

Demo Project for
Using RFID in Enhanced Security Mode

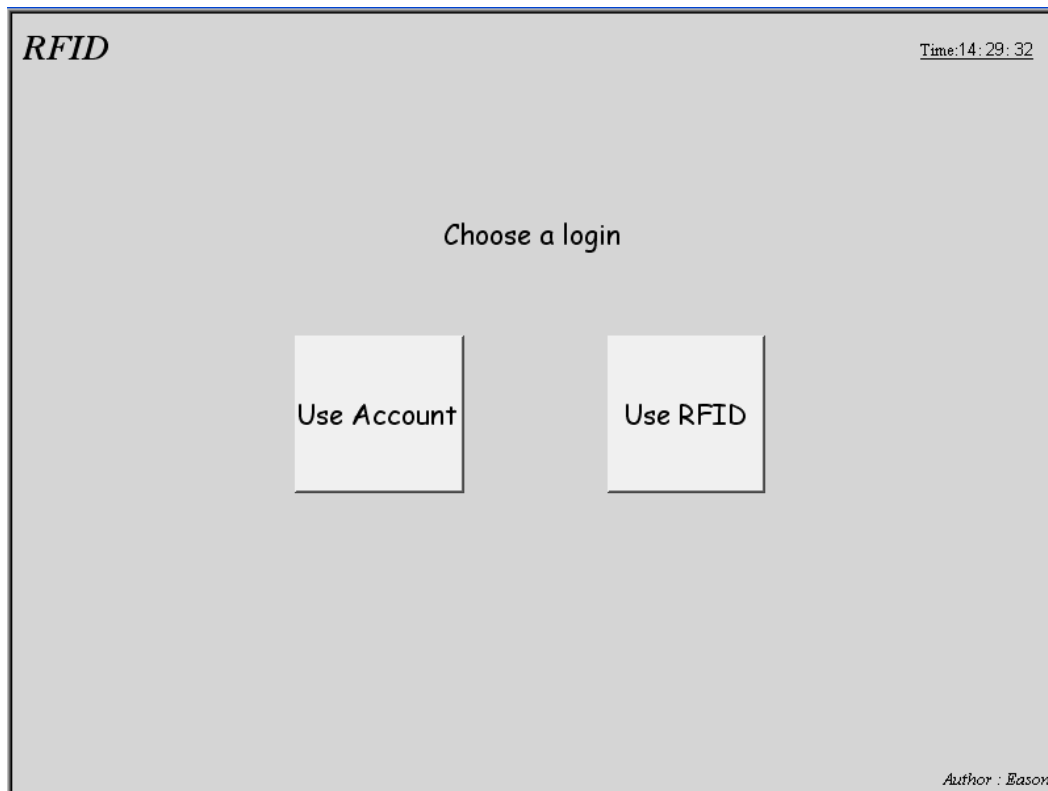
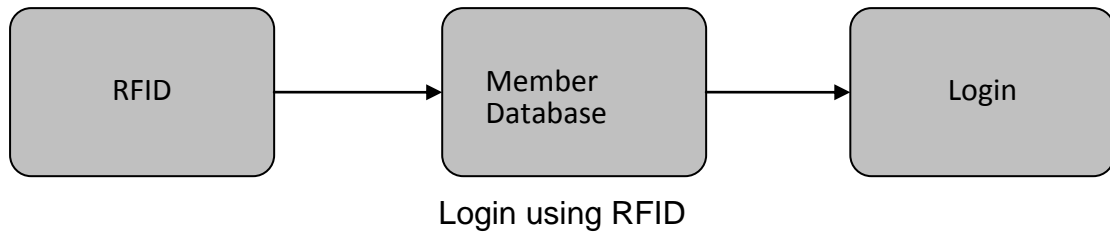
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1. Overview and Operation

Overview

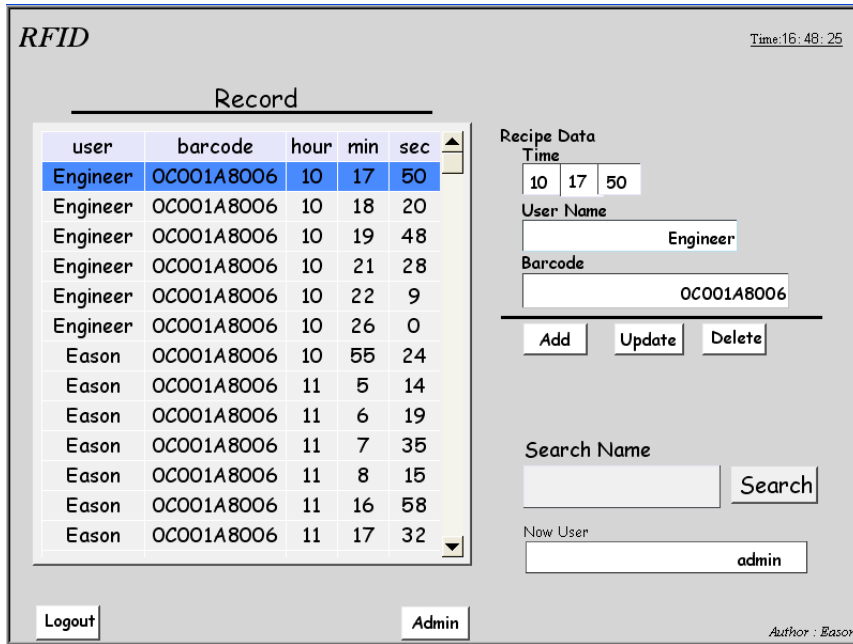
This demo project demonstrates how to use RFID (radio frequency identification) to login system under enhanced security mode. Recipes can be used to record RFID data and display them on HMI. Two modes can be used to login enhanced security mode: Use Account or Use RFID.



Choose a login method, by account or RFID.

Operation

Use Account: Enter the account and password then click Login on login dialog.
Use RFID: Define relevant settings for the account in Recipe Records first then directly login by sensing RFID.



RFID Time: 16:48:25

Record

user	barcode	hour	min	sec
Engineer	OC001A8006	10	17	50
Engineer	OC001A8006	10	18	20
Engineer	OC001A8006	10	19	48
Engineer	OC001A8006	10	21	28
Engineer	OC001A8006	10	22	9
Engineer	OC001A8006	10	26	0
Eason	OC001A8006	10	55	24
Eason	OC001A8006	11	5	14
Eason	OC001A8006	11	6	19
Eason	OC001A8006	11	7	35
Eason	OC001A8006	11	8	15
Eason	OC001A8006	11	16	58
Eason	OC001A8006	11	17	32

Recipe Data

Time

User Name

Barcode

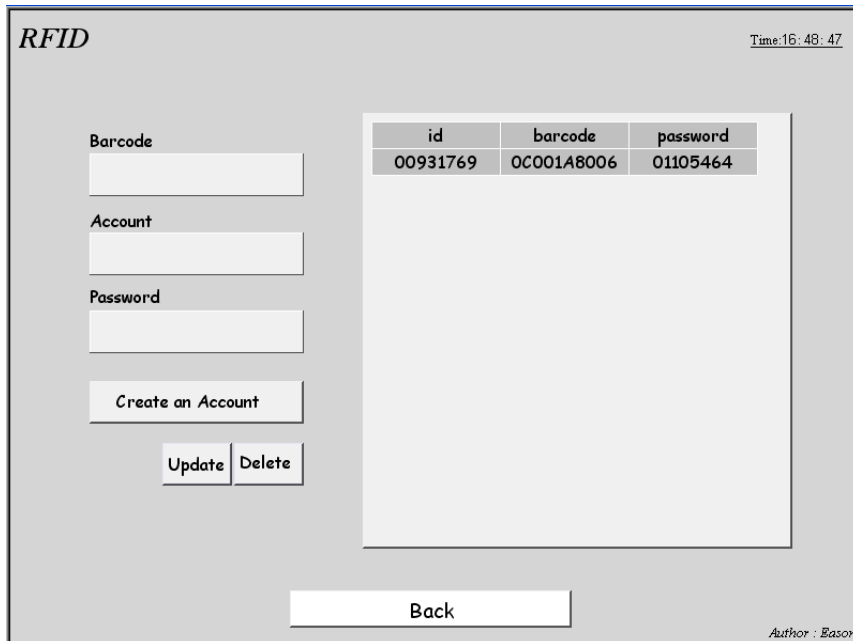
Search Name

Now User

Author : Eason

Add, view or edit RFID records.

Directly search by sensing RFID or entering a name to check the latest data.
 The management person can add, update, or delete the records.



RFID Time: 16:48:47

Barcode

Account

Password

id	barcode	password
00931769	OC001A8006	01105464

Author : Eason

The managing window for adding new accounts and setting RFID.

Add new accounts and select whether or not to open the privilege of login using RFID.

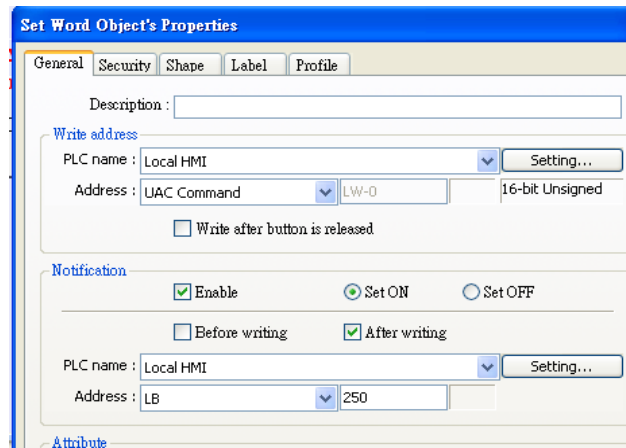
2. Setting up the Screen

[Object Setting]

Login Window

A. Use Account:

1. Create 2 ASCII Input objects, address:
 UAC user name
 UAC password
2. Create Set Word Object:
 UAC command:
 write constant 1.



B. Use RFID:

1. Set RFID in Recipes.
2. Trigger Macro-LoginRFID via PLC.
3. Find the match of RFID and get the account and password.
4. Enter the account and password gained to UAC user name and UAC password.
5. Execute UAC command: write constant 2.
6. After login succeeded, execute Macro – RFIDValue, store login data to recipe.

Add Delete			
id	barcode	password	
1	1	0C001A8006	1

```

char RFIDValue[10]
StringGet(RFIDValue[0], "Barcode (USB/COM)", BARCODE, 1, 10)
StringSet(RFIDValue[0], "Local HMI", LW, 720, 10)
char SQL[60] = "SELECT * FROM account WHERE barcode = '"
StringCat(RFIDValue[0], SQL[0])
char tempChr[4] = ""
StringCat(tempChr[0], SQL[0])

short result = 0
bool result_query
result_query = RecipeQuery(SQL[0], result)

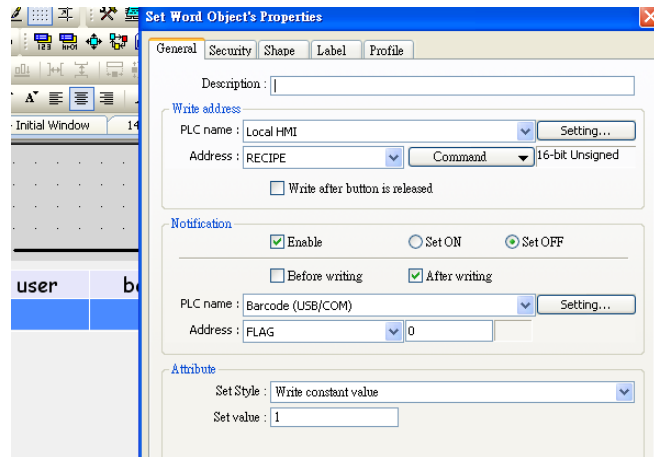
SetData(result, "Local HMI", LW, 900, 1)

char resultPassword[10]
short resultIndex

if (result_query) then
    RecipeQueryGetData(resultIndex, "account.id", 0)
    RecipeQueryGetData(resultPassword[0], "account.password", 0)
    
```

Main Window

- A. To display recipes:
1. Create Recipe View object.
 2. Create several ASCII Input objects to watch the items of recipe records.
 3. Create 3 Set Word objects.
 Add: write constant 1
 Update: write constant 2
 Delete: write constant 3



- B. Search by Name
1. Create ASCII Input object to watch address LW-950.
 2. Create Function Key object.
 Macro–SearchName
 to gain the characters from LW-950.
 RecipeQuery function can be used to query a specific recipe.
 RecipeQueryGetRecordID
 can be used to search the location of the last record, and use Recipe-Select to point out this record displayed in Recipe View object.

```
macro_command main()

char searchName[10]
StringGet(searchName[0], "Local HMI", LW, 950, 10)

char SQL[60] = "SELECT * FROM work WHERE user = '"
StringCat(searchName[0], SQL[0])
char tempChr[4] = ""
StringCat(tempChr[0], SQL[0])

short result = 0
bool result_query
result_query = RecipeQuery(SQL[0], result)

result = result - 1

short resultIndex = 0

if (result_query) then
```

- C. Search by RFID
- Same as search by name described above, but change the item to search to RFID and trigger Macro via PLC.

```
char RFIDValue[10]
StringGet(RFIDValue[0], "Barcode (USB/COM)", BARCODE, 1, 10)

char SQL[60] = "SELECT * FROM work WHERE barcode = '"
StringCat(RFIDValue[0], SQL[0])
char tempChr[4] = ""
StringCat(tempChr[0], SQL[0])

StringSet(SQL[0], "Local HMI", LW, 1500, 60)

short result = 0
bool result_query
result_query = RecipeQuery(SQL[0], result)

result = result - 1

short resultIndex = 0

if (result_query) then
```

Managing Window

1. Create 2 ASCII Input objects, address:
 UAC user name
 UAC password
2. Create Set Word Object:
 UAC command:
 write constant 5.
3. Create 3 Set Word objects.
 Add: write constant 1
 Update: write constant 2
 Delete: write constant 3
4. When adding a new account, execute Macro to create UAC account and write data to recipe records.

```
//insert button visible
bool insertFlag = false
SetData(insertFlag, "Local HMI", LB, 88, 1)

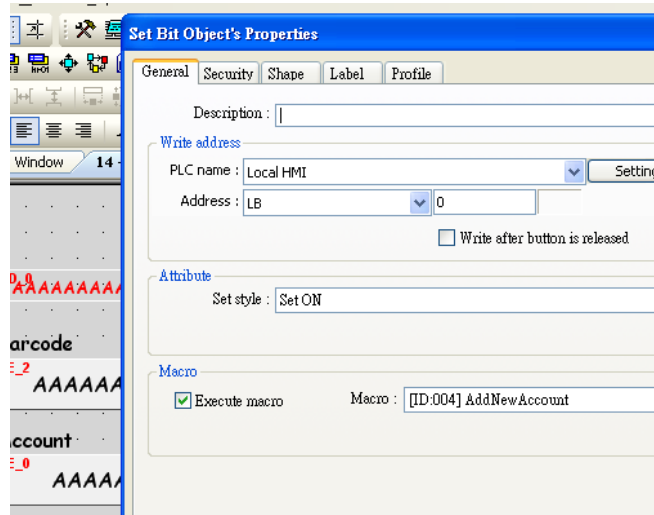
//transmission object
bool flag = false
SetData(flag, "Local HMI", LB, 85, 1)

bool premission = true
SetData(premission, "Local HMI", "UAC privilege (Class A)", 1)

char password[8]
FILL(password[0], 0, 8)
StringGet(password[0], "Local HMI", "UAC password", 8)

short addAccount = 5
SetData(addAccount, "Local HMI", "UAC command", 1)

DELAY(200)
```



3. Addresses

The object addresses used in this demo project are listed below, the addresses and object ID can be modified based on actual usage.

Object	Address	Object ID	Description
Window 10			
ASCII Input	UAC user name	AE_0	Enter account name
	UAC password	AE_1	Enter password
Set Word	UAC command	SW_0	Enter constant 1 to login using account name
ASCII Display	LW-250	AD_0	Display UAC result
Window 11			
Option List	UAC user name	OL_0	Select an account to login
ASCII Input	UAC password	AE_0	Enter user password
Set Word	UAC command	SW_0	Enter constant 2 to login using account name
ASCII Display	LW-250	AD_0	Display characters.
Window 12			
Recipe View	Recipes-work	RV_0	Display recipe data
ASCII Display	Barcode-1	AD_1	Display barcode
Numeric Input	Recipe-hour	NE_0	Recipe item-hour
	Recipe-min	NE_1	Recipe item-minute
	Recipe-sec	NE_2	Recipe item-second
ASCII Input	Recipe-user	AE_0	Recipe item-user
	Recipe-barcode	AE_1	Recipe item-barcode
Set Word	Recipe-Command	SW_0	To Add, enter constant 1
	Recipe-Command	SW_2	To Update, enter constant 2
	Recipe-Command	SW_3	To Delete, enter constant 3
ASCII Input	LW-950	AE_2	Enter a name to search

Function Key		FK_1	Execute Macro-SearchName
ASCII Display	current user name	AD_0	Display current user name
Window 13			
ASCII Display	Barcode-1	AD_0	Display RFID
Set Word	LW-700	SW_0	Switch to base window
Set Bit	LB-100	SB_0	Execute Marco-RFIDLogin
Window 14			
Recipe View	Recipes-account	RV_0	Display recipe data
ASCII Input	Barcode	AE_0	RFID
	UAC user name	AE_1	Enter user name
	UAC password	AE_2	Enter user password
Set Word	Recipe-Command	SW_0	Add new recipe
	Recipe-Command	SW_1	Update recipe
	Recipe-Command	SW_2	Delete recipe
Set Bit		SB_0	Execute Macro-addNewAccount

4. References

1. For reference to Recipe View Object please refer to EasyBuilder User Manual Chapter 13.33 -> [Chapter 13 Objects](#)
2. For reference to Macro Usage please refer to EasyBuilder User Manual -> [Chapter 18 Macro Reference](#)
3. For reference to Barcode Device Settings please refer to EasyBuilder User Manual Chapter 20.1 -> [Chapter 20 How to Connect a Barcode Device](#)
4. For reference to Recipe Data Transmission please refer to EasyBuilder User Manual -> [Chapter 17 Transferring Recipe Data](#)
5. Demo Project of Recipe Transferring using Data Transfer Object -> [Recipe Transferring](#)
6. Demo Project of operating Recipe using Macro -> [Macro Recipe](#)