 : Form Feed[*3]
2-2	Realtime Command Selection (Realtime Command)	0 : Enable
2-7	Paper Form Feed Selection By FEED Switch (SW Paper Form Feed)	1 : Form Feed To Cut Position
2-8	Paper Width (Paper Width)	1 : Normal[*4] 0 : Narrow[*4]
3	Print Width (Print Width)	21 to 48[*4] (mm)
9-2	Initialized Response Selection (Init. Response)	0 : Enable
26 to 27	Mark Detection Print Position Correction (Print Position Correction)	-28 to 2400[*5] (dot)

*1: When [yes] or [no] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Disable".
*2: When [mark] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Enable".
*3: When [mark] is specified to the setting value in **CutFeed** query in the URL scheme, the value is set to "Form Feed".
*4: The [Value] is automatically determined by the combination of [Setting Value] of **PaperWidth** query and **LeftRightMargin**
    query in the URL scheme.
*5: The value is rewritten to the same setting as "Mark Detection Cut Position Correction (MS 21-22)".

- MP-B20 Series

MS	Function	Value
3-2	Initialized Response Selection (Init. Response)	0 : Enable
3-3	Realtime Command Selection (Realtime Command)	0 : Enable
3-4	Data Discard Selection When Error Occurs (Error Through)	0 : Enable
3-5	Data Discard Selection When Output Buffer Full Occurs (Response Data Discarding)	1 : Disable

Chapter 2   System Construction

2-1

This chapter describes the procedure to construct a system using the software.

2.1 Construction Procedure

1) Preparation
   Prepare SII printer and a device to be installed and set.

2) Install and setting
   Install the software into the device and connect between the device and the SII printer.
   See "1.1 Download" for details of downloading the software.
   See "2.2 Connection Method" for details of the connection method between the device and the SII printer.

3) User application setting
   Set the user application to be able to use it on the device.
   See "Chapter 3 Application Development" for details of the user application development.

4) Operation test
   The test print with the SII printer can be performed by operating the user application.
   The operation test can be conducted by using the sample program. See "Chapter 4 Sample Program" for details of the sample program.

Caution

◆ To operate the software properly, follow the points described below.

- Make sure the device has sufficient memory.

- Do not perform a force-quit.

2.2 Connection Method

The connection methods between the device and the SII printer are described below.

2.2.1 Common to iOS and Android

1) Set the Bluetooth connection setting ON of the device and the SII printer.
See "User's guide" of each printer for the Bluetooth connection setting of the SII printer.

2) Launch the software.
See "1.1 Download" for details of downloading the software.

3) Select the SII printer.
Tap on the below of [PRINTER SELECT] for iOS and [Printer Select] for Android to select the printer to connect from the list.

Caution

◆ Permit the access to USB within 30 seconds for Android. When the access is not permitted after elapsing 30 seconds, an error occurs.

Reference

- For using Android with USB connection, selecting the printer may be necessary every time the printer power is turned on when the multiple USBs are connected to the device.

- For using SLP720RT, SLP721RT, MP-B30, MP-B30L, MP-B21L, or MP-A40 in Simple AP mode, the reconnection of Wi-Fi from the device may be necessary every time the printer power is turned on.

2.2.2 iOS (Bluetooth Connection)

In the Bluetooth connection of the iOS device, the method of keeping the Bluetooth connection can be selected.
When the software is launched and a Bluetooth-enabled SII printer is selected, the setting for selecting how to keep the Bluetooth connection is displayed.

Setting Value	Description
always	Select "always" in an operating environment that printing is only done from single iOS/Android device to single printer. It is not necessary to reconnect Bluetooth in "Settings" app on the iOS device, because the Bluetooth connection is kept after printing.
online	Select "online" in an operating environment that printing is done from multiple iOS or Android devices to single printer but printing is not done frequently from different iOS or Android devices. It is not necessary to reconnect Bluetooth in "Settings" app on the iOS device as long as the printer is turned on, because the Bluetooth connection is kept during that time (Other devices cannot connect to the printer during that time). When the printer is turned off, the Bluetooth connection is disconnected and is not reconnected automatically when the printer is turned on again. To reconnect, it is necessary to reconnect Bluetooth in "Settings" app on the iOS device before the next printing. When printing from a different iOS or Android device, turn the printer on again and then connect Bluetooth in the "Settings" app on the iOS device.
no	Select "no" in an operating environment that printing is done from different iOS or Android devices to single printer. It is necessary to reconnect Bluetooth in "Settings" app on the iOS device every time before the next printing because this setting disconnects the Bluetooth connection every time after printing. In addition, when the next printing is to be done immediately after printing from the same iOS or Android device, it may take about 1 minute.

Reference

- When **BtKeepConnect** query described in "3.2 URL Scheme" has already been specified, the software gives priority to the setting value specified in **BtKeepConnect** query.

2.2.3 Android (NFC Connection)

When the NFC-enabled SII printer connects with the Android device by Bluetooth connection, NFC can be used to select the printer. The methods for selecting a printer using NFC are described below.

1) Tap [Select Printer], which appears when launching the software or starting printing.

2) Tap the NFC symbol on the upper right corner to put the software into NFC search mode.

3) Move the device closer to the NFC tag on the printer.

Chapter 3　Application Development

This chapter describes the information necessary to develop a user application used with a system through the software.

3.1 Process Image

The user application calls the software by the URL scheme and sends print data by queries.
The software sends the print command to the SII printer when receiving print data.
The SII printer returns the print result to the software.
When the print result is an error, the software displays an error message according to the received status.

Device

URL scheme
Print data (PDF)

Print command

Application

SII URL Print Agent

SII Printer

Error Code

Print result
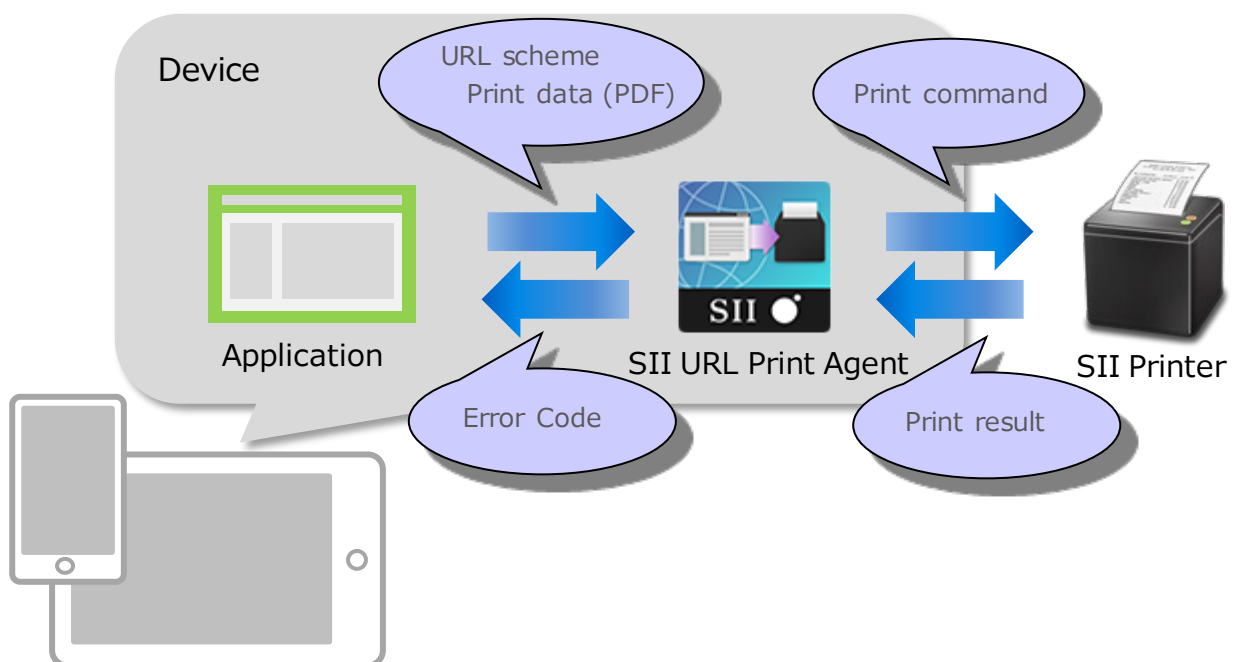
Reference

- Either in the user application or in the software can be selected to display the error message. See "Chapter 5 Error Handling" for details.

3.2 URL Scheme

The method to specify the URL scheme is described below.

Syntax

[scheme]://[version]/[action]?[action parameters]

Parameter

scheme
> URL scheme name
>> Call the software.
>> Specify "siiprintagent".

version
> Version
>> Specify the version of the URL scheme format.
>> Specify "1.0".

action
> Identifier
>> An identifier of the process to be executed in the software.
>> Specify "print".

action parameters
> Action parameter
>> Specify action parameters such as the URL scheme on completion, print data or its option parameters, and so on to call.
>> Specified format: "query1=value1&query2=value2&..."

Query	Function	Description		Default
		Input Condition	Setting Value	
CallbackSuccess	URL to be displayed on the normal end	Optional	URL encoding format (RFC3986)	-
CallbackFail	URL to be displayed on the error occurrence	Optional	URL encoding format (RFC3986)	-
BtKeepConnect	Selection of Bluetooth connection keeping[1]	Optional	always/online/no	-[2]
Format	Data format setting	Required	PDF format: pdf	-
Data	Data type setting	Required	Data type: pdf ・Data that converted to Base64 data format and further converted to URL-encoded format (RFC3986) ・Data size 　iOS: Approximately 750 KB 　(PDF size: 500 KB[3]) 　Android: Approximately 200 KB (PDF size: 150 KB[3])	-
Timeout	The setting of operation timeout (ms) in the software	Optional	10000 to 300000 [ms]	15000
ErrorDialog	Error notification by the software	Optional	yes/no[4]	yes

Query	Function	Description			Default
		Input Condition	Setting Value		
SelectOnError	Resetting the printer when a communication error occurs	Optional	yes/no		no
Drawer	Drawer driving setting	Optional	yes/no		no
CutType	Cutter setting	Optional	full/partial/off[*5]		partial
CutFeed[*6]	Feed selection at the cutting	Optional	yes/no/mark[*7]		yes
BottomMargin[*6]	Paper feed length setting from the position at minimum bottom margin	Optional	-1, 0 to Length of PDF bottom margin [mm]		-1
PaperWidth[*6]	Paper width selection[*8]	Optional	25.4/30/31/39/40/50/58/76.2/80/ 100/105/112[*9] [mm]		-[*9]
LeftRightMargin[*6]	Left and right margin setting for paper width	Optional	2 to 56[*9] [mm]		-[*9]
FitToWidth	Expanding or reducing the PDF's page in accordance with the specified print area by **PaperWidth** query.	Optional	yes/no		no
Rotation	Specifying print direction	Optional	0/90/180/270 [deg]		0
Dither	PDF dithering selection	Optional	yes/no		no
PreBackFeed[*10*11*12]	Feed Backward Setting Before Printing	Optional	max/off		off

*1 : Supported only by iOS. Android is ignored.
*2 : When the value is not specified, the default is the setting value on the screen of the software.
*3 : Approximate data size before Base64 conversion.
*4 : When the setting value is set to "no", an error is not notified in the software.
    However, if an error occurs during URL scheme analyze, the error may be notified.
*5 : For SLP720RT, SLP721RT, RP-F10, RP-G10, and RP-E10, paper feed will not be performed if **CutFeed** is set to off regardless of the setting value in **CutFeed**.

*6 : The relation of the **CutFeed**, **BottomMargin**, **PaperWidth**, and **LeftRightMargin** queries to a single PDF sheet is as follows.

Example: **Rotate** = 0

PaperWidth
LeftRightMargin

ABC......

Image

ABC......

BottomMargin = 0
(Position at minimam bottom margin)

BottomMargin = 0 to Length of PDF bottom margin
（To the lower end of PDF sheet)

BottomMargin = -1
(Lower end of PDF sheet)

A single PDF sheet
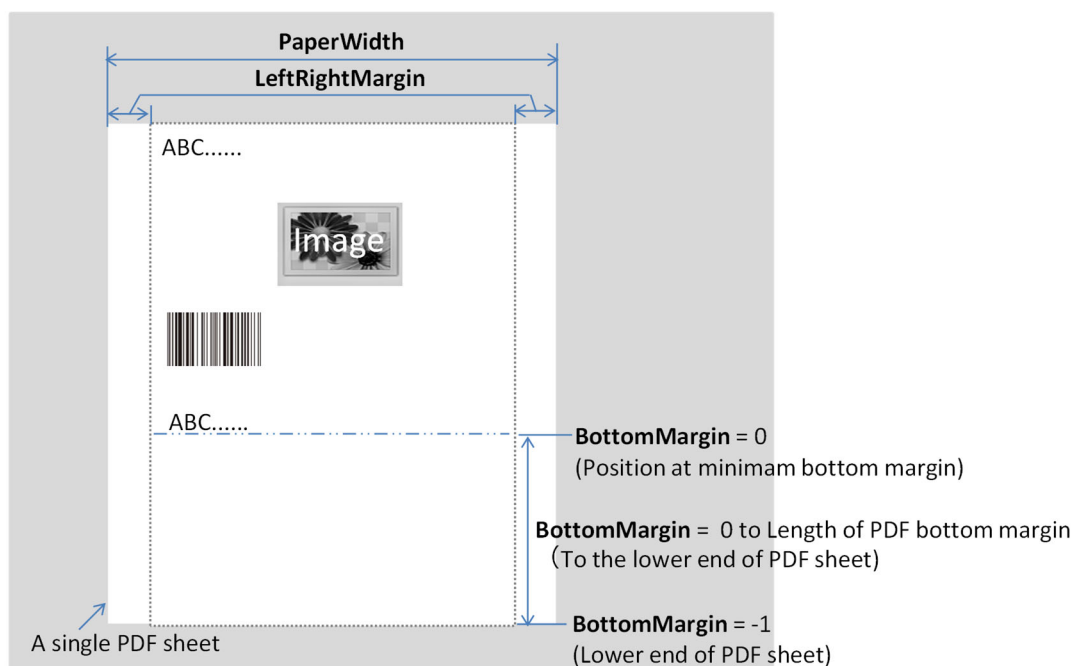
The printer feeds the paper to the setting value in **BottomMargin** query, and then operates
according to the setting value in **CutType** and **CutFeed** queries.

*7 : The [mark] is supported only by SLP720RT, SLP721RT, RP-E10, MP-B30, MP-B30L, MP-B21L, and MP-A40 series.
*8 : See "User's guide" of the SII printer for the print area.
*9 : See the following for details of [Setting Value] and [Default].
   The same margin is set for the left and right sides of the paper width for the [Setting value].

unit: mm

Printer	PaperWidth (Default = " ")	LeftRightMargin		
		Setting Value (Default = " ")	Available Print Width	Minimum Margin of Printer (One Side)
SLP720RT SLP721RT	40 (Linerless label)	2 to 20	0 to 36	2
	58 (Receipt / Linerless label)	2 to 29	0 to 54	2
	SLP Label[*a*b*c]		0 to 52	3
RP-F10 RP-G10 RP-E10	58	2 to 29	0 to 54	2
	80	4 to 40	0 to 72	4
MP-B30	80	4 to 40	0 to 72	4
MP-B30L	58 (Receipt)	2 to 29[*b]	0 to 54	2
	58 (Label)		0 to 52	3
	76.2 (Receipt)	2.1 to 38.1[*b]	0 to 72	2.1
	76.2 (Label)		0 to 70.2	3
	80 (Receipt)	4 to 40[*b]	0 to 72	4
	80 (Label)			

Printer	PaperWidth (Default = "⬚")	LeftRightMargin		
		Setting Value (Default = "⬚")	Available Print Width	Minimum Margin of Printer (One Side)
MP-B21L	25.4 (Label)	2.2 to 12.7	0 to 21	2.2
	30 (Label)	2 to 15	0 to 26	2
	40 (Label)	2 to 20	0 to 36	
	50 (Label)	2 to 25	0 to 46	
	58 (Receipt)	5 to 29	0 to 48	5
	58 (Label)			
MP-B20	58	5 to 29	0 to 48	5
MP-A40	80	4 to 40	0 to 72	4
	100	4 to 50	0 to 92	
	105	4 to 52.5	0 to 97	
	112	4 to 56	0 to 104	

*a: For SLP Label, the setting values of **PaperWidth** and **LeftRightMargin** are different depending on the label type.

unit: mm

Label Type			PaperWidth	LeftRightMargin (Default = "2")
SLP-1BLB	SLP-1GLB	SLP-1OLB	31	2.5 to 15.5
SLP-1PLB	SLP-1RL	SLP-1RLB		
SLP-1RLC	SLP-1YLB	SLP-2RLC		
SLP-2RLH	SLP-4AST	SLP-MRL		
SLP-MRLB	SLP-MRLC	SLP-OPMRL		
SLP-R2RL	SLP-RMRL	SLP-TMRL		
SLP-TRL	TL-S1RLA	TL-SMRLA		
SLP-RTNC				3 to 15.5
SLP-VSL				7 to 15.5
SLP-4AFL	SLP-FLB	SLP-FLG		10.5 to 15.5
SLP-FLR	SLP-FLW			
SLP-27210				11.5 to 15.5
SLP-RTL			39	2 to 19.5
SLP-2RLE				2.5 to 19.5
SLP-LFPDW	SLP-LFPDB	SLP-LFPDC	58	2 to 29
SLP-LFPDP	SLP-P150			
SLP-JWL				3.75 to 29
SLP-DRL	SLP-FW	SLP-NB		4 to 29
SLP-NR	SLP-RDO	SLP-RSRL		
SLP-SRL	SLP-SRLB	SLP-SRLC		
SLP-TP	TL-SSRLA			

Label Type			PaperWidth	LeftRightMargin (Default = "2")
SLP-ZIP				5.5 to 29
SLP-VTL				7.5 to 29
TL-S4046A	TL-S4028A		58	11 to 29
SLP-35L				10.5 to 29
SLP-FN				12 to 29

*b: When using the label, set a value that is larger than or equal to the minimum margin of the printer.
*c: Adjust the top margin of the PDF file according to the gap between labels.

*10: Supported only by SLP720RT, SLP721RT, RP-E10, RP-F10, RP-G10, and MP-B21L.
*11: Do not specify **PreBackFeed** when setting **CutType** = partial, it may cause paper jams.
*12: For RP-F10 and RP-G10, do not set **PreBackFeed** when the memory switch MS 17-3 (Feed Backward Setting After Paper Cutting) of the printer is set to "Enable".

Caution

◆ In printing by URL scheme, call the next URL scheme after waiting for the print completion. The printing by the next URL scheme is to be ignored when the next URL scheme is called without waiting for an execution result.

Reference

- Call the URL scheme again when reprinting is necessary.

- Create print data to accommodate the print area of each SII printer.
  See "User's guide" of each SII printer for the print area.
  When print data has not created according to the print area, use **FitToWidth** query.

- Use PDF data that converted to Base64 and further converted to URL-encoded format.

Error handling

The executed result of printing returned by the software is described below.
For displaying error messages in the software, specify "yes" in **ErrorDialog** query of the print command.
For displaying error messages in the user application, specify the application path in **CallbackFail** query of the print command and process the receiving of **Code** query and **Message** query on the user application.

Query	Function	Description		
		Input Condition	Setting Value	Default
Code	Status code	-	See "3.3 Status Code List" for details.	-
Message	Error message	-	Error message (Internal code[1])	-

*1: Internal code is required for error analysis in SII.
    See "3.3 Status Code List" for handling method when an error is caused by using **Code** query.

Example

An example of notifying an error in the user's application is described below when an error occurs.
The user's application notifies the status code "-30" and the error message "Timed out. (Internal code)".
Replace %%% with the IP address of the server.
http://%%%/page.html?code=-30&message= Timed out. (Internal code)

3.3 Status Code List

Status codes are listed below.

| Code	Cause	Handling Method / State
-10	Failed to communicate with the printer.	・Make sure the printer is turned on and check the communication state. ・For Bluetooth or Wi-Fi communication, make sure Bluetooth or Wi-Fi is the "ON" state. ・For Bluetooth, disconnect the connection to another device if another device and the printer is in the "connect" state.
-20	Failed to get permission.	Get the required permission for the software. If authority is required during communication, grant the authority at that time.
-30	Timed out.	・Make sure the printer is turned on and check the communication state. ・Adjust the timeout time.
-40	There is no response from the printer.	If the printer has an error, turn the power off and then on the printer after solving the cause of the error. If not, try reprinting after powering off and then on the printer.
-50	Print has been canceled.	Printing is canceled by the user.
-60	The required format by URL scheme is invalid.	Make sure the required format by URL scheme is correct.
-70	Print data is corrupted.	Specify uncorrupted data. If this error occurs on Android, try reprinting after exiting the software.
-80	Print data to the paper feed direction is too long.	Adjust the length of print data in the direction of paper feed to the appropriate length.
-90	No printer has been selected.	Select the printer and then print.
-200	A system error has occurred.	Exit unnecessary applications and try reprint.
-210	An unknown error has occurred.	An unknown error has occurred.

Chapter 4   Sample Program

This chapter describes the sample application program included in the software.

4.1 Screen Structure

Screen of the sample program is described below.
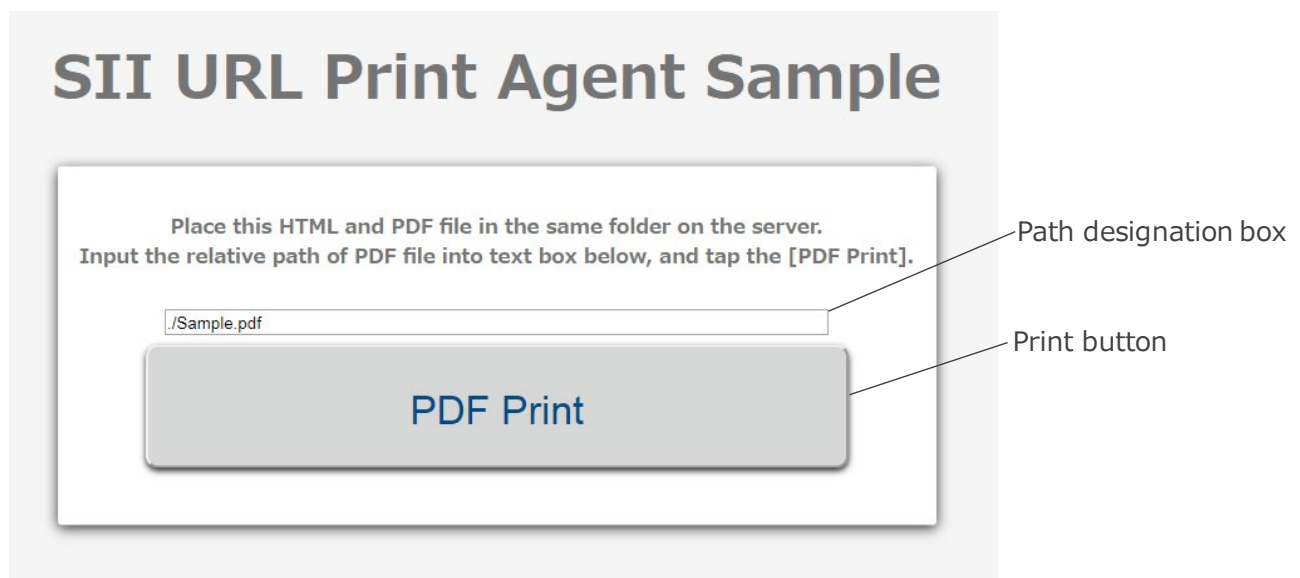
Item	Description
Path designation box	Displays the relative path of PDF file to print.
Print button	Prints PDF file displayed in the path designation box.

4.2 Operating Procedure

The operating procedure of the sample program is described below.

4.2.1 Common to iOS and Android

HTML sample

1) Install the software into the device and connect between the device and the SII printer.
   See "1.1 Download" for details of downloading the software.
   See "2.2 Connection Method" for details of the connection method between the device and the SII printer.

2) Unzip the Sample.zip.

3) Place Sample_EN.html and Sample.pdf in the unzipped folder to the same folder on the server.

Reference

- Place the PDF file to be print in the same folder as Sample_EN.html on the server and tap [PDF Print] after entering the relative path in the path designation box so that the placed PDF can be printed.

---

4) Launch the web browser on the device and access Sample_EN.html.

5) Tap the [PDF Print] button.

4.2.2 iOS

FileMaker Go sample

1) Install the software into the device and connect between the device and the SII printer.
   See "1.1 Download" for details of downloading the software.
   See "2.2 Connection Method" for details of the connection method between the device and the SII printer.

2) Unzip the Sample.zip.

3) Open PrintSample.fmp12 in FileMaker Go.

4) Tap the [Print] button.

Chapter 5   Error Handling

This chapter describes examples of error handling.

5.1 Error Handling by Application

5.1.1 Error notification by SII URL Print Agent

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8" />

<script>
var pdfData = '';

function getPDFFromWebServer(path) {                                    // Acquire PDF file from the Web server
    return new Promise(resolve => {
        let xhr = new XMLHttpRequest();
        xhr.responseType = 'blob';
        xhr.open("GET", path, true);                                   // Generate a request to the Web server
        xhr.onreadystatechange = function () {                         // The process when the state is changed after sending the request to the Web server
            if (xhr.readyState === 4) {                                // Connecting has been completed
                if (xhr.status === 200) {                              // Contents has been acquired
                    let reader = new FileReader();
                    reader.onload = function() {
                        let index = reader.result.indexOf(',') + 1;    // Read by Base64 format
                        pdfData = reader.result.slice(index);          // Delete unnecessary part
                        resolve();                                     // Synchronization after the completion of the read the process
                    }
                    if (xhr.response) {
                        reader.readAsDataURL(xhr.response);
                    }
                } else if(xhr.status === 0){
                    alert('error while getting pdf');
                }
            }
        }
        xhr.send(null);                                                // Send a request to the Web server
    });
}

async function printData() {                                           // Print
    await getPDFFromWebServer('./Sample.pdf');                         // Reading the PDF file

    let thisPage = window.location.href;
    let url = 'siiprintagent://1.0/print?' +                          // Specify scheme
                'CallbackSuccess='    + encodeURIComponent(thisPage) + '&' +  // URL to be called on print success
                'CallbackFail='       + encodeURIComponent(thisPage) + '&' +  // URL to be called on print failure
                'Format='             + 'pdf' + '&' +                 // Data format ('pdf' fixed)
                'Data='               + encodeURIComponent(pdfData) + '&' +   // PDF data (Base64 encoded)
                'ErrorDialog='        + 'yes' + '&' +                 // Display of printer error dialog on error
                'SelectOnError='      + 'no';                         // Display of printer selection dialog on error
    location.href = url;                                               // Launch SII URL Print Agent
}

</script>
</head>

<body>
    <button class="button" onclick="printData()">PDF Print</button>
</body>
</html>
```

5.1.2 Error notification by User Application

```html
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8" />

<script>
var pdfData = '';

function getPDFFromWebServer(path) {                                     // Acquire PDF file from the Web server
    return new Promise(resolve => {
        let xhr = new XMLHttpRequest();
        xhr.responseType = 'blob';
        xhr.open("GET", path, true);                                    // Generate a request to the Web server
        xhr.onreadystatechange = function () {                          // The process when the state is changed after sending the request to the Web server
            if (xhr.readyState === 4) {                                 // Connecting has been completed
                if (xhr.status === 200) {                               // Contents has been acquired
                    let reader = new FileReader();
                    reader.onload = function() {
                        let index = reader.result.indexOf(',') + 1;     // Read by Base64 format
                        pdfData = reader.result.slice(index);           // Delete unnecessary part
                        resolve();                                      // Synchronization after the completion of the read the process
                    }
                    if (xhr.response) {
                        reader.readAsDataURL(xhr.response);
                    }
                } else if(xhr.status === 0){
                    alert('error while getting pdf');
                }
            }
        }
        xhr.send(null);                                                 // Send a request to the Web server
    });
}

async function printData() {                                            // Print
    await getPDFFromWebServer('./Sample.pdf');                          // Reading the PDF file

    let thisPage = window.location.href;
    let url = 'siiprintagent://1.0/print?' +                           // Specify scheme
        'CallbackSuccess='   + encodeURIComponent(thisPage) + '&' +     // URL to be called on print success
        'CallbackFail='      + encodeURIComponent(thisPage) + '&' +     // URL to be called on print failure
        'Format='            + 'pdf' + '&' +                            // Data format ('pdf' fixed)
        'Data='              + encodeURIComponent(pdfData) + '&' +      // PDF data (Base64 encoded)
        'ErrorDialog='       + 'no' + '&' +                             // Display of printer error dialog on error
        'SelectOnError='     + 'no';                                    // Display of printer selection dialog on error
    location.href = url;                                                // Launch SII URL Print Agent
}

function load() {
    let query = location.search;                                        // Query acquisition
    let code = query.match(/Code=([^&#]*)/);                            // 'Code' acquisition in the query
    let message = query.match(/Message=([^&#]*)/);                      // 'Message' acquisition in the query
    if (code) {                                                         // 'Code' is specified in the query
        alert(`Error.¥n¥nCode = ${decodeURIComponent(code[1])}¥nMessage = ${decodeURIComponent(message[1])}`);
    }
}

window.onload = load;                                                    // Call load function in reading page

</script>
</head>

<body>
    <button class="button" onclick="printData()">PDF Print</button>
</body>
</html>
```

5.2 Error Handling in FileMaker Go

5.2.1 Error notification by SII URL Print Agent

```
# scheme                                          scheme://version/action
Set Variable [ $scheme ; Value: "siiprintagent://1.0/print?" ]
# CallbackSuccess                                 URL to be called on print success
Set Variable [ $CallbackSucces ; Value: "fmp://$/PrintSample.fmp12" ]
# CallbackFail                                    URL to be called on print failure
Set Variable [ $CallbackFail ; Value: "fmp://$/PrintSample.fmp12" ]
# Format                                          Data format
Set Variable [ $Format ; Value: "pdf" ]
# Data                                            Print data
Set Variable [ $Data ; Value: Base64Encode ( PrintSample:object ) ]
# Error Dialog                                    Display of printer error dialog on error
Set Variable [ $ErrorDialog ; Value: "yes" ]
# SelectOnError                                   Display of printer selection dialog on error
Set Variable [ $SelectOnError ; Value: "no" ]
# Send print data
Open URL [ With dialog: Off ; $Scheme &
"CallbackSuccess="     & GetAsURLEncoded ($CallbackSuccess) &
"CallbackFail="        & GetAsURLEncoded ($CallbackFail) &
"Format="              & $Format &
"Data="                & GetAsURLEncoded ($Data) &
"ErrorDialog="         & $ErrorDialog &
"SelectOnError="       & $SelectOnError
```

5.2.2 Error notification by User Application

```
# scheme                                          scheme://version/action
Set Variable [ $scheme ; Value: "siiprintagent://1.0/print?" ]
# CallbackSuccess                                 URL to be called on print success
Set Variable [ $CallbackSucces ; Value: "fmp://$/PrintSample.fmp12" ]
# CallbackFail                                    URL to be called on print failure
Set Variable [ $CallbackFail ; Value: "fmp://$/PrintSample.fmp12?script=Callback" ]
# Format                                          Data format
Set Variable [ $Format ; Value: "pdf" ]
# Data                                            Print data
Set Variable [ $Data ; Value: Base64Encode ( PrintSample:object ) ]
# Error Dialog                                    Display of printer error dialog on error
Set Variable [ $ErrorDialog ; Value: "no" ]
# SelectOnError                                   Display of printer selection dialog on error
Set Variable [ $SelectOnError ; Value: "no" ]
# Send print data
Open URL [ With dialog: Off ; $Scheme &
"CallbackSuccess="     & GetAsURLEncoded ($CallbackSuccess) &
"CallbackFail="        & GetAsURLEncoded ($CallbackFail) &
"Format="              & $Format &
"Data="                & GetAsURLEncoded ($Data) &
"ErrorDialog="         & $ErrorDialog &
"SelectOnError="       & $SelectOnError
```

SII

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(Specifications are subject to change without notice.)