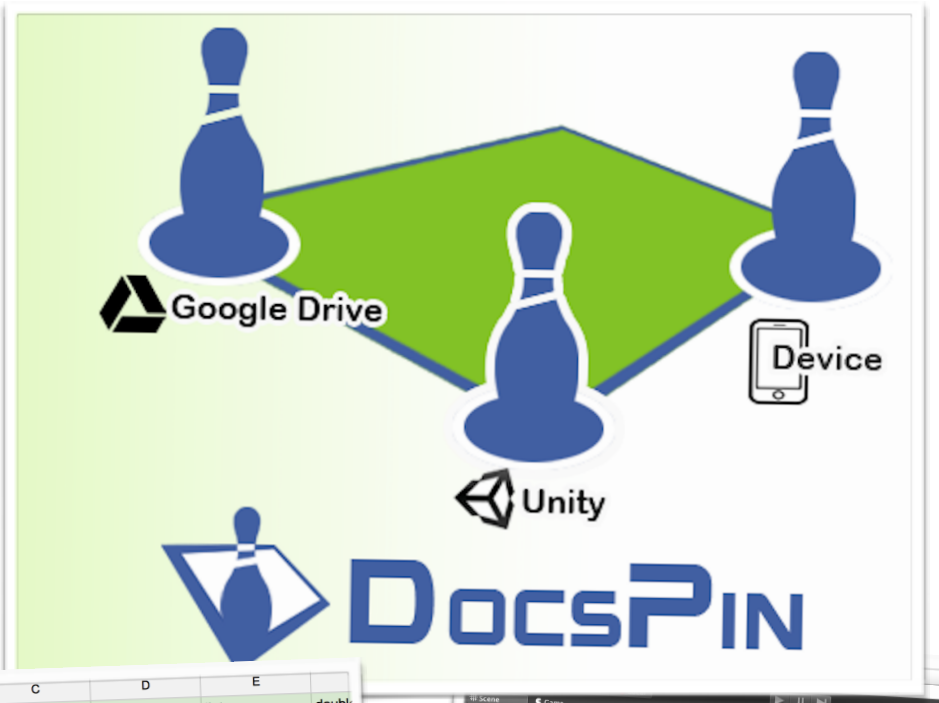
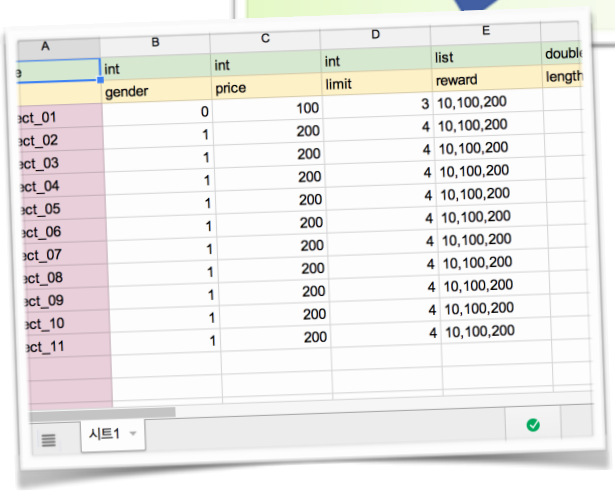
DocsPin

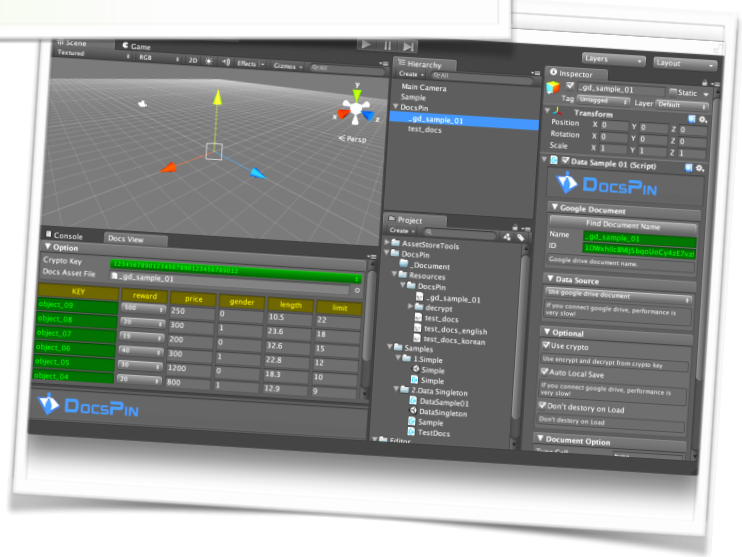
Unity Localize Script Service





	A	B	C	D	E
		int	int	int	list
		gender	price	limit	reward
ct_01		0	100	3	10,100,200
ct_02		1	200	4	10,100,200
ct_03		1	200	4	10,100,200
ct_04		1	200	4	10,100,200
ct_05		1	200	4	10,100,200
ct_06		1	200	4	10,100,200
ct_07		1	200	4	10,100,200
ct_08		1	200	4	10,100,200
ct_09		1	200	4	10,100,200
ct_10		1	200	4	10,100,200
ct_11		1	200	4	10,100,200

시트1



DocsPin

Unity Localize Script Service

Introduction

Data for text and balancing is used within an application or game. DocsPin is designed to easily apply these text and balancing data in Unity. Text and balancing data is created in Google Drive spreadsheet and it can be easily used in Unity with some simple settings. Efficient development process can be achieved by separating text and balancing data from other development.

Many will consider the following questions when developing an application or game.

- **How can we reduce hard coding? (text and balancing data)**
- **How can we easily apply multiple languages?**
- **How can we increase efficiency between engineers and designers?**

DocsPin is a solution to solve all of the issues above. DocsPin will increase resource efficiency.

Preparation

DocsPin uses Google Drive spreadsheet. Google Drive is used as an online document editing tool. It is especially used when there are multiple members participating in a project and also for storing and managing text and balancing data. The following steps are required prior to using DocsPin.

- Google account (existing accounts can be used)
- Google Drive manual (reference: https://www.google.co.kr/intl/en/drive/index.html)
- Google Drive spreadsheet (similar to MS Excel)

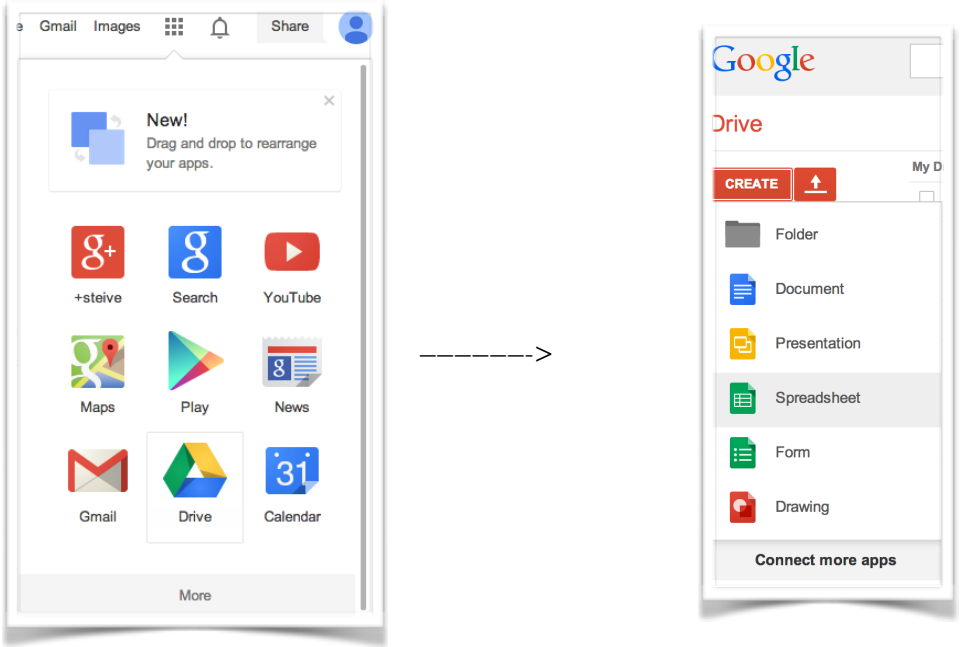
Functions of DocsPin

Following are the features of DocsPin.

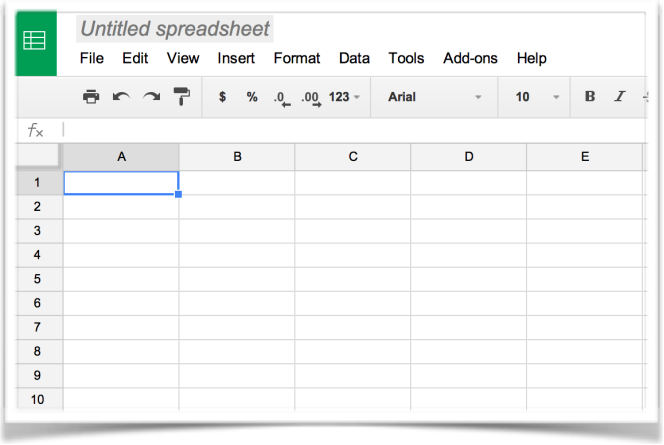
- Retrieve data from Google Drive
- Save and load in local file all of Google Drive data
- Protect and encode data
- Manage multi-language text data
- Support setting value from inspector UI (Unity GUI Text, NGUI Label)
- Support C# data type (sbyte, byte, short, ushort, int, uint, long, ulong, float, double, decimal, string, bool)
- Support Detect data type from memory hacking tool(m-sbyte, m-byte, m-short, m-ushort, m-int, m-uint, m-long, m-ulong, m-float, m-double, m-decimal, m-string, m-bool, m-list)

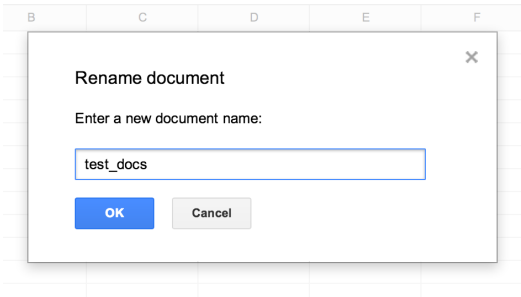
Google Drive

1. Create Google account or login.
2. Create Spreadsheet in Google Drive.

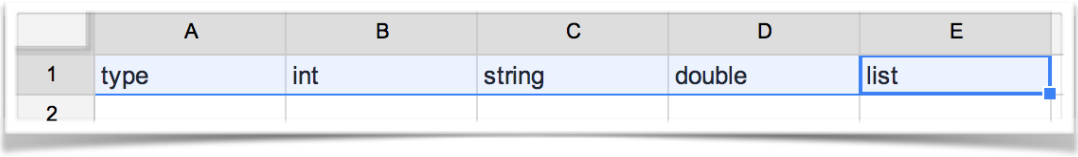


3. Create document name.





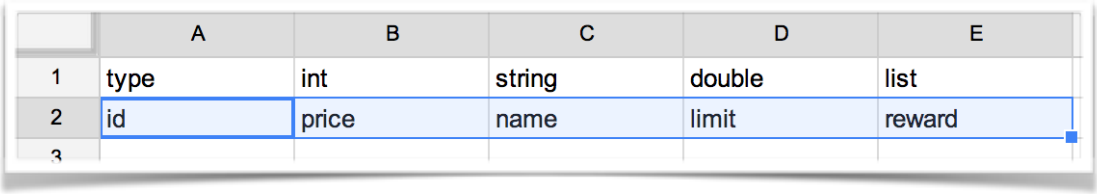
4.Create “type”.



	A	B	C	D	E
1	type	int	string	double	list
2					

- First row is used to set “type”. It is data type used in the program.
- DocsPin supports c# data types. **(v2.3.0)**
  - sbyte, byte, short, ushort, int, uint, long, ulong, float, double, decimal, string, bool
  - list : ArrayList data format in Unity must be inputted as “,” unit.
- **DocsPin supports detect data types.(v.2.4.0)**
  - m-sbyte, m-byte, m-short, m-ushort, m-int, m-uint, m-long, m-ulong, m-float, m-double, m-decimal, m-string, m-bool
  - m-list

5. Set Column name.

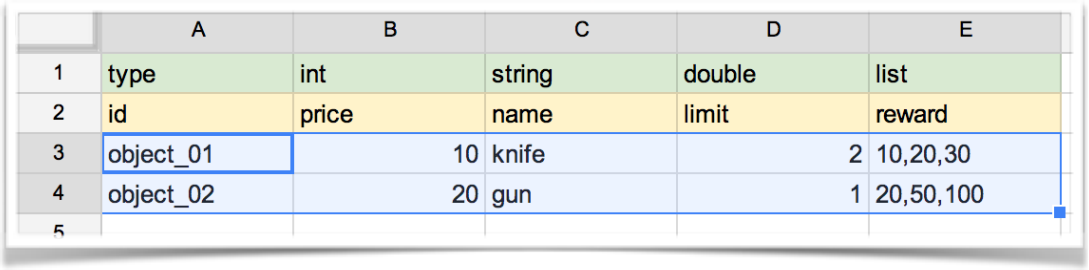


	A	B	C	D	E
1	type	int	string	double	list
2	id	price	name	limit	reward
3					

- Second row is used to set name of column.

- Column name is used to retrieve data from program.
- Duplicate column names in one spreadsheet is not allowed.

6. Input data.



	A	B	C	D	E
1	type	int	string	double	list
2	id	price	name	limit	reward
3	object_01	10	knife	2	10,20,30
4	object_02	20	gun	1	20,50,100
5					

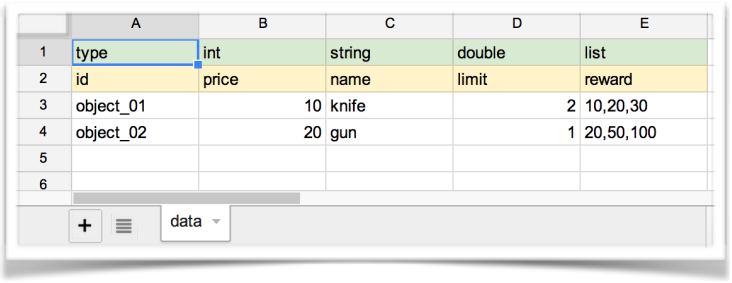
- Data must be inputted as defined in type.
- Duplicate IDs are not accepted. They must be unique. (i.e. object_01, object_02, etc)

- ID and column names are used to retrieve data from program.

7. Multi-language Service (only if required)

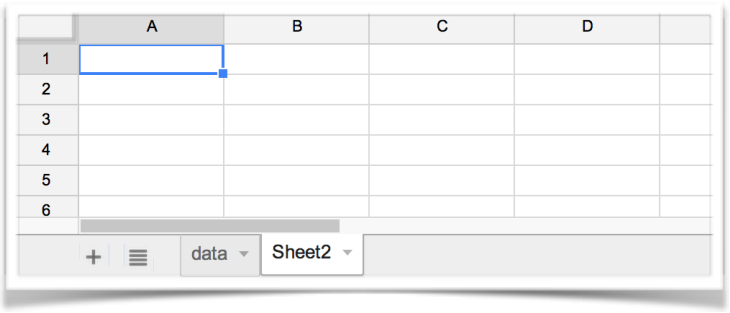
Below steps are required if data management is required in multiple languages.

- Create new sheet.



	A	B	C	D	E
1	type	int	string	double	list
2	id	price	name	limit	reward
3	object_01	10	knife	2	10,20,30
4	object_02	20	gun	1	20,50,100
5					
6					

+ data

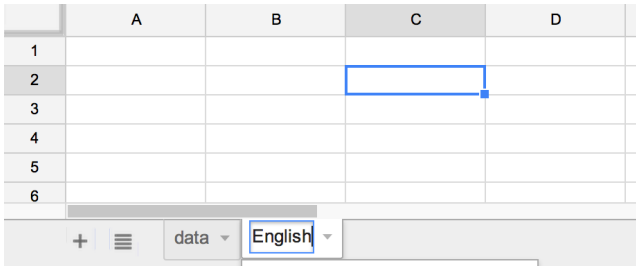


	A	B	C	D
1				
2				
3				
4				
5				
6				

+ data Sheet2

* Select “+” to create.

- Change name of sheet.



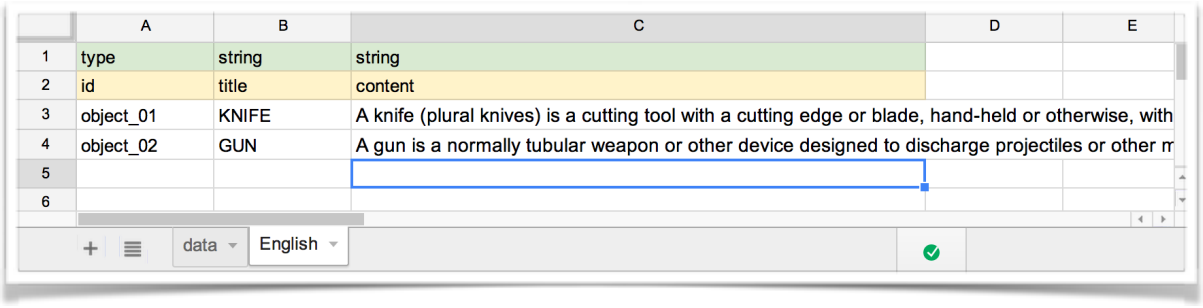
* Use language name by Unity

* **Application**.systemLanguage

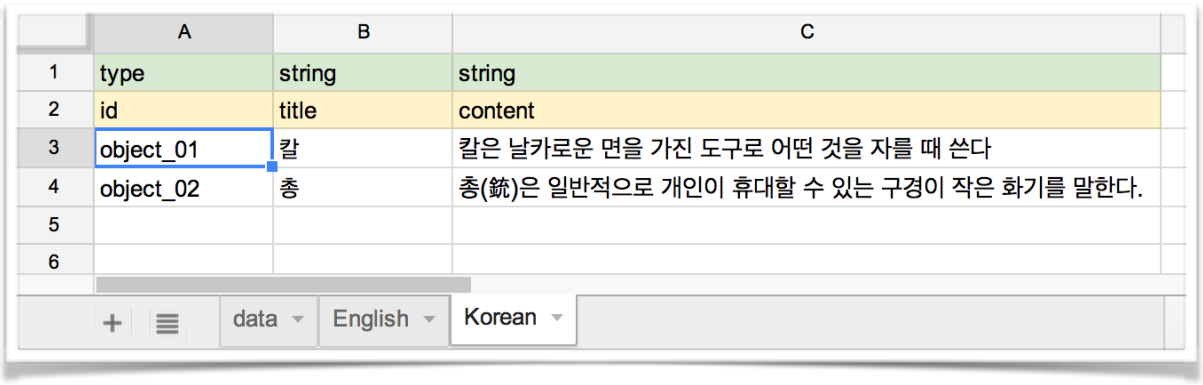
* Reference : http://docs.unity3d.com/ScriptReference/SystemLanguage.html

* English, Chinese, Korean, German, Japanese etc

- Input data as described in steps 4-6.

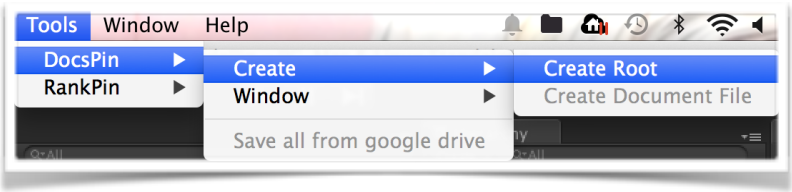


- Repeat steps to create new sheet for additional languages.



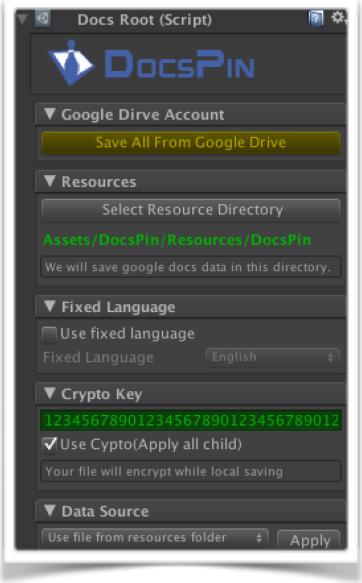
Unity

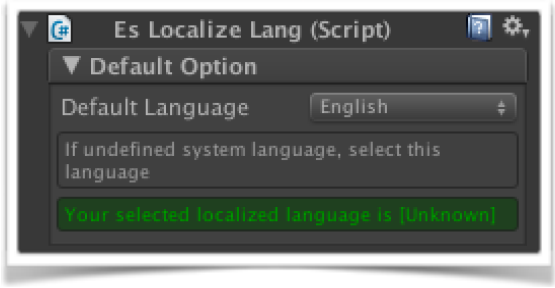
1. Select Create Root option from DocsPin's menu.



- GameObject for DocsPin and file is created when Create Root is selected.

2. Select DocsPin GameObject from Hierarchy.





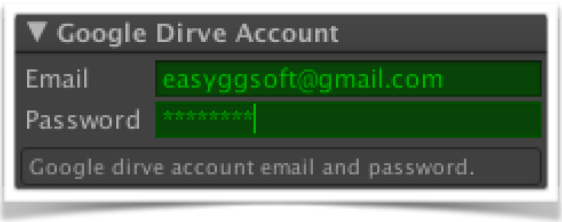
- DocsPin Root has two Script.

- Localise Lang Script is the Script used to set default language. Device language setting is used for DocsPin's default language. If device language is set to Korean, default will be Korean but this is an option used if Korean is not supported by Google Drive. Default language set above must be provided in Google Drive.

- Docs Root Script is the setting for Google account information setting and Google Drive spreadsheet data management.

- ***[v2.1.0]*** Add Fixed Language option

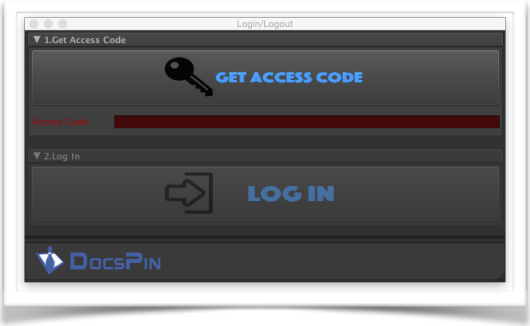
3. ~~Input Google Drive account in inspector window.~~



- ~~Input email and password of Google account.~~

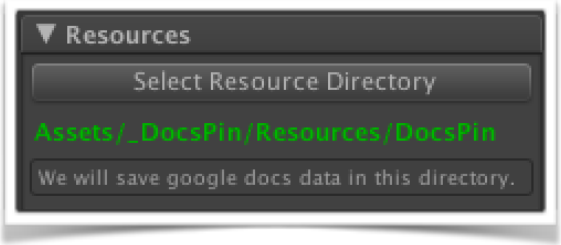
- ~~Retrieve spreadsheet from account.~~

4. oAuth Login(Change)



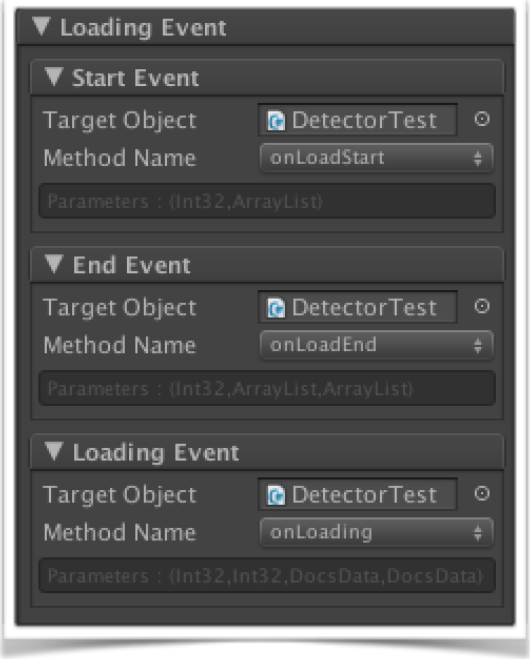
- Click Get Access Code Button.
- Copy & paste Access Code.
- Click Login Button.

5. Set resources folder.



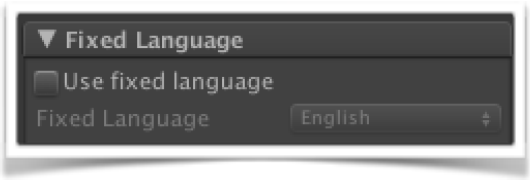
- Set resources folder in Unity.
- DocsPin saves Google Drive data in local and uses the saved data in program.
- Google Drive data can be retrieved without being saved, but this method (saving data in Resources folder) is recommended to reduce time.
- Resources folder must be set as it is used when exporting data files in iOS and Android.

6. [Loading Event. (v2.4.0)]



- Start Event : Before Docspin start loading, send an event. (total file count, all file name)
- End Event : When loading is complete, send an event.(total file count, success files, fail files)
- Loading Event : Current loading status. (total file count, current index, previous loaded file, next will load file)

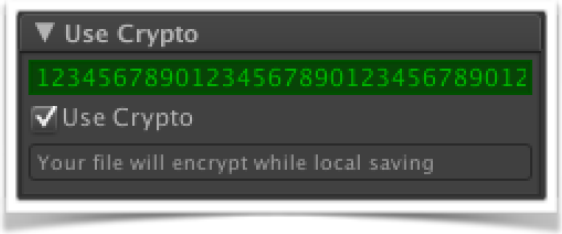
7. [Fixed Language. (v2.1.0)]



- You can load localised data from selected language.

- If this option use, you don't use Application.SystemLanguage.

8. Set encoding key (skip if not required).



- File can be encoded as DocsPin saves files locally.

- To encode, set a 32 byte encoding key.

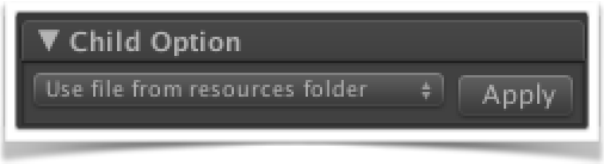
- Skip if not required.

- Use Crypto option is used to apply to all GameObject below. Individual GameObject can be set and this feature allows all below GameObject to be turned On or Off.

- Encoding key is saved in Inspector and it is recommended to be noted in a separate place as it can be lost if an Unity error occurs.

- Program encrypt key : 12345678901234567890123456789012

9. ~~Set other options.~~

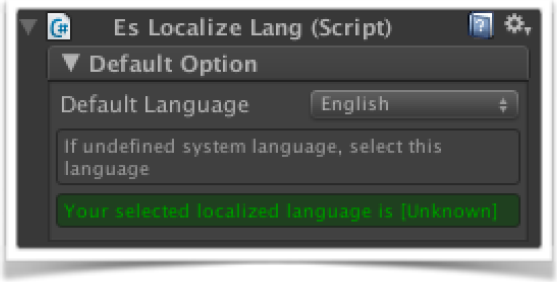


- ~~This option applies to all GameObject below.~~

- ~~Use file from resources folder is a method to use saved local files.~~

- ~~Use Google Drive document is a method to use data by connecting to Google Drive. This method connects to Google Drive everytime and has the advantage of applying adjusted data in realtime but it is slow.~~

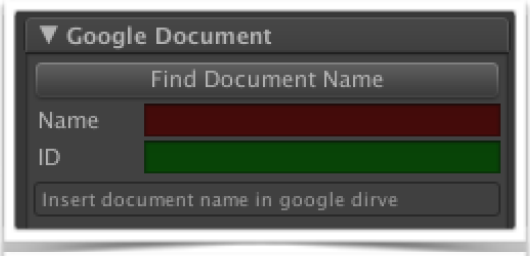
10. Set localize information.



- Set default language.

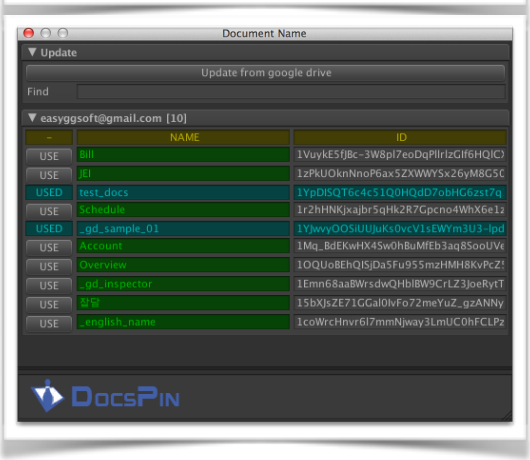
- Setting must be equivalent to name on Google Drive spreadsheet.

11. Select GameObject of DocsPin GameObject.



- Set Document Name and ID.

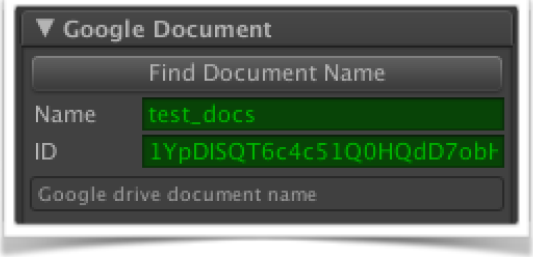
- This menu will appear when Find Document Name is selected.



- Contents of Google Drive spreadsheet will be retrieved when Update from Google Drive is selected.

- Select USE to choose spreadsheet.

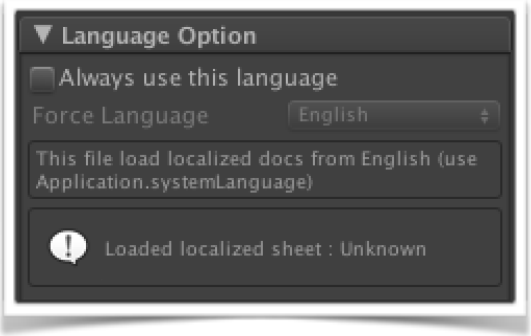
- Name and ID will be set when selected.



- GameObject can be found in program with Name and ID.

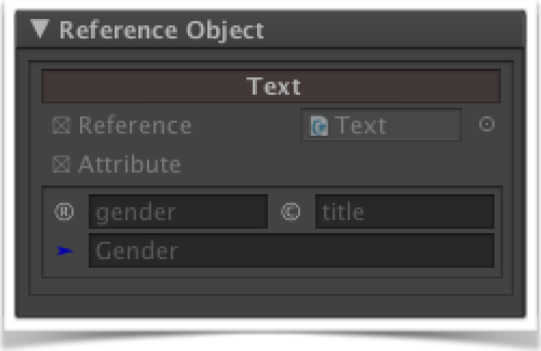
- **DocsPin.DocsRoot.findData("test_docs");**

12. [Language option.(v2.1.0)]



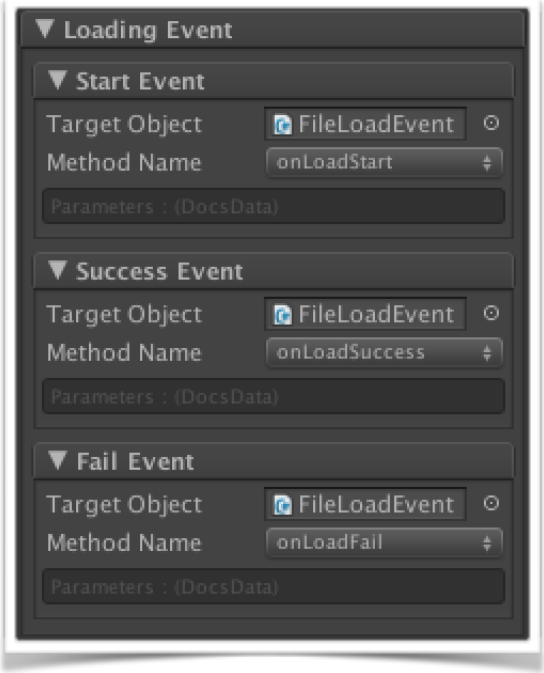
- If this option turn on, Always load localised file from selected language.

13. [Reference Object.(v2.4.0)]



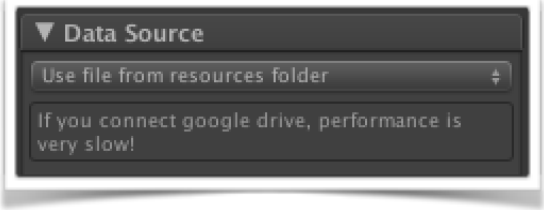
- Reference objects. (uGUIText, NGUIText)

14. [File Loading Event.(v2.4.0)]



- Start Event : Before file start loading, send an event.
- Success Event : Success loading event.
- Fail Event : Fail loading event.

15. Set other options.

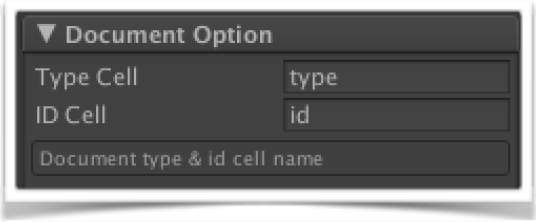


- Select wether to use individual GameObject from local file or to retrieve real-time data from Google Drive.

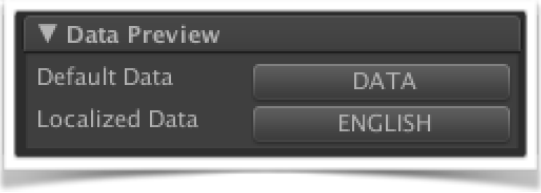
- Use Crypto: Option to set password.

- Auto Local Save: Automatically save retrieved data from Google Drive.

- Don't destroy on load: Use Object without deleting when switching Scene.



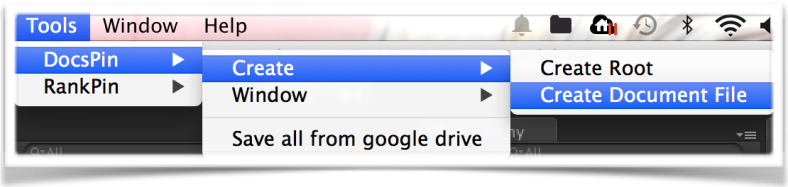
- Used when ID of spreadsheet and name of Type's cell is changed.



- Can only be checked when run on Unity.

- Check current data in use.

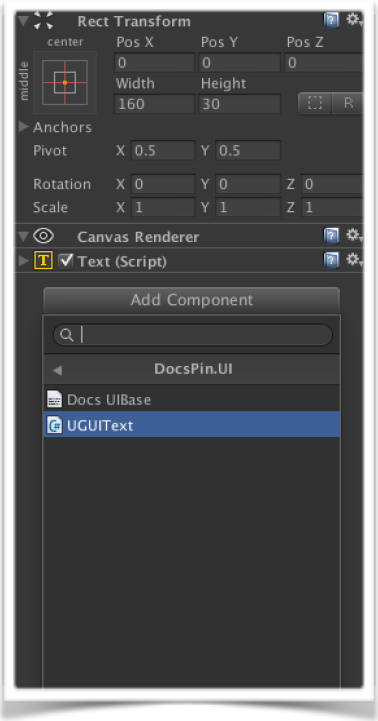
16. Select Create File from top menu when adding files from other spreadsheet.



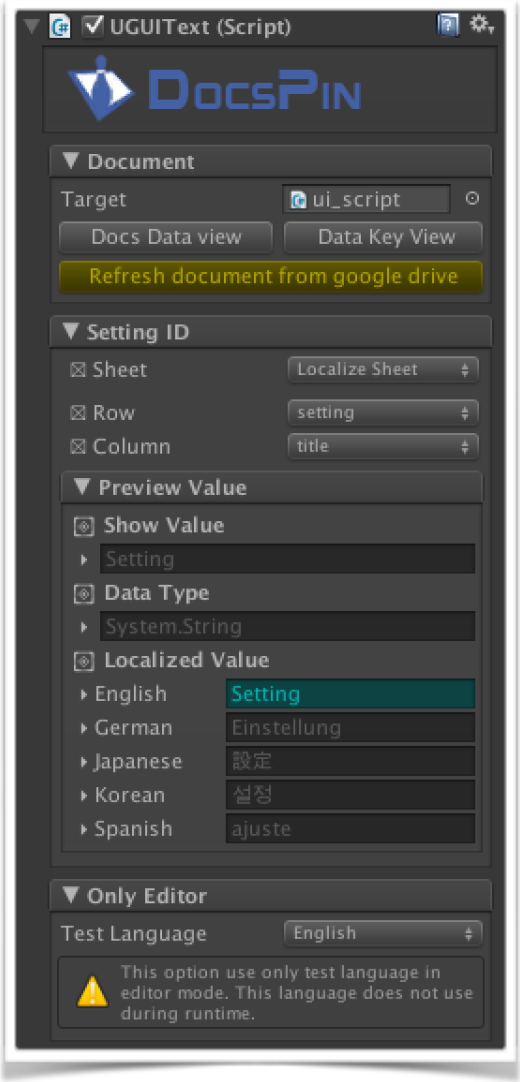
- Use many different spreadsheet data.

Unity GUI Text (v2.2.0)

1. Make Unity GUI Text GameObject.
2. Add DocsPin.UI.uGUIText component.



3. Setting Document Text



- Target : Document file object.

- Docs Data View : Open docs data view.

- Data Key View : Open docs key view.

- Refresh document from google drive : Document save and refresh text data from google drive

- Sheet : Data Sheet / Localize Sheet

- Row : Row ID

- Column : Column ID

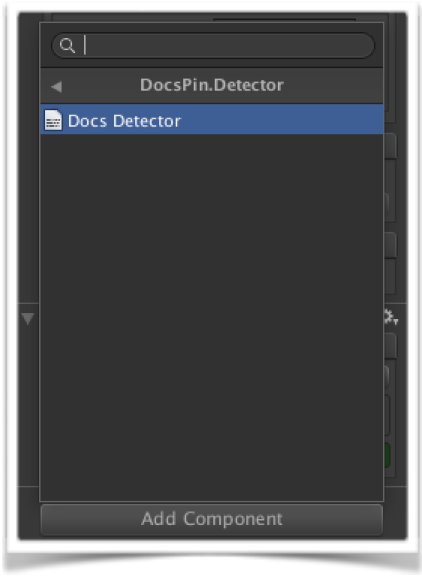
- Test Language : This option only use test language in editor mode. This language does not during runtime.

Unity NGUI Label (v2.0.0)

1. Add NGUI Label Text
2. Delete comment in DocsPin/Scripts/UI/NGUIText.cs
3. Add DocsPin.UI.NGUIText

Memory Detect Type (v2.4.0)

1. Add component DocsPin.Detector.DocsDetector in DocsPin



2. Setting DocsDetector option.

- Detect Level : Set Detect Level

- Hacking Event : hacking event from memory hacking tool.(Cheat Engine, Game CIH, etc)

3. Detect Level

- Level_0 : This level can't restore data from memory hacking. You can't receive event from memory hacking action

- Level_1 : This level can't restore data from memory hacking. You can receive event from memory hacking action.

- Level_2 : This level can restore data from memory hacking. You can receive event from memory hacking action.

* **However , this detect type will not be able to protect 100% from hacking tool.**

Samples

1. Simple

Example of retrieving data with spreadsheet name

TestDocs

```
DocsPin.DocsData data = DocsPin.DocsRoot.findData("test_docs");
if(data != null)
{
	int price = data.get<int>("object_01", "price");
	int limit = data.get<int>("object_01", "limit");
	string name = data.get<string>("object_01", "name");
	string title = data.get<string>("object_01", "title");
	string content = data.get<string>("object_01", "content");
	Debug.Log(string.Format("Price:{0}, Limit:{1}, Name:{2}, Title:{3}, Content:{4}",
				price, limit, name, title, content));
}
```

_gd_sampe_01

```
DocsPin.DocsData data = DocsPin.DocsRoot.findData("_gd_sample_01");
if(data != null)
{
	int gender = data.get<int>("object_01", "gender");
	int price = data.get<int>("object_01", "price");
	int limit = data.get<int>("object_01", "limit");
	ArrayList reward = data.get<ArrayList>("object_01", "reward");
	double length = data.get<int>("object_01", "length");
	string rewardString = "";
	foreach(object r in reward)
	{
		rewardString += string.Format("{0} ", r);
	}
	Debug.Log(string.Format("Gender:{0},Price:{1},Limit:{2},Reward:[{3}],Length:{4}",
				gender, price, limit, rewardString, length));
}
```

2. Data Singleton

Example of using GameObject into Singleton in selected spreadsheet

TestDocs

```
int price = TestDocs.price("price");
int limit = TestDocs.limit("limit");
string name = TestDocs.names("name");
string title = TestDocs.title("title");
string content = TestDocs.content("content");
Debug.Log(string.Format("Price:{0}, Limit:{1}, Name:{2}, Title:{3}, Content:{4}",
                        price, limit, name, title, content));
```

_gd_sampe_01

```
int gender = DataSample01.gender("object_01");
int price = DataSample01.price("object_01");
int limit = DataSample01.limit("object_01");
ArrayList reward = DataSample01.reward("object_01");
double length = DataSample01.length("object_01");
string rewardString = "";
foreach(object r in reward)
{
      rewardString += string.Format("{0} ", r);
}
Debug.Log(string.Format("Gender:{0},Price:{1},Limit:{2},Reward:[{3}],Length:{4}",
                        gender, price, limit, rewardString, length));
```

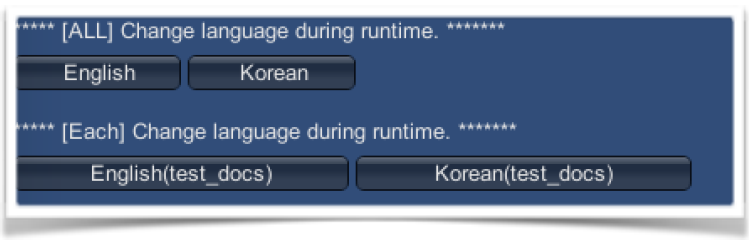
3. Change Language during Runtime.(v2.1.0)

All change language.

```
DocsPin.DocsRoot.reloadAll(SystemLanguage.Korean);
```

Each change language.

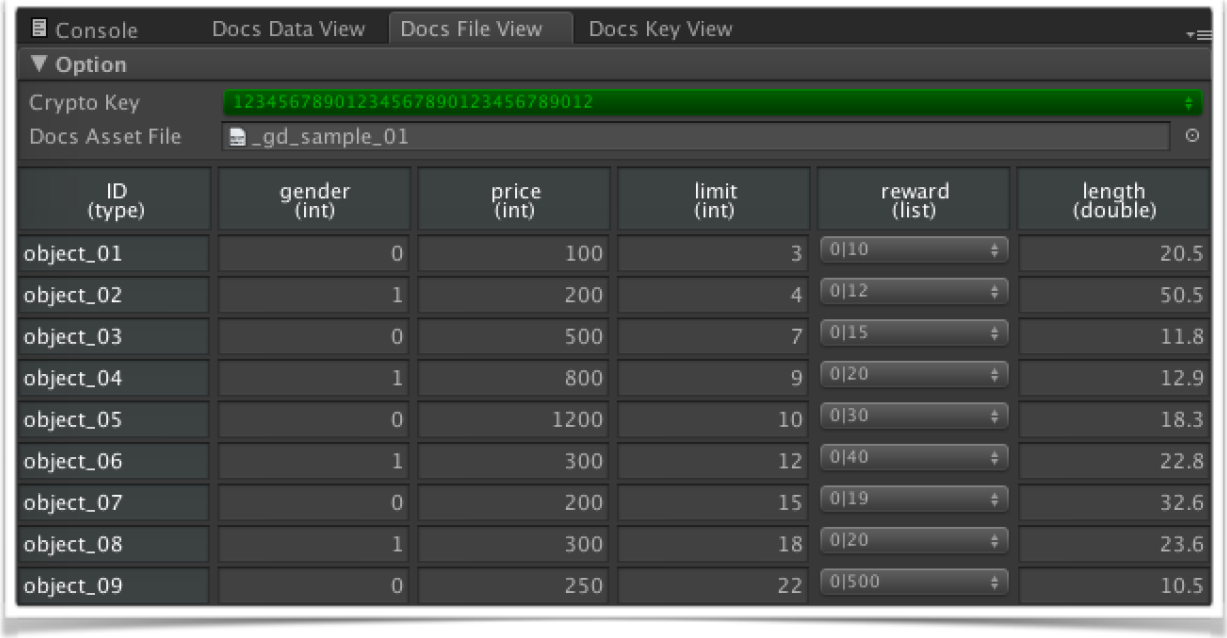
```
// By docs name.
DocsPin.DocsRoot.reloadData(SystemLanguage.Korean, "test_docs");
// By docs ID.
DocsPin.DocsRoot.reloadDataById(SystemLanguage.Korean,"1-T6HKz-GiHfv6lCcGvOnvCshPD0CVkHNRylQUAedJio");
```



Other Window

1. Docs File View Window

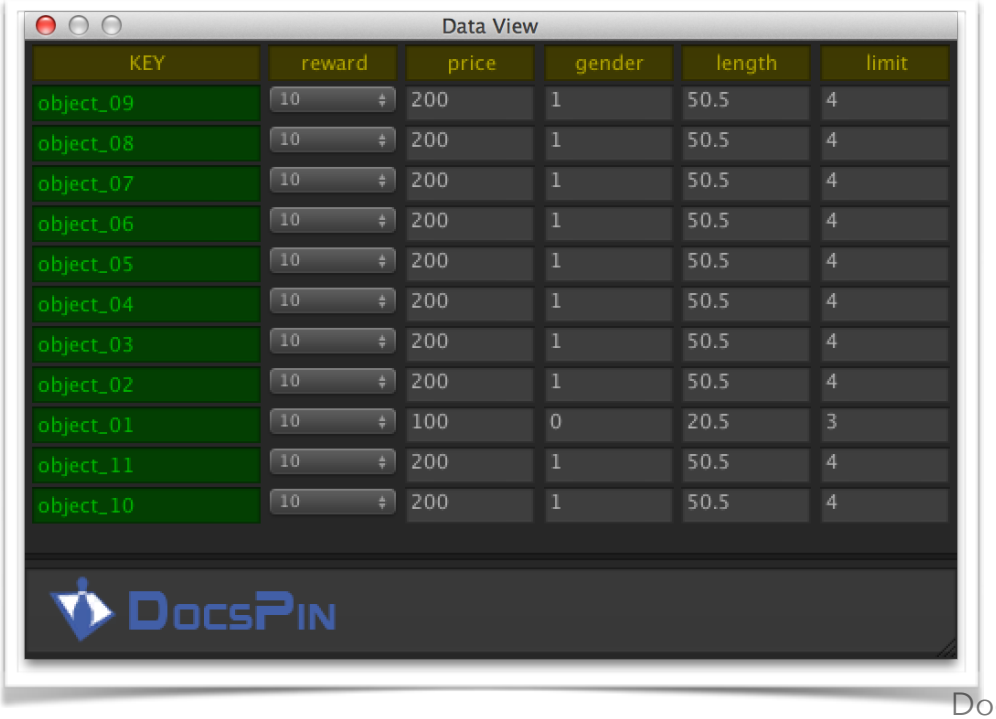
Window displaying locally saved spreadsheet files.



ID (type)	gender (int)	price (int)	limit (int)	reward (list)	length (double)
object_01	0	100	3	0|10	20.5
object_02	1	200	4	0|12	50.5
object_03	0	500	7	0|15	11.8
object_04	1	800	9	0|20	12.9
object_05	0	1200	10	0|30	18.3
object_06	1	300	12	0|40	22.8
object_07	0	200	15	0|19	32.6
object_08	1	300	18	0|20	23.6
object_09	0	250	22	0|500	10.5

2. Docs Data View Window

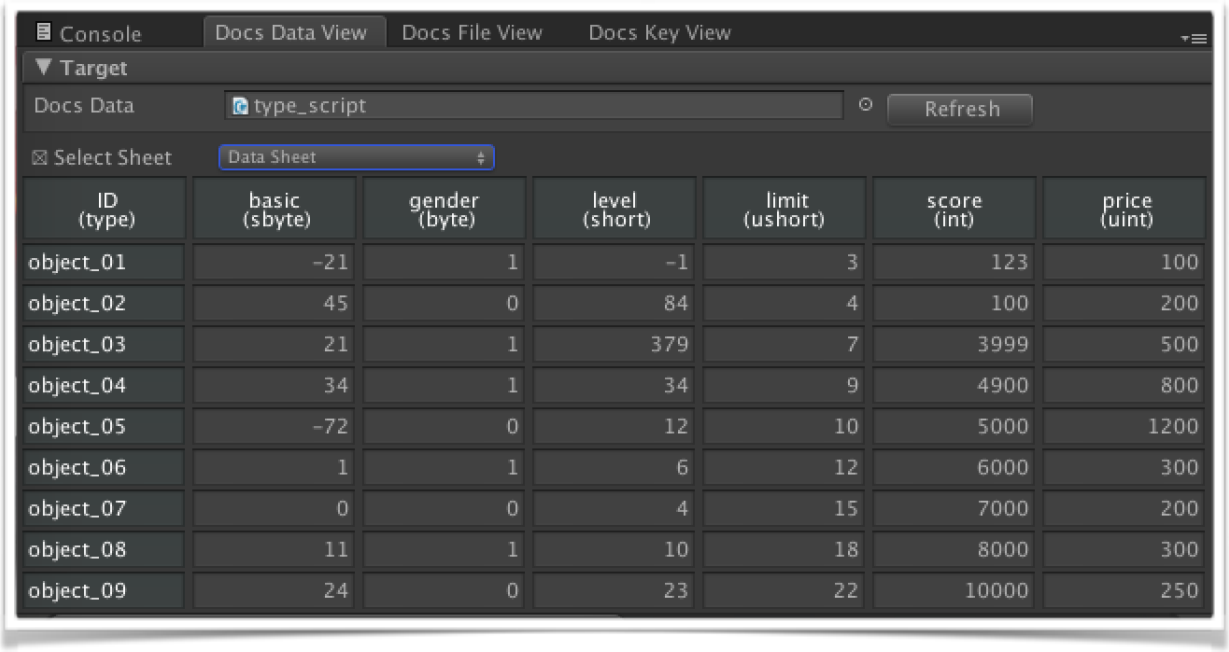
Window displaying currently used spreadsheet when Unity is in operation.



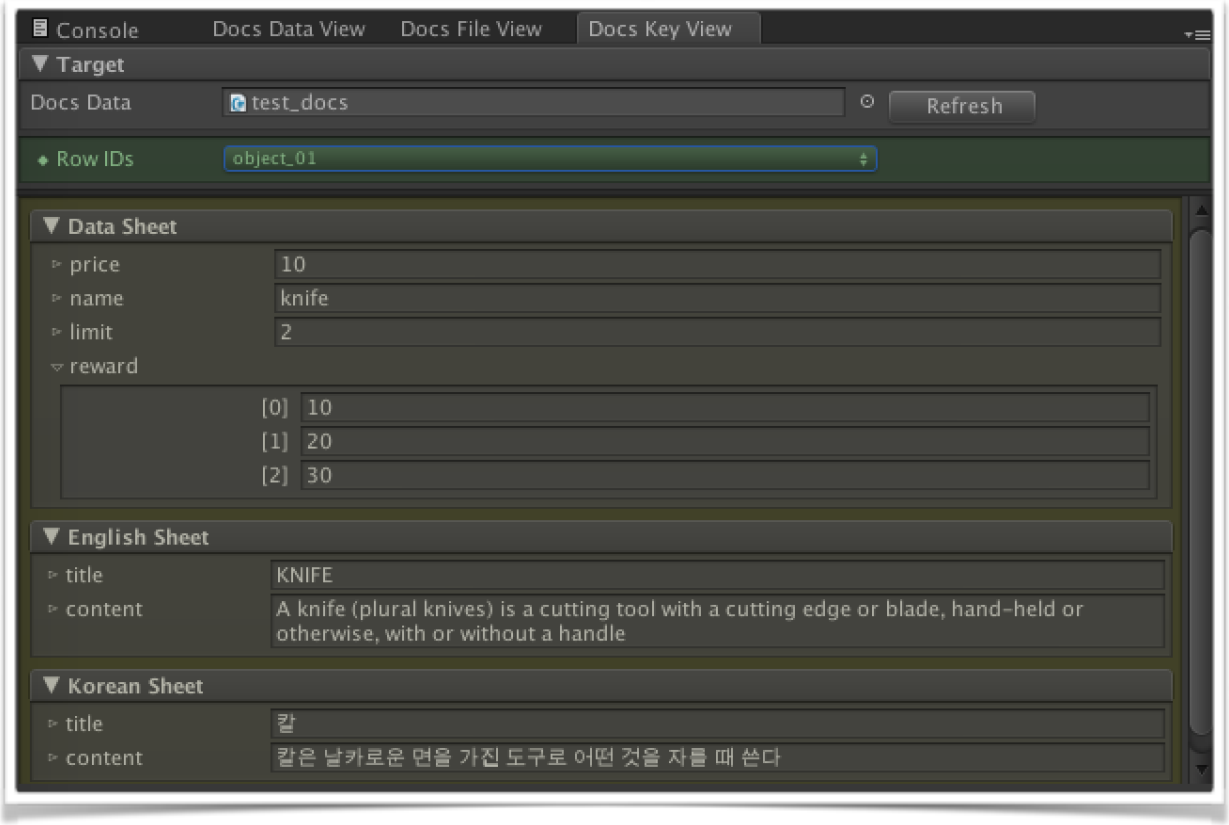
KEY	reward	price	gender	length	limit
object_09	10	200	1	50.5	4
object_08	10	200	1	50.5	4
object_07	10	200	1	50.5	4
object_06	10	200	1	50.5	4
object_05	10	200	1	50.5	4
object_04	10	200	1	50.5	4
object_03	10	200	1	50.5	4
object_02	10	200	1	50.5	4
object_01	10	100	0	20.5	3
object_11	10	200	1	50.5	4
object_10	10	200	1	50.5	4

3. Docs Data View Window (v2.2.0)

You can show docs data. (uGUIText, NGUIText)

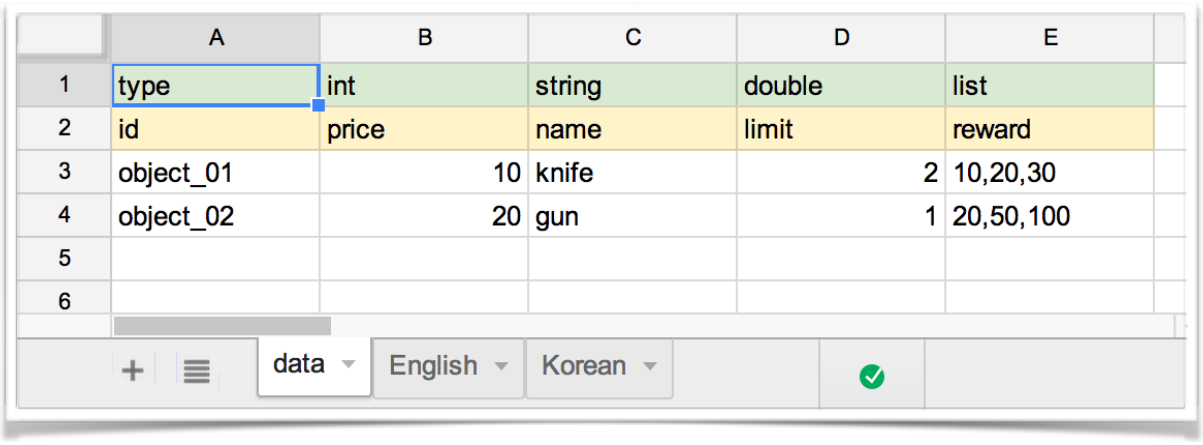


4. **Docs Key View Window (v2.4.0)**



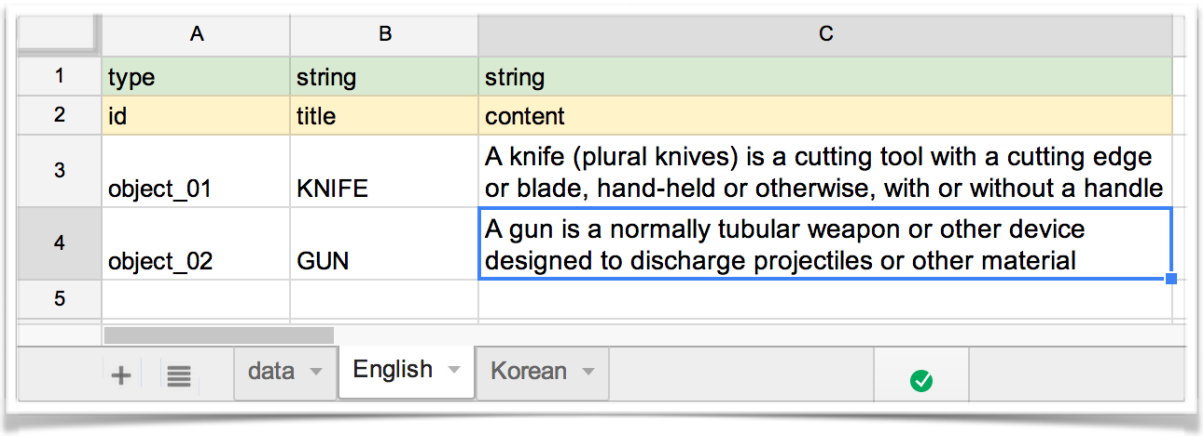
Sample of Google Drive spreadsheet

1. Test Docs



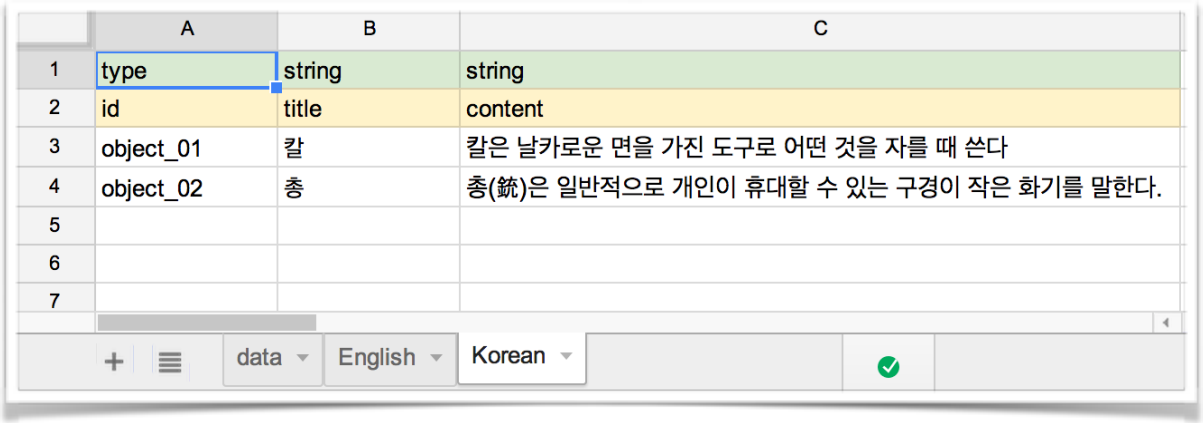
	A	B	C	D	E
1	type	int	string	double	list
2	id	price	name	limit	reward
3	object_01	10	knife	2	10,20,30
4	object_02	20	gun	1	20,50,100
5					
6					

data | English | Korean



	A	B	C
1	type	string	string
2	id	title	content
3	object_01	KNIFE	A knife (plural knives) is a cutting tool with a cutting edge or blade, hand-held or otherwise, with or without a handle
4	object_02	GUN	A gun is a normally tubular weapon or other device designed to discharge projectiles or other material
5			

data | English | Korean



	A	B	C
1	type	string	string
2	id	title	content
3	object_01	칼	칼은 날카로운 면을 가진 도구로 어떤 것을 자를 때 쓴다
4	object_02	총	총(銃)은 일반적으로 개인이 휴대할 수 있는 구경이 작은 화기를 말한다.
5			
6			
7			

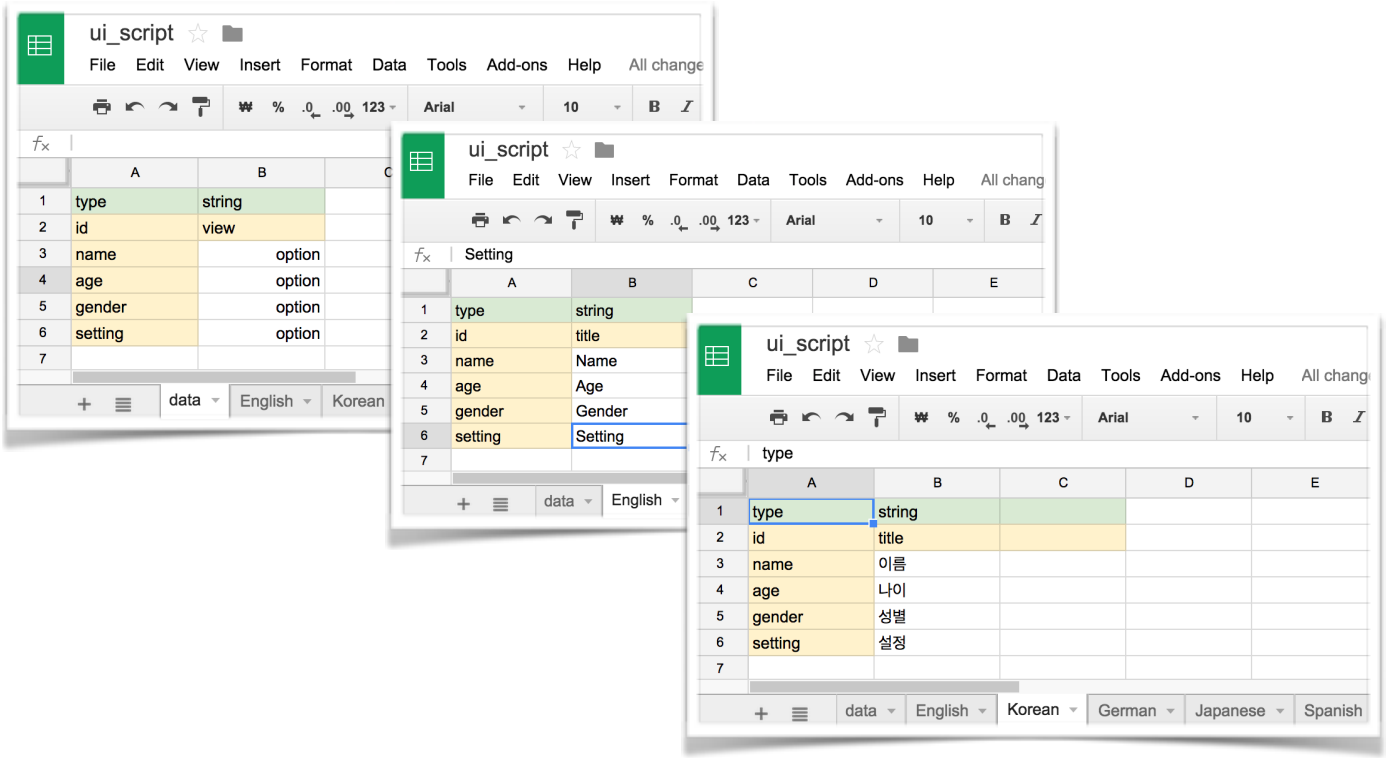
data | English | Korean

2. _gd_sample_01

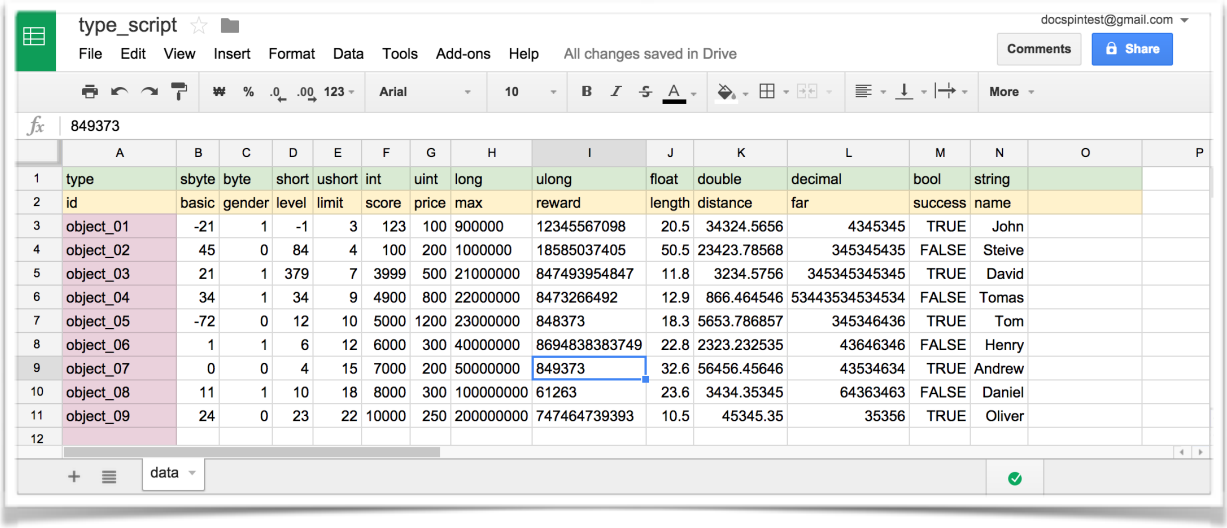
	A	B	C	D	E	F
1	type	int	int	int	list	double
2	id	gender	price	limit	reward	length
3	object_01	0	100	3	10,100,200	20.5
4	object_02	1	200	4	10,100,200	50.5
5	object_03	1	200	4	10,100,200	50.5
6	object_04	1	200	4	10,100,200	50.5
7	object_05	1	200	4	10,100,200	50.5
8	object_06	1	200	4	10,100,200	50.5
9	object_07	1	200	4	10,100,200	50.5
10	object_08	1	200	4	10,100,200	50.5
11	object_09	1	200	4	10,100,200	50.5
12	object_10	1	200	4	10,100,200	50.5
13	object_11	1	200	4	10,100,200	50.5
14						
15						

시트1

3. ui_script (v2.2.0)



4. type_script (v2.3.0)



type_script

docspintest@gmail.com

File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive

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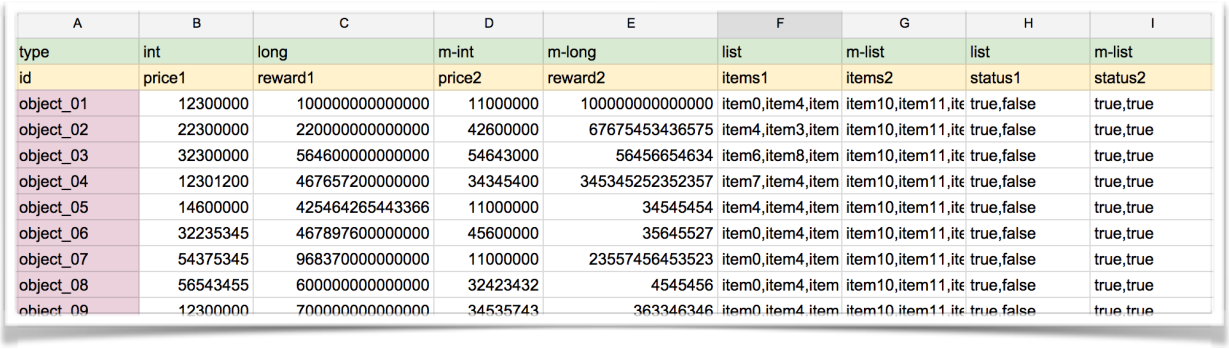
849373

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	type	sbyte	byte	short	ushort	int	uint	long	ulong	float	double	decimal	bool	string		
2	id	basic	gender	level	limit	score	price	max	reward	length	distance	far	success	name		
3	object_01	-21	1	-1	3	123	100	900000	12345567098	20.5	34324.5656	4345345	TRUE	John		
4	object_02	45	0	84	4	100	200	1000000	18585037405	50.5	23423.78568	345345435	FALSE	Steive		
5	object_03	21	1	379	7	3999	500	21000000	847493954847	11.8	3234.5756	345345345345	TRUE	David		
6	object_04	34	1	34	9	4900	800	22000000	8473266492	12.9	866.464546	53443534534534	FALSE	Tomas		
7	object_05	-72	0	12	10	5000	1200	23000000	848373	18.3	5653.786857	345346436	TRUE	Tom		
8	object_06	1	1	6	12	6000	300	40000000	8694838383749	22.8	2323.232535	43646346	FALSE	Henry		
9	object_07	0	0	4	15	7000	200	50000000	849373	32.6	56456.45646	43534634	TRUE	Andrew		
10	object_08	11	1	10	18	8000	300	100000000	61263	23.6	3434.35345	64363463	FALSE	Daniel		
11	object_09	24	0	23	22	10000	250	200000000	747464739393	10.5	45345.35	35356	TRUE	Oliver		
12																

data

5. **memory_detector (v2.4.0)**



	A	B	C	D	E	F	G	H	I
1	type	int	long	m-int	m-long	list	m-list	list	m-list
2	id	price1	reward1	price2	reward2	items1	items2	status1	status2
3	object_01	12300000	100000000000000	11000000	100000000000000	item0,item4,item	item10,item11,ite	true,false	true,true
4	object_02	22300000	220000000000000	42600000	67675453436575	item4,item3,item	item10,item11,ite	true,false	true,true
5	object_03	32300000	564600000000000	54643000	56456654634	item6,item8,item	item10,item11,ite	true,false	true,true
6	object_04	12301200	467657200000000	34345400	345345252352357	item7,item4,item	item10,item11,ite	true,false	true,true
7	object_05	14600000	425464265443366	11000000	34545454	item4,item4,item	item10,item11,ite	true,false	true,true
8	object_06	32235345	467897600000000	45600000	35645527	item0,item4,item	item10,item11,ite	true,false	true,true
9	object_07	54375345	968370000000000	11000000	23557456453523	item0,item4,item	item10,item11,ite	true,false	true,true
10	object_08	56543455	600000000000000	32423432	4545456	item0,item4,item	item10,item11,ite	true,false	true,true
11	object_09	12300000	700000000000000	34535743	363346346	item0,item4,item	item10,item11,ite	true,false	true,true