





Putting Together the Pieces

Building Apps with Google Apps Script

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DriveEye

Shared Folder Notifications

Built using Apps Script

<http://goo.gl/90W4e>



DriveEye - Add Folders

DriveEye - Get Folder Alerts

x Awesome Images

x Bone Marrow Registry Event

x Camping on 4th of July

x Playoff Bets

x Scanned Receipts

x Racketball League

More Folders

Enter Folder Name

Enter New Folder to Subscribe Alerts for

Please enter a new folder that you want to track

Create label

Cancel



DriveEye - Add files to subscribed folders

CREATE

My Drive

Shared with me

Starred

Recent

More

My Drive

Playoff Bets

<input type="checkbox"/>	TITLE
<input type="checkbox"/> ☆	2011 Superbowl Bets Shared
<input type="checkbox"/> ☆	2012 Superbowl Bets Chart Shared
<input type="checkbox"/> ☆	2012 NBA Playoff Bets Shared
<input type="checkbox"/> ☆	2012 MLB Bets Shared

DriveEye FolderNotification

Inbox x

saurabh@gluemesh.com

to me

5:45 PM (6 minutes ago)

DriveEye Alert

(You are getting this email because you have installed DriveEye notifications. DriveEye sends you notification whenever there are any changes to your subscribed folders)

Folder Name Changed	Files Added / Removed
Playoff Bets	<div>(Added file) 2011 Superbowl Bets</div> <div>(Added file) 2012 Superbowl Bets Chart</div>

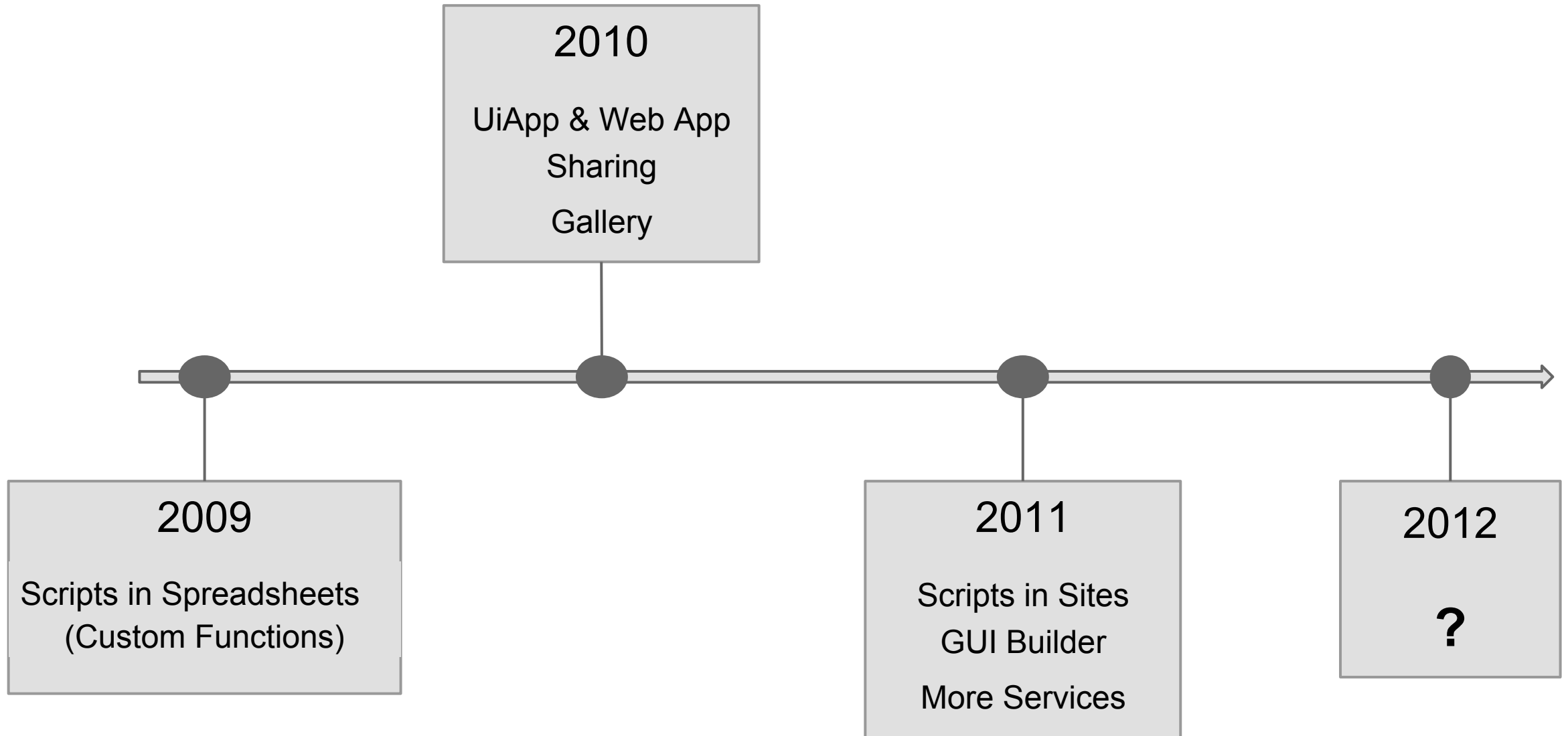
How to Uninstall DriveEye?

You can click the button below to uninstall DriveEye.

Uninstall DriveEye

Click here to Reply or Forward

Apps Script over the years





Introducing

script.google.com



Create scripts in
Google Drive

OR

script.google.com

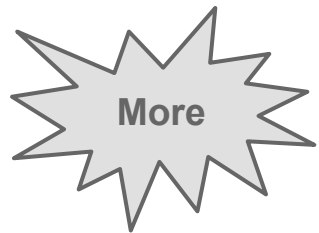


Did anything change?

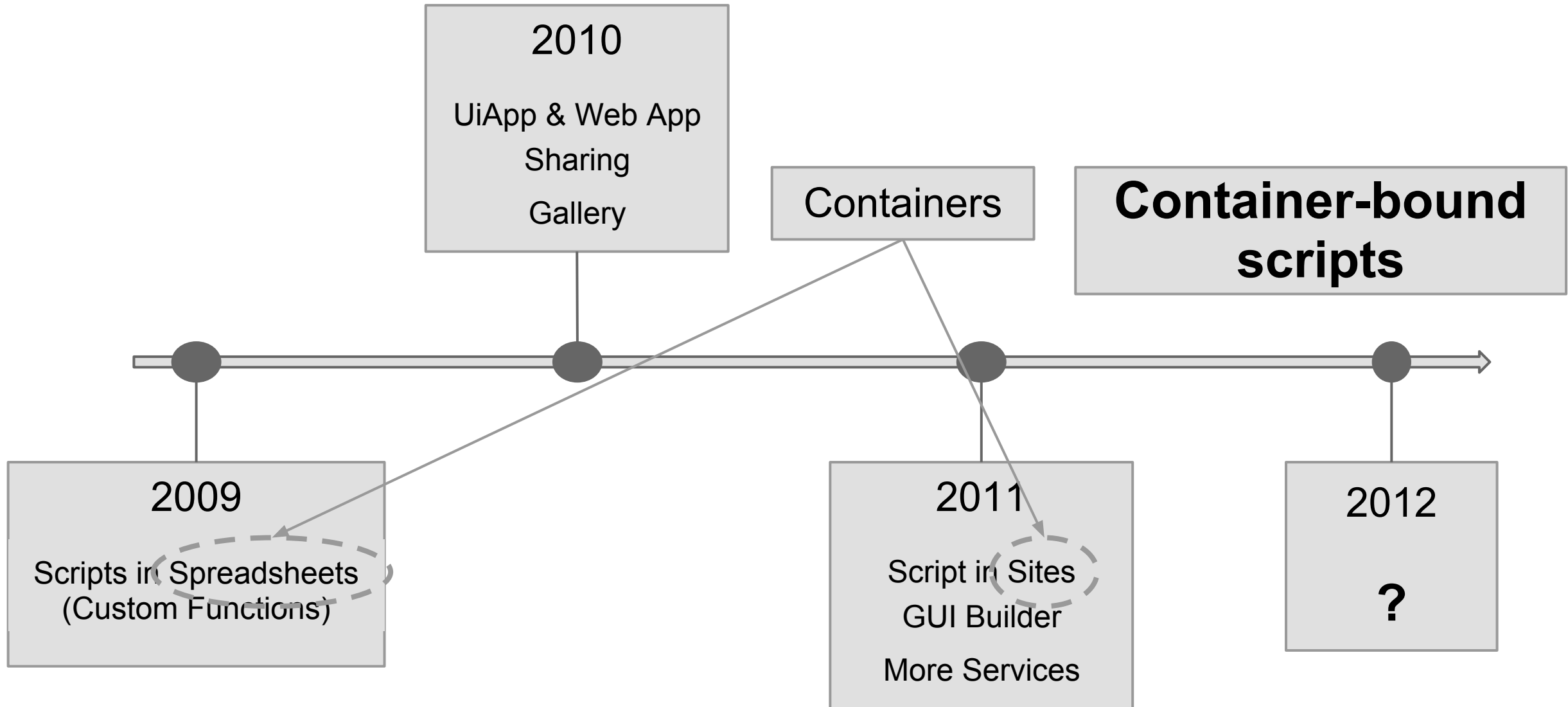
All the features of Apps Script are still available

No changes to Services

No changes to Events and Triggers



Apps Script over the years





Create

New Features of Google Apps Script

1

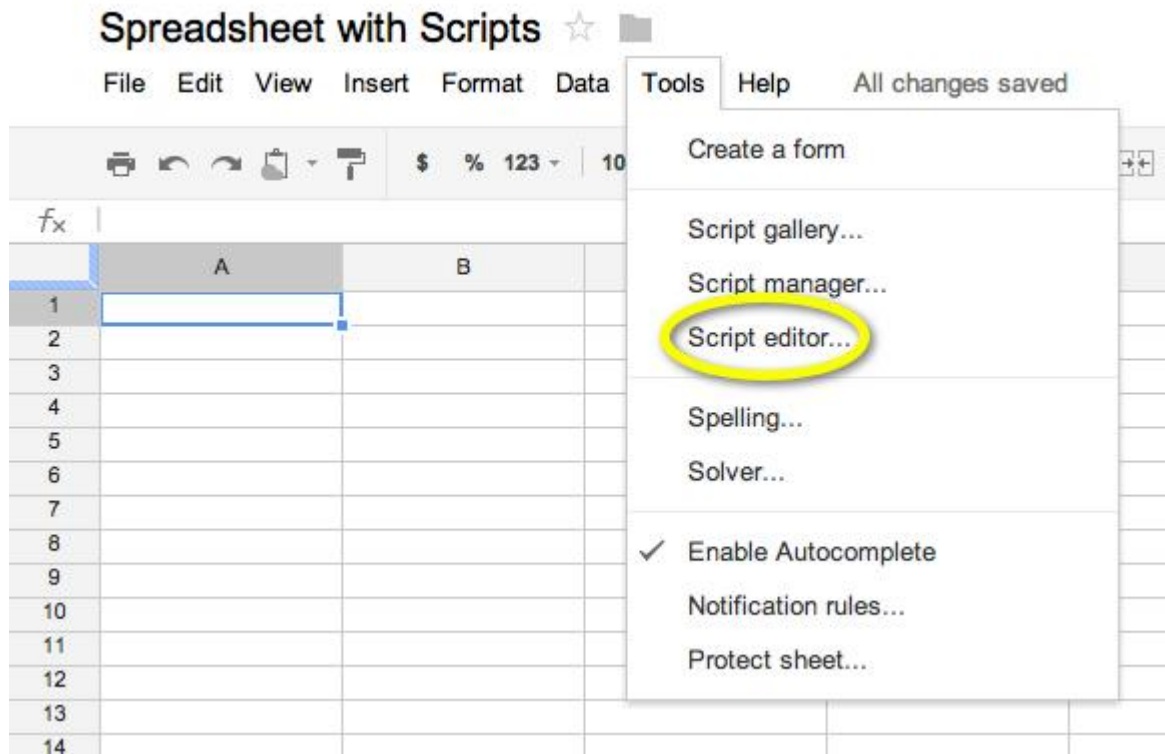
Create Standalone Scripts



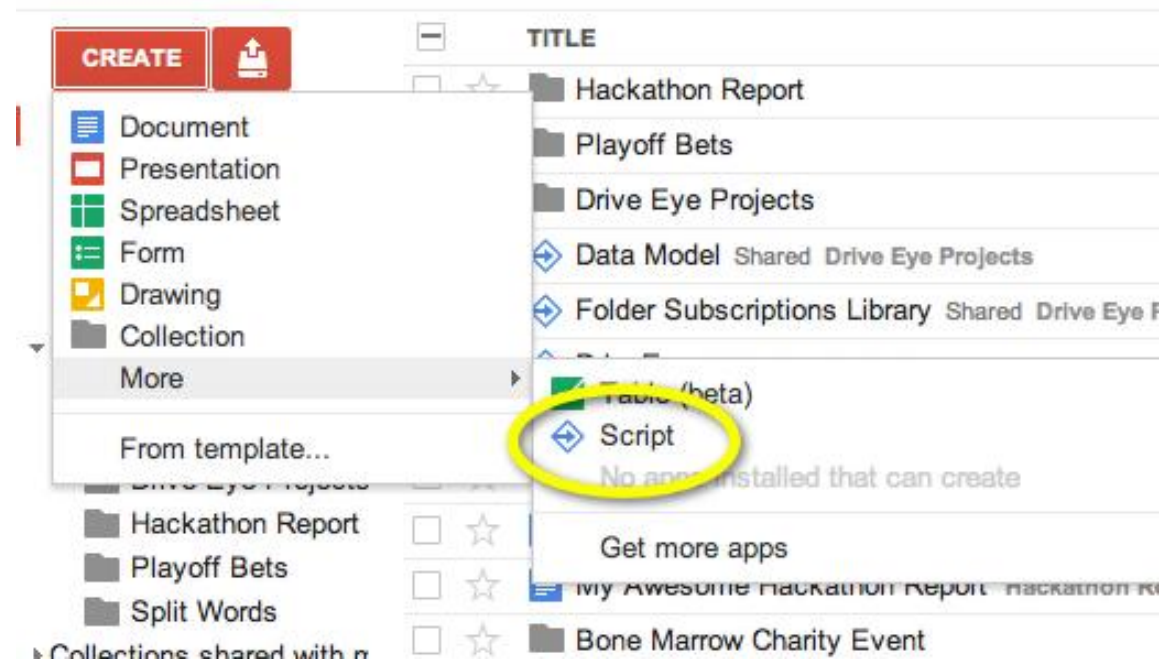
Create

Container-bound vs. Standalone Scripts

Container-bound

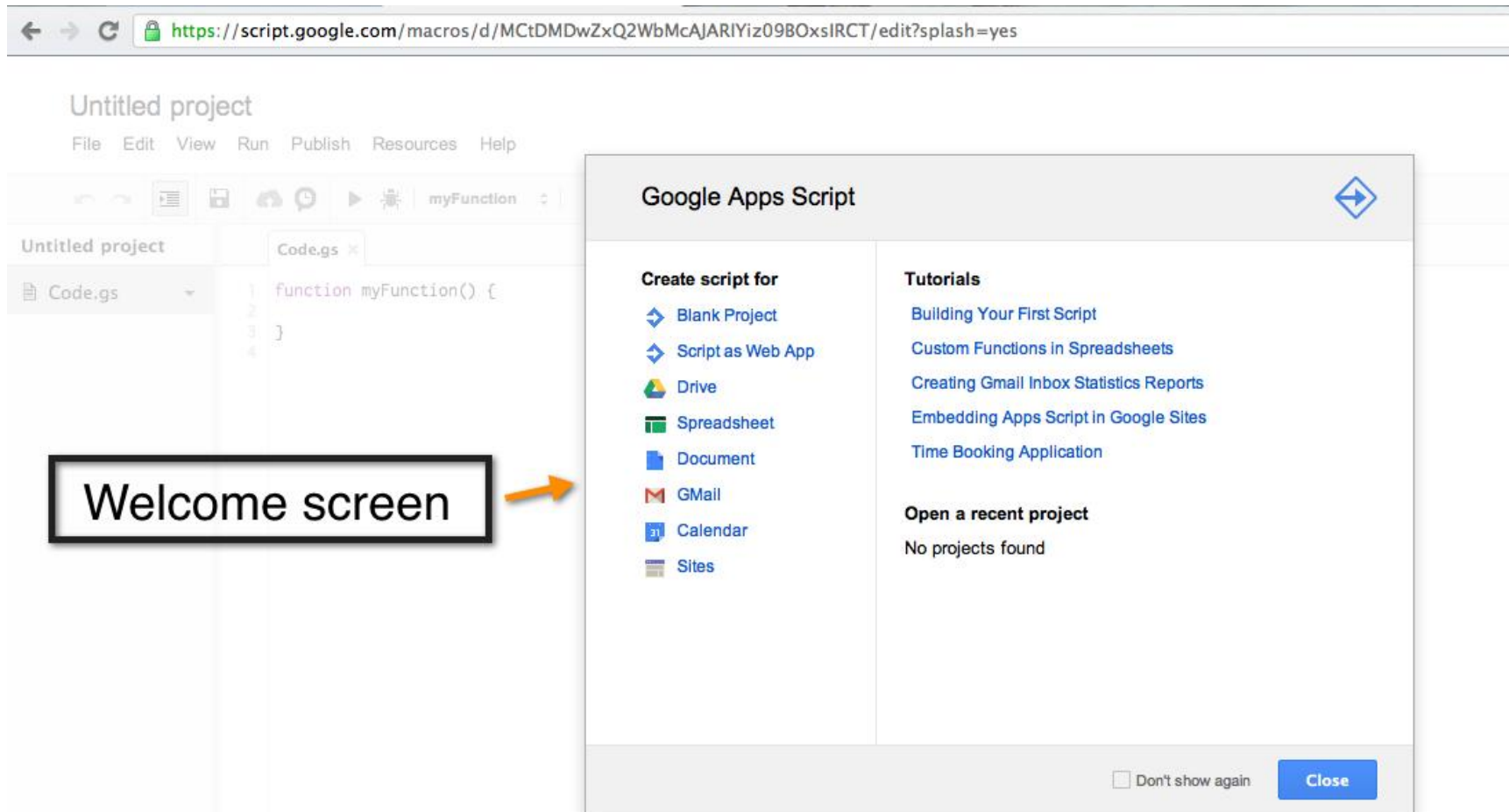


Standalone



Create

Standalone vs. Container-bound - Create scripts from script.google.com





Create

Standalone vs. Container-bound Scripts

Container-bound

Follow lifecycle of the
container

Script gets deleted when parent
spreadsheet is trashed

Standalone

Independent lifecycle

Scripts get created, renamed,
trashed from Drive



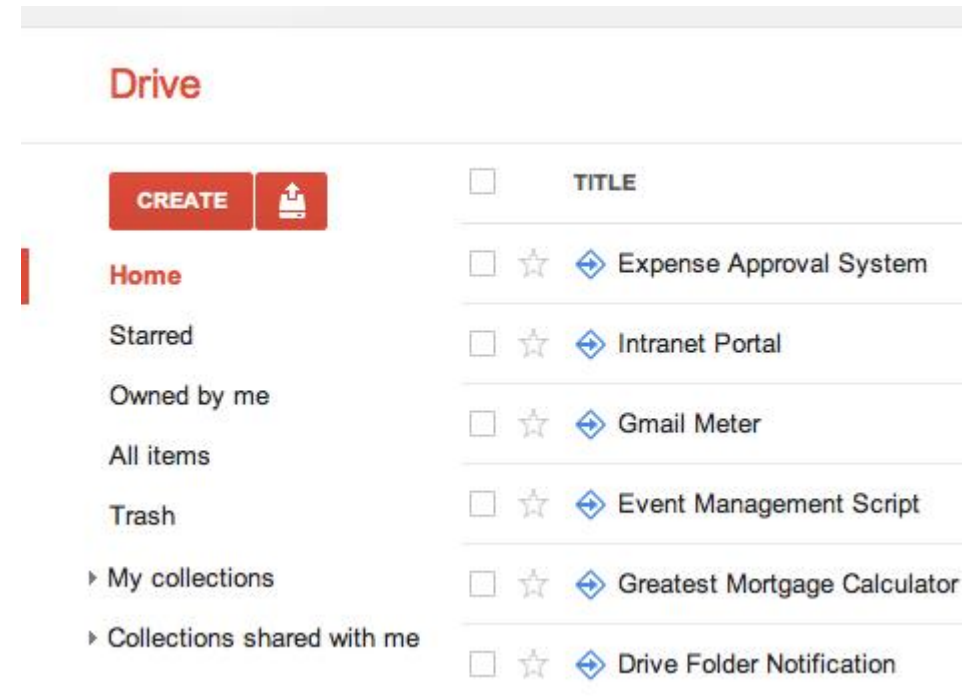
Create

Standalone vs. Container-bound - Finding Scripts

Container-bound

Locate the parent spreadsheet and then go to Script editor.

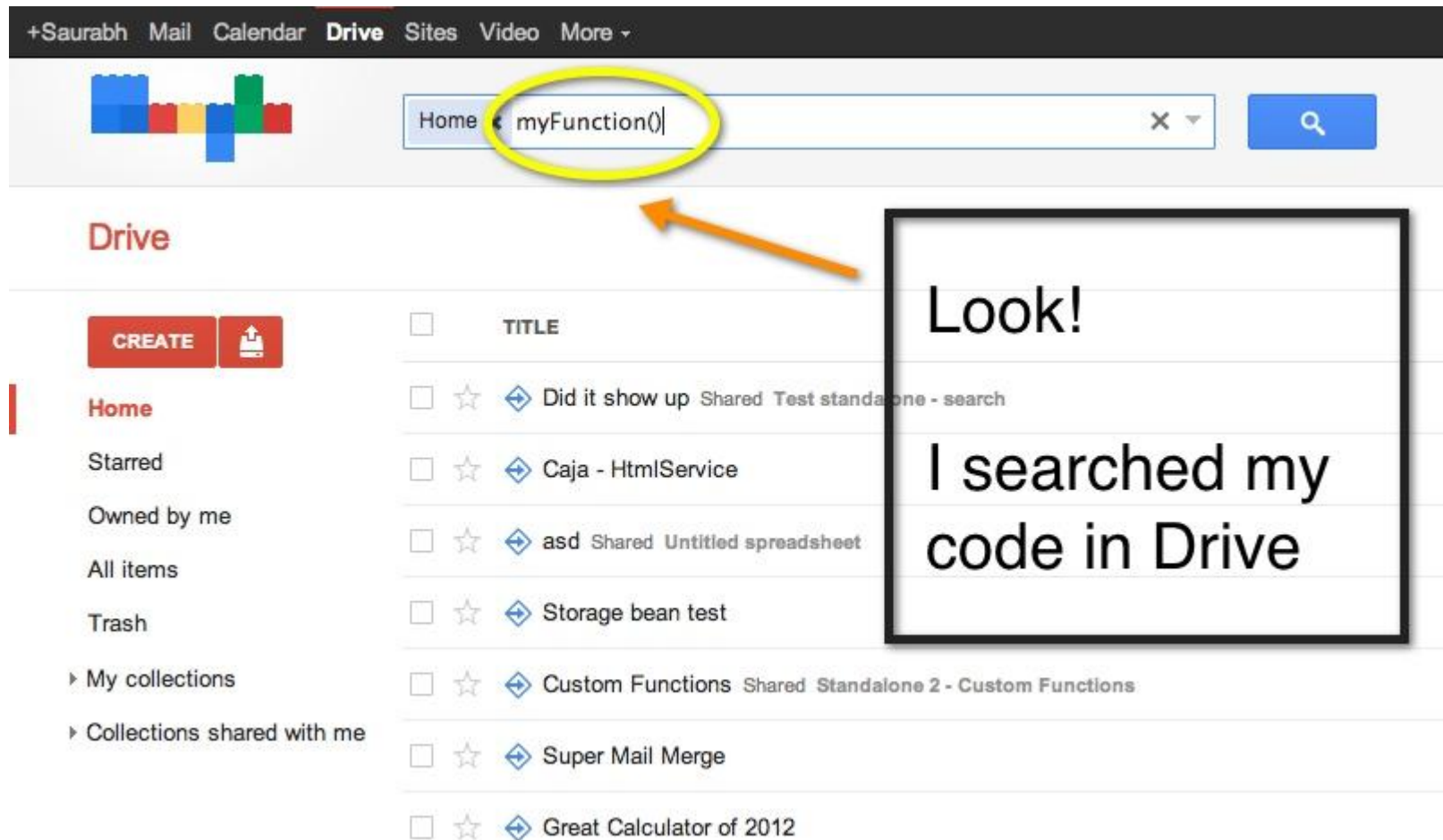
Standalone



Create

Standalone vs. Container-bound - Search using Code Snippets

Standalone



The screenshot shows the Google Drive web interface. At the top, a navigation bar includes links for '+Saurabh', 'Mail', 'Calendar', 'Drive' (highlighted), 'Sites', 'Video', and 'More'. Below this is a search bar with the text 'myFunction()' entered. A yellow circle highlights the search bar, and an orange arrow points from a text box to it. The left sidebar shows the 'Drive' section with a 'CREATE' button and a list of folders: 'Home' (selected), 'Starred', 'Owned by me', 'All items', 'Trash', 'My collections', and 'Collections shared with me'. The main content area displays a list of files under the 'TITLE' column. The first file is 'Did it show up Shared Test standalone - search', which is highlighted by a yellow circle. A text box on the right contains the text 'Look! I searched my code in Drive'.

Home myFunction()

Drive

CREATE

Home

Starred

Owned by me

All items

Trash

My collections

Collections shared with me

TITLE

Did it show up Shared Test standalone - search

Caja - HtmlService

asd Shared Untitled spreadsheet

Storage bean test

Custom Functions Shared Standalone 2 - Custom Functions

Super Mail Merge

Great Calculator of 2012

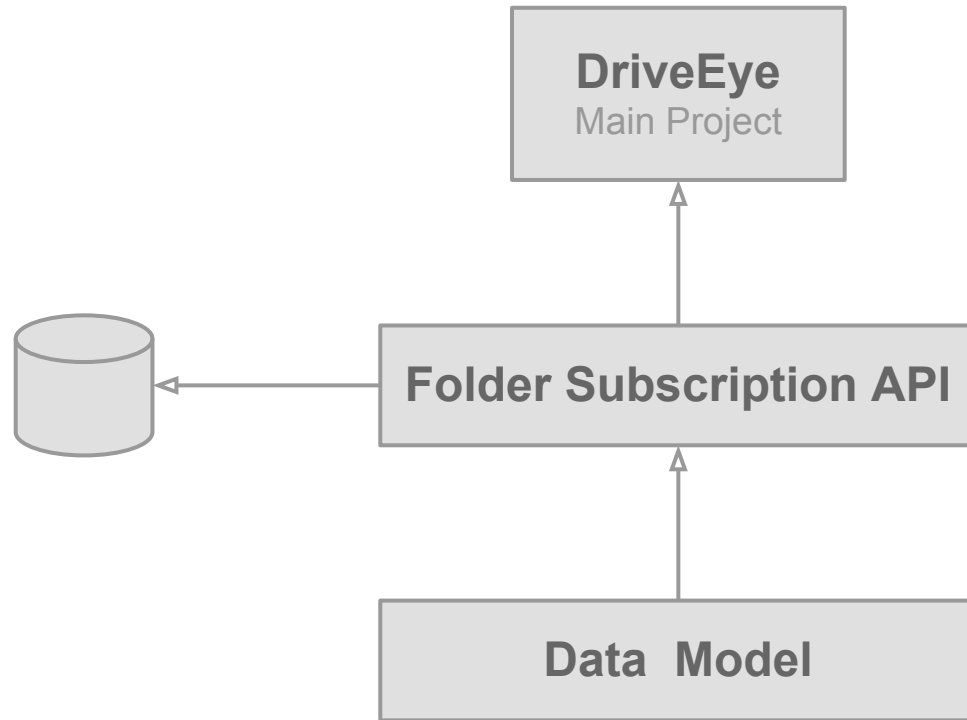
Look!

I searched my code in Drive



Create

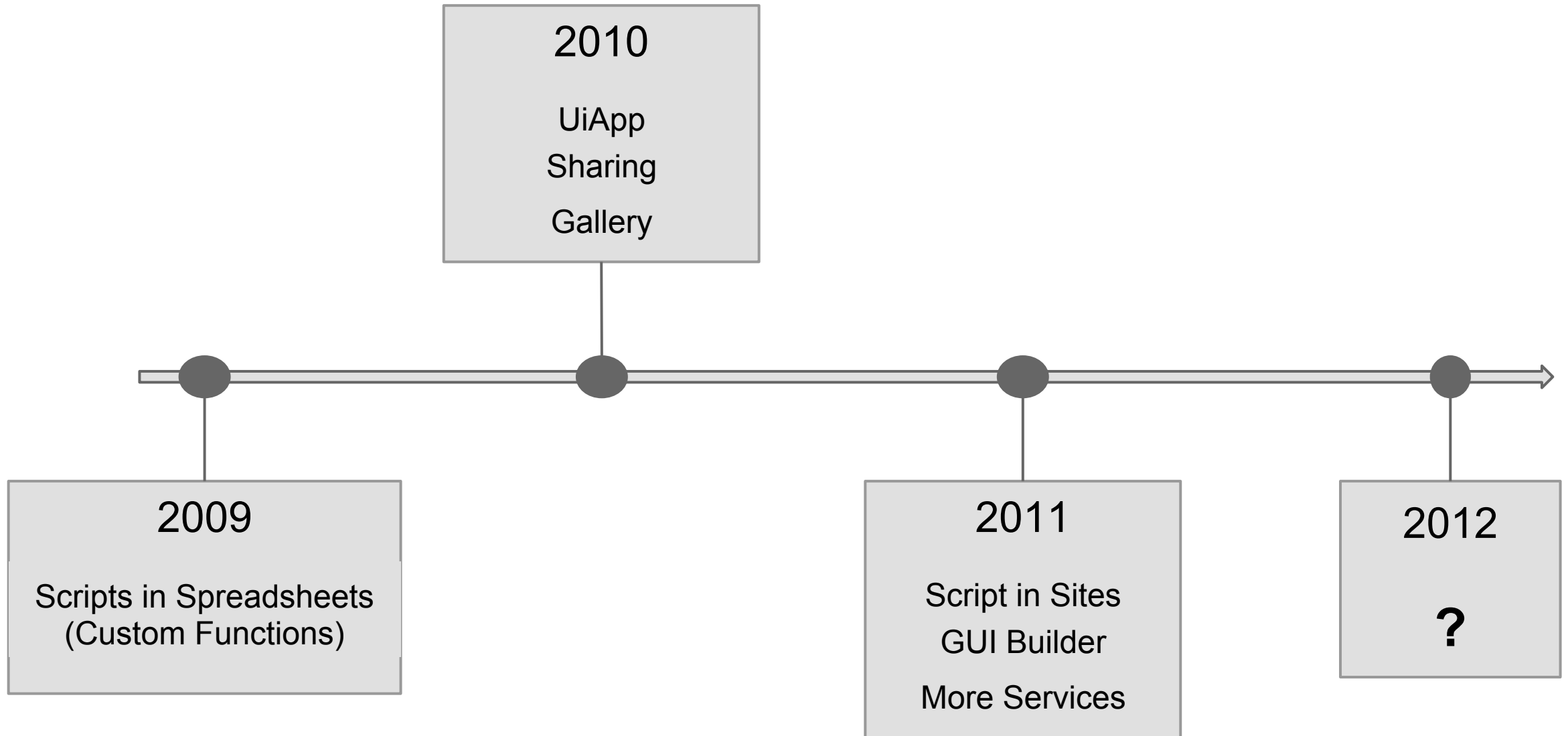
Designing DriveEye - 3 Standalone Projects





What's the best way to build UI and store data?

Apps Script over the years





Create



New Features of Google Apps Script

1

Create Standalone Scripts

2

ScriptDb

3

HtmlService





Create

To Learn more about ScriptDb

"Storing Data using Google Apps Script"

When: **June 28th, 2012**

Time: **17:15pm**

Where: **Room 7**

Who: **Drew Csillag**



Create



To Learn more about HtmlService and using client side JS in Apps Script

"Use what you know: Html and JavaScript in Apps Script"

When: June 28th, 2012

Time: 2:45pm

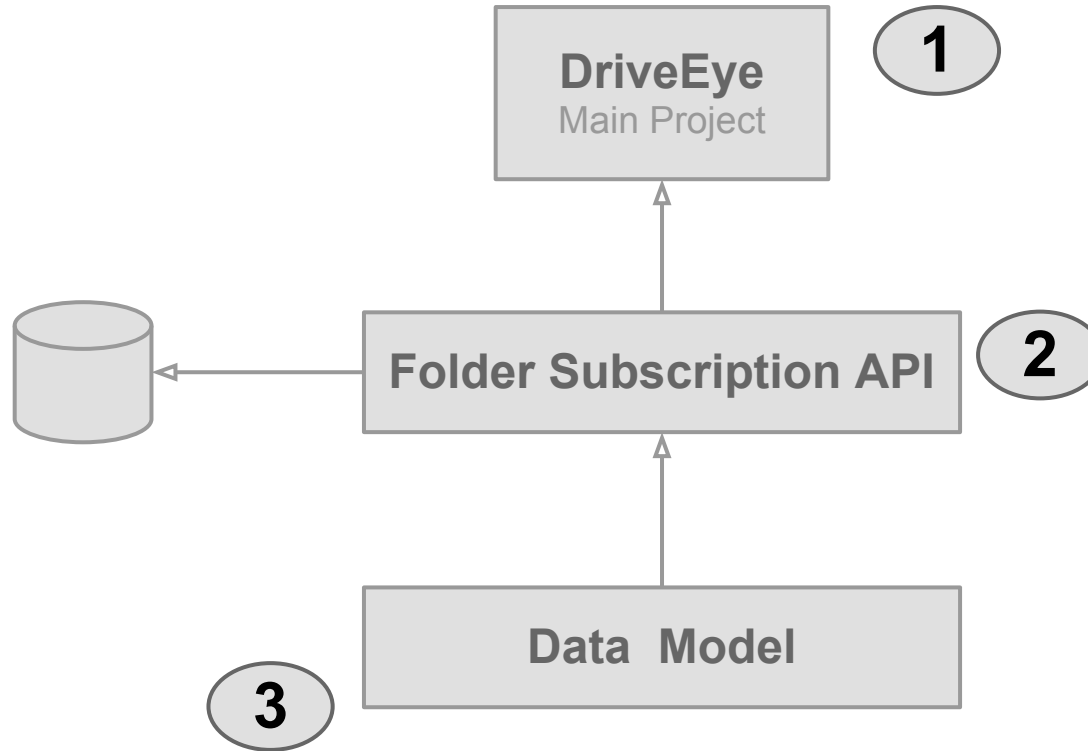
Where: Room 11

Who: Corey Goldfeder



Create


Designing DriveEye - 3 Standalone Projects



Create

DriveEye - Create three standalone script projects

CREATE



My Drive




Shared with me

Starred

Recent

More ▾

My Drive ▸ DriveEye

<input type="checkbox"/>		TITLE
<input type="checkbox"/>	☆	 Data Model
<input type="checkbox"/>	☆	 Folder Subscriptions Library
<input type="checkbox"/>	☆	 DriveEye



Create

Project 1 - Data model to manage folder subscriptions

```
function User(userId, driveFolders, triggerId) {  
  this.userId = userId;  
  this.driveFolders = driveFolders;  
  this.triggerId = triggerId;  
}  
  
function DriveFolder(folderId, folderName, files) {  
  this.folderId = folderId;  
  this.folderName = folderName;  
  // string array of files id  
  this.files = files;  
}
```

APPS SCRIPT



Create

Project 2 - API to manage folder subscriptions

APPS SCRIPT

```
function addFolderSubscription(folderName)
function getSubscribedFolders()
function removeFolderSubscription(folderName)
function removeUser()
function getUser()
```





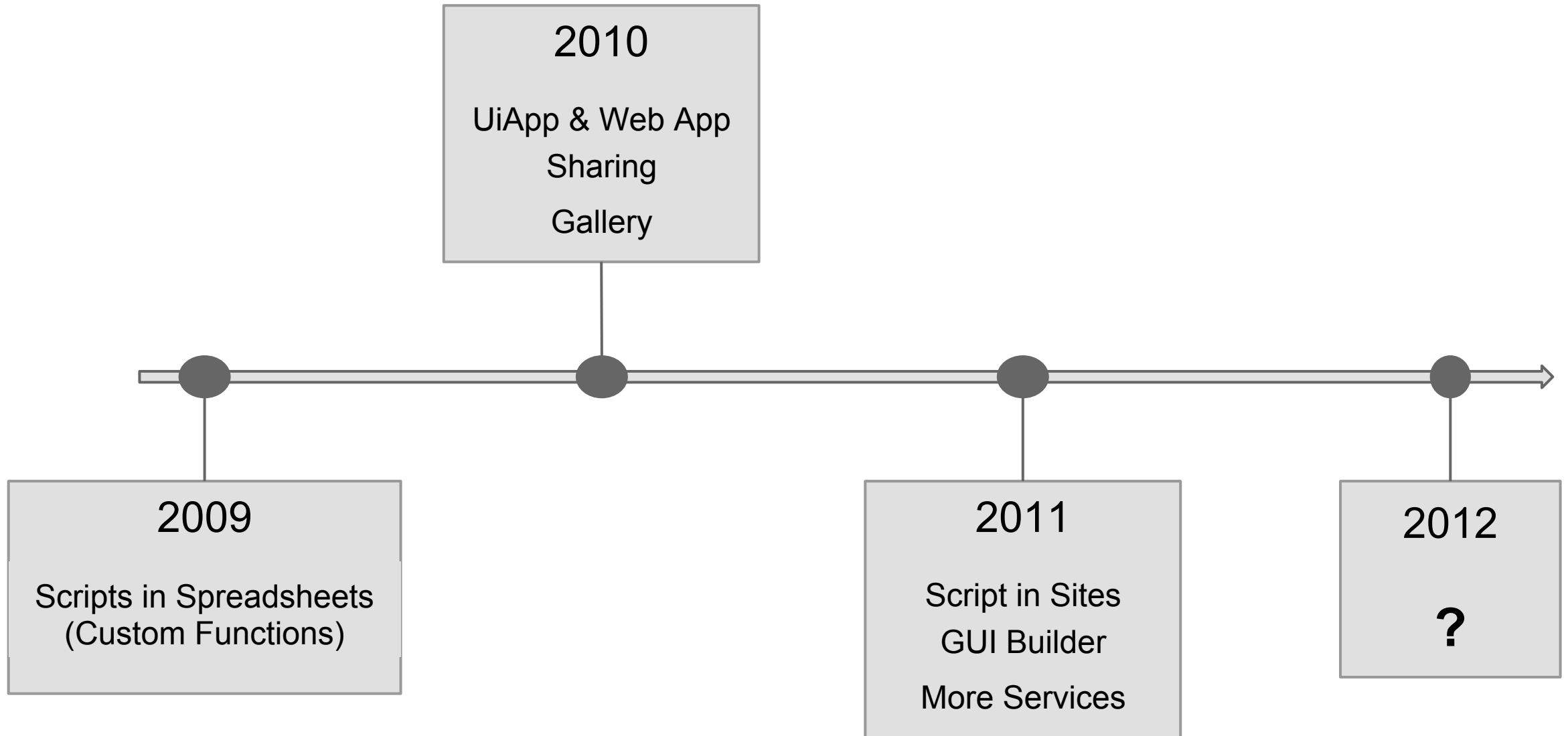
How to glue standalone projects?



Share scripts to
collaborate and organize
your code



Apps Script over the years





Create

Share

New Features of Google Apps Script

1

Create Standalone Scripts

2

ScriptDb

3

HtmlService

4

Share scripts in a simple way





Simple Sharing

- 1 Google Docs way to share scripts
- 2 Container-bound scripts inherit permissions from the parent



Create

Share

Understanding Permissions

Share Scripts using "Share" button

Two types of permissions
View, Edit

All Viewers get Execute
permissions

Drive Folder Notification

File Edit View Run Publish Resources Help

Drive Folder Notification

Code.gs

Sharing settings

Link to share (only accessible by collaborators)

<https://script.sandbox.google.com/d/1hEVD2rXXcXjG9yZb6NEGN0fQ23cq8LoDQYT>

Who has access

	Private - Only the people listed below can access	Change...
	Saurabh Gupta (you) saurabh@gluemesh....	Is owner

Add people:

Enter names, email addresses, or groups...

Editors will be allowed to add people and change the permissions. [\[Change\]](#)

Done



“How does sharing help me organize my code?”

- Logical User





good ol'

Libraries





3 steps to create script libraries

- 1 Save a Version of your script
- 2 Share script with view permissions
- 3 Share project key





Create

Share

DriveEye

- Convert two projects into library
 - Data model library
 - Folder subscription library
- Include the two libraries into the main UI script



Create

Share

DriveEye - Create Two Libraries

CREATE



My Drive

Shared with me

Starred

Recent

More ▾

My Drive ▸ DriveEye



TITLE



Data Model



Folder Subscriptions Library



DriveEye





4 steps for using a script library



Insert Library Project Key

×

Included Libraries

Title	Version	Identifier	Development Mode	Remove
Folder Alert Library	...	FolderAlertLibrary	off	×

Find a Library

Mj6zSkOutJaJHRr5tu9BblONZK2JnVIY8

Select

Enter the library's project key (found under File > Project Properties).
Make sure you have permissions to access the library or its containing spreadsheet.

Save

Cancel





4 steps for using a script library



Select a version

Title	Version	Identifier	Development Mode	Remove
Folder Alert Library	...		off	✕

Static Versions

- 4
- 3
- 2
- 1

Find a Library

Enter the library's project key (found under File > Project Properties).
Make sure you have permissions to access the library or its containing spreadsheet.





4 steps for using a script library



Select an identifier

Identifier becomes the top level class name for that library

Included Libraries

Title	Version	Identifier	Development Mode	Remove
Folder Alert Library	3	FolderAlertLib	off	

Find a Library

Mj6zSkOutJaJHRr5tu9BblONZK2JnVIY8

Select

Enter the library's project key (found under File > Project Properties).
Make sure you have permissions to access the library or its containing spreadsheet.

Save

Cancel





4 steps for using a script library



Use Library with identifier

Autocomplete shows all the functions that are available in the library

```
1 function doGet() {  
2   var app = UiApp.createApplication();  
3  
4  
5   // using library  
6   FolderAlertLib.  
7   return app;  
8 }  
9  
10 function myClick  
11   var app = UiApp  
12  
13   var label = ap  
14   label.setVisib  
15  
16   app.close();  
17   return app;  
18 }
```

addFolderSubscription(Object folderName) : void
getSubscribedFolders() : void
getUser() : void
hasNewFiles() : void
removeFolderSubscription(Object folderName) : void
removeUser() : void



Create

Share

Using data model library

```
function getNewFolderFromId_(folderId) {  
  var folder = DocsList.getFolderById(folderId);  
  var folderName = folder.getName();  
  // ...  
  var driveFolder =  
    new DataModel.DriveFolder(folderId, folderName, fileIds);  
  return driveFolder;  
}
```

APPS SCRIPT



Create

Share

Using folder subscription api

```
function getFolders() {  
    return FolderAlertLib.getSubscribedFolders();  
}  
  
function createFolder(folderName) {  
    return FolderAlertLib.addFolderSubscription(folderName);  
}  
  
function removeFolder(folderName) {  
    return FolderAlertLib.removeFolderSubscription(folderName);  
}
```

APPS SCRIPT





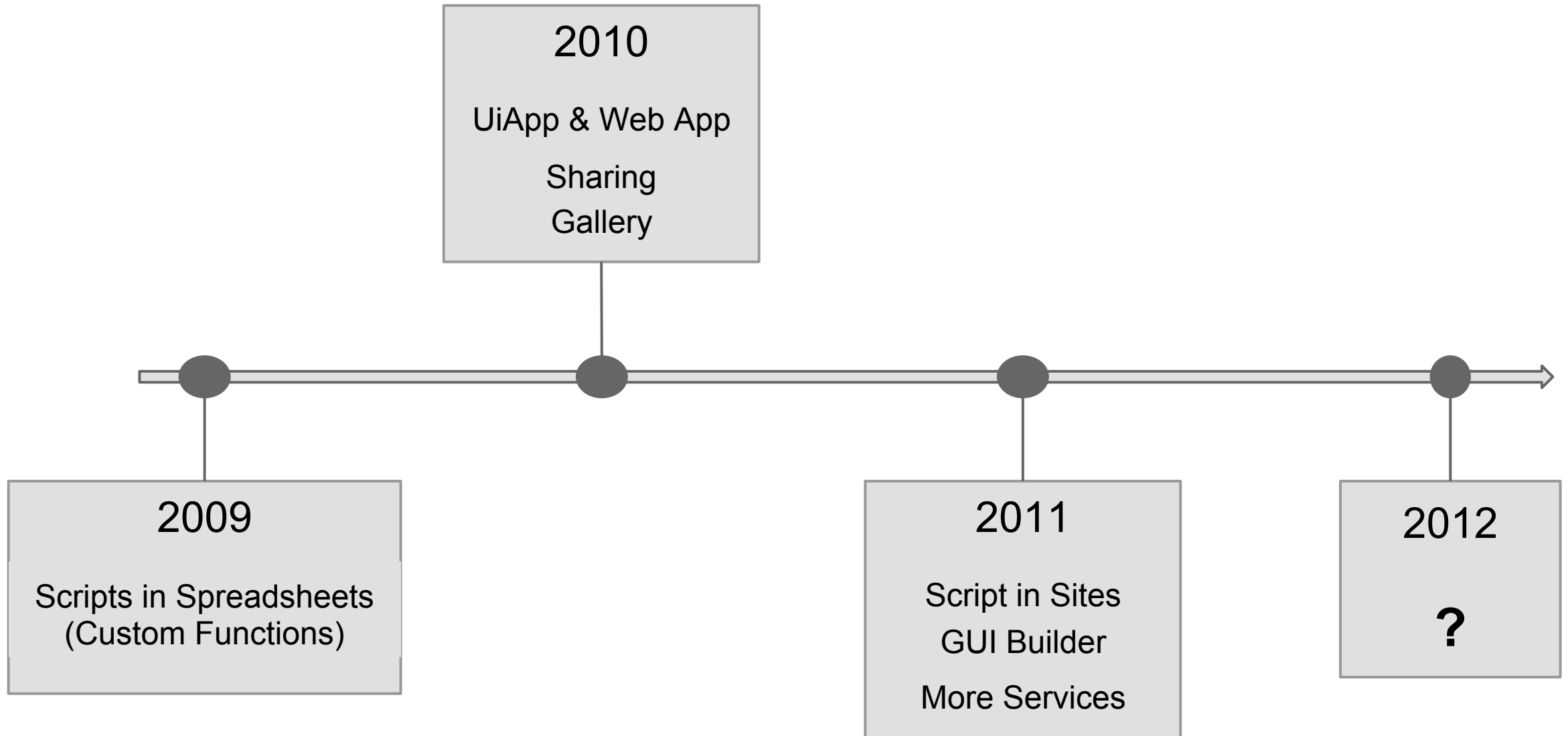
What can I do with scripts?



Deploy scripts as web apps

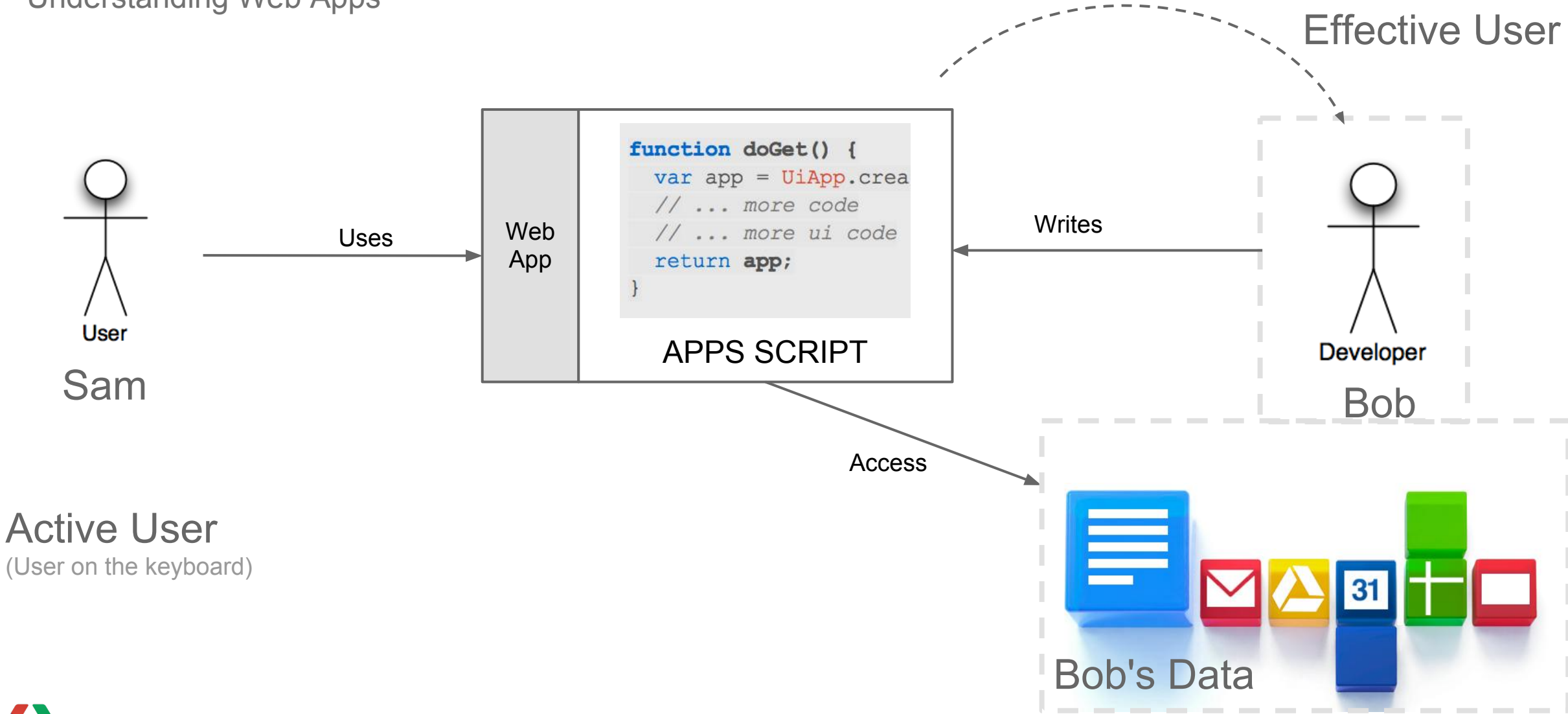


Apps Script over the years





Understanding Web Apps







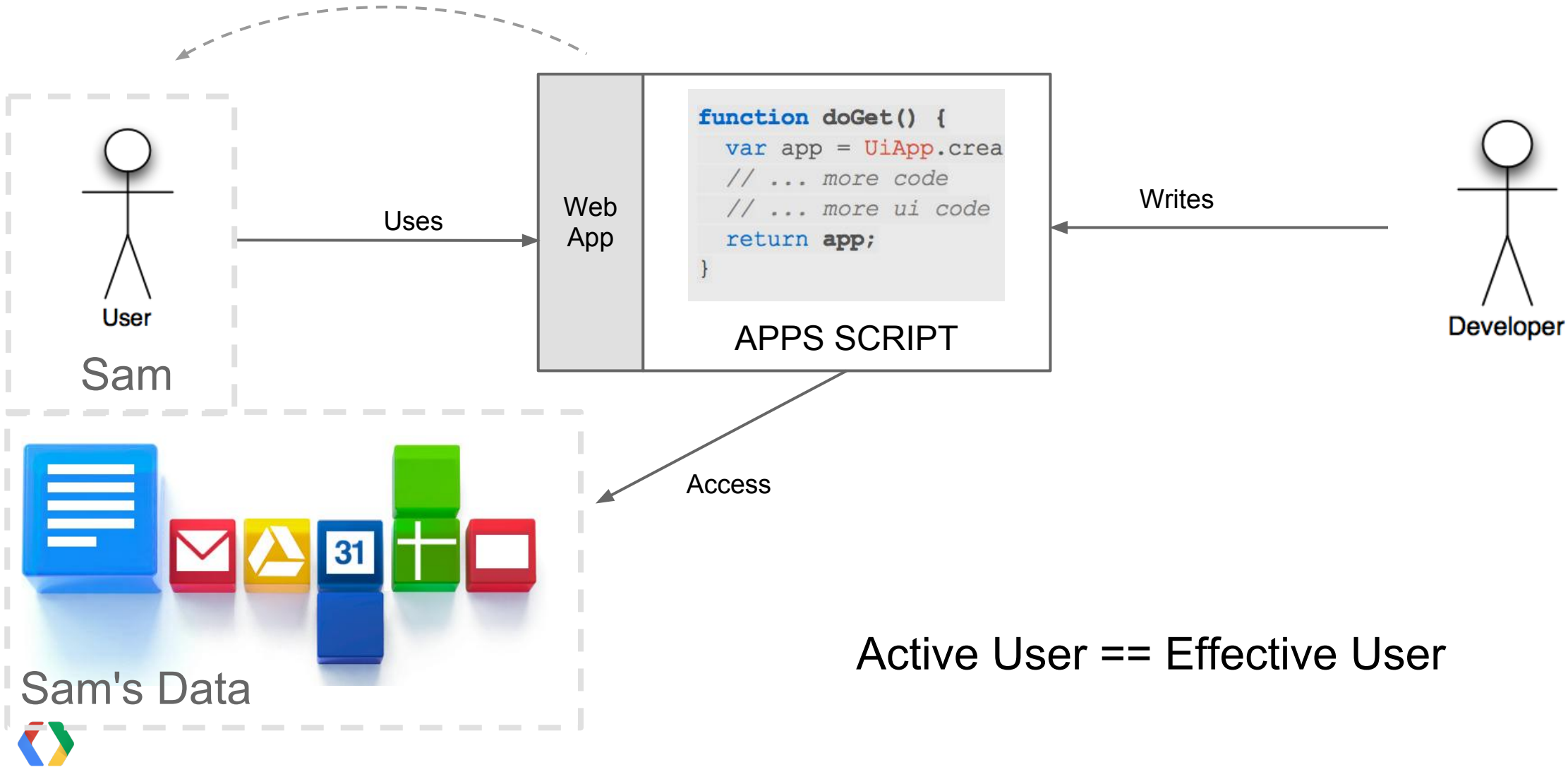
New Features of Google Apps Script

- 1 Create Standalone Scripts
- 2 ScriptDb
- 3 HtmlService
- 4 Share scripts in a simple way
- 5 Deploy new type of web apps**





Scripts run as the end user





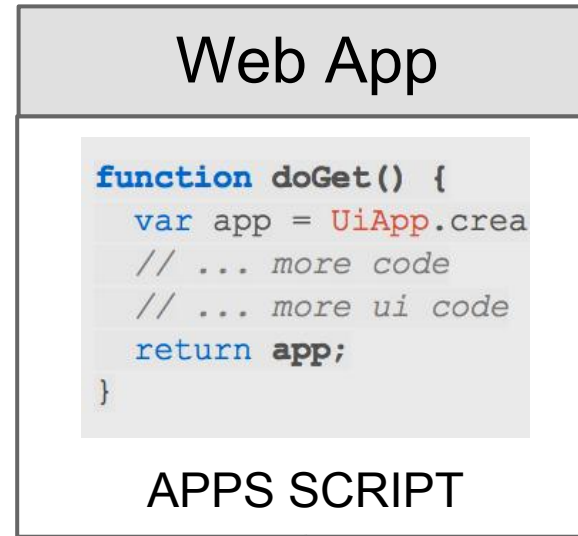
Advantages of scripts running as active user

- Scripts asks user to grant access to resources
- Scripts identifies the end-user
- Script uses end-user's quota
 - Scripts have execution quota. Quota is tied to the account which executes the script.





Two types of Web Apps



Active User is the end user
Effective User is the developer

Active User and Effective User is
the same end-user



Create

Share

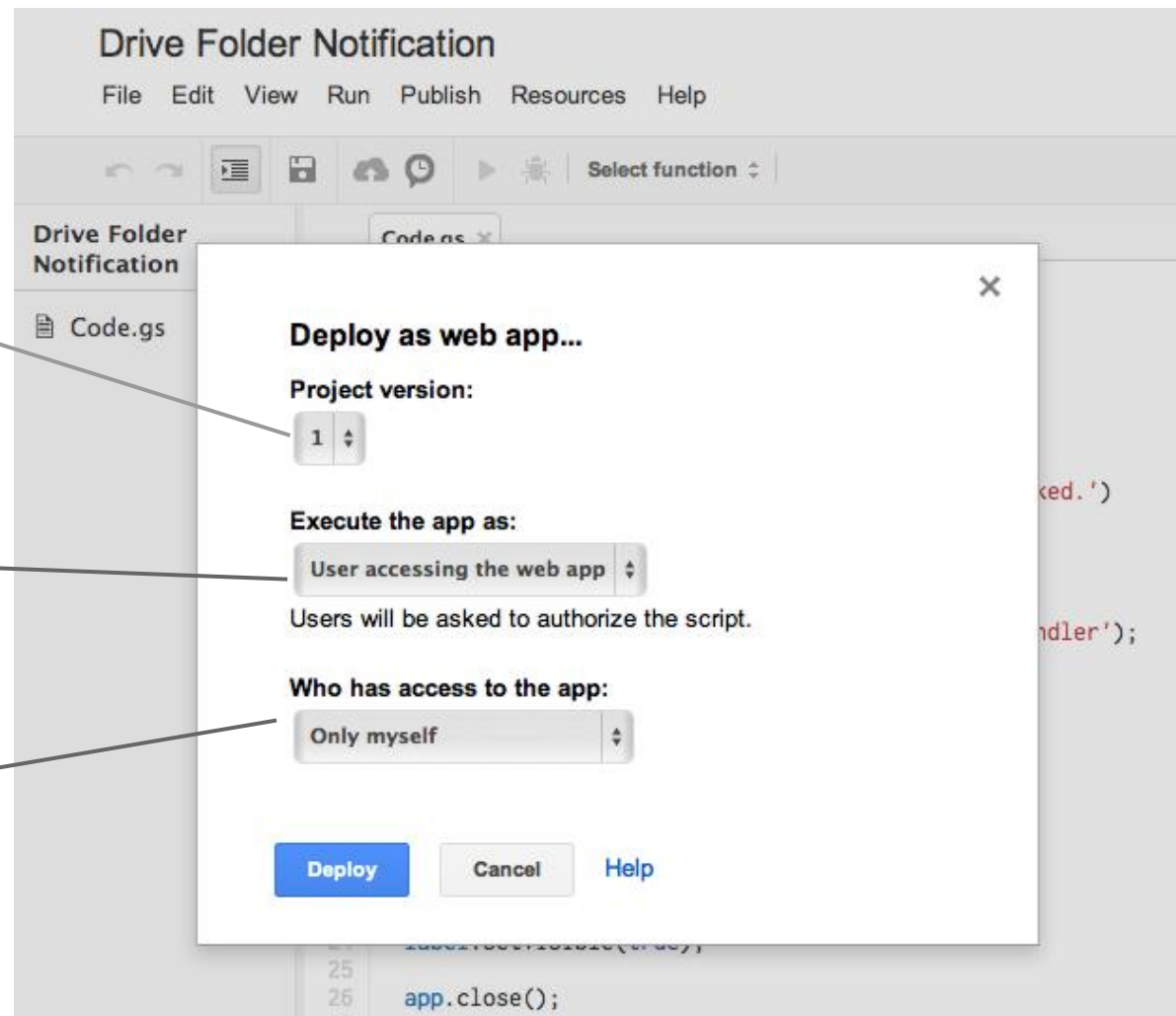
Deploy

How to Deploy a web app

Select versions

Select type of
web app

Access Control





Versioning for Web Apps

- Immutable Url for web apps
- Change versions without affecting users
- Development Url for testing



Create

Share

Deploy

DriveEye - Writing a simple web app

APPS SCRIPT

```
function doGet(e) {  
  var html = HtmlService.createFromFile(...);  
  // ... more code  
  // ... more ui code  
  return htmlOutput;  
}
```



Create

Share

Deploy

DriveEye - Creating Triggers for each user

APPS SCRIPT

```
function addFolderSubscription(folderName) {  
    // ...  
    // create a new trigger  
    var triggerId =  
        ScriptApp.newTrigger("hasNewFiles")  
            .timeBased().everyMinutes(5)  
            .create().getUniqueId();  
    // ...  
}
```





How do users find your web app?

Create

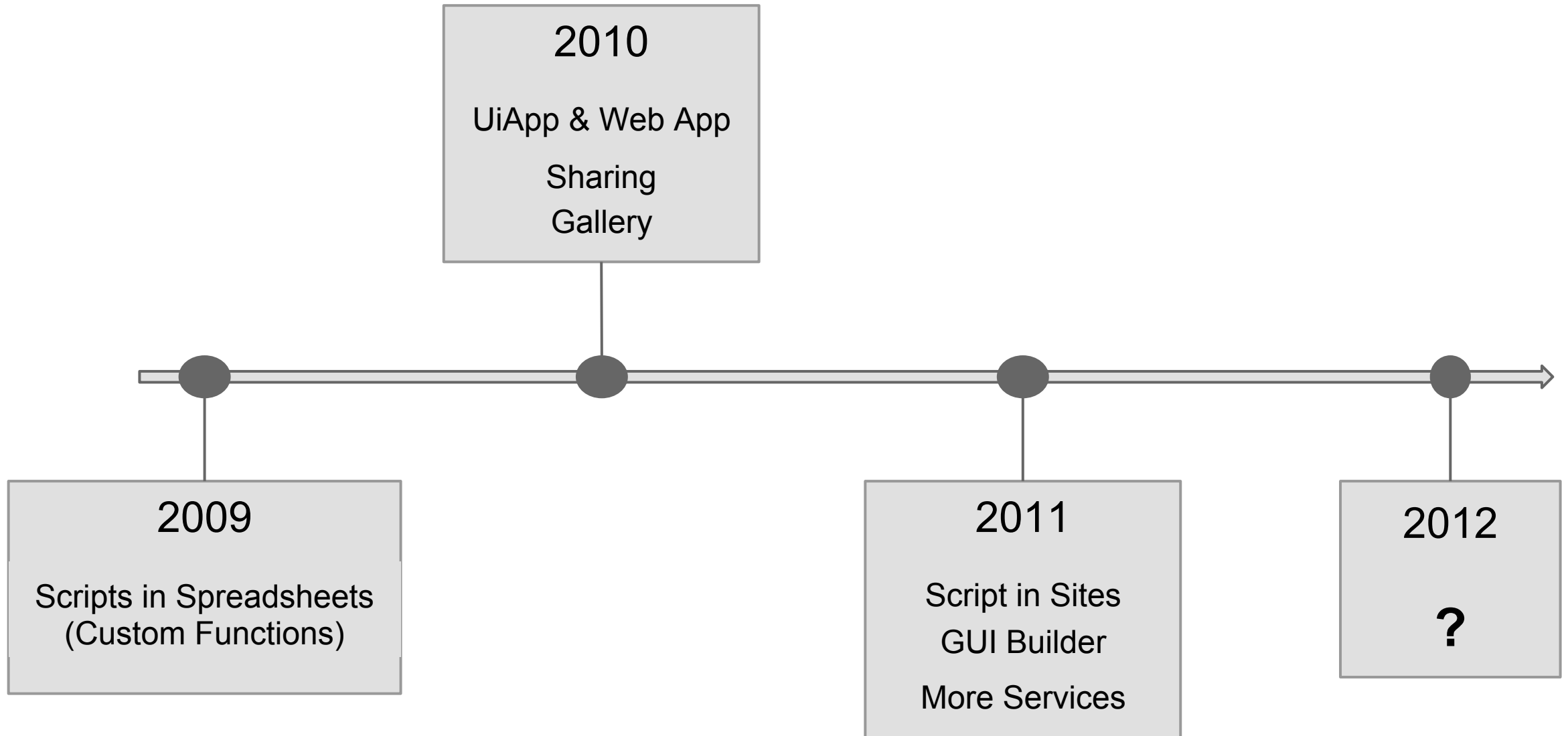
Share

Deploy

Publish



Apps Script over the years







New Features of Google Apps Script

- 1 Create Standalone Scripts
- 2 ScriptDb
- 3 HtmlService
- 4 Share scripts in a simple way
- 5 Deploy new type of web apps
- 6 Integration with Chrome Web Store**



Create

Share

Deploy

Publish



available in the
chrome web store

New!





What's so special about Chrome Web Store integration?

- One click uploads in Chrome Web Store
- Easy steps to verify ownership





Verify the ownership using Google Webmaster Central

- Copy the meta-tags from Webmaster Central
- Paste the meta-tags in "Register with Chrome Web Store dialog"



Create

Share

Deploy

Publish

1

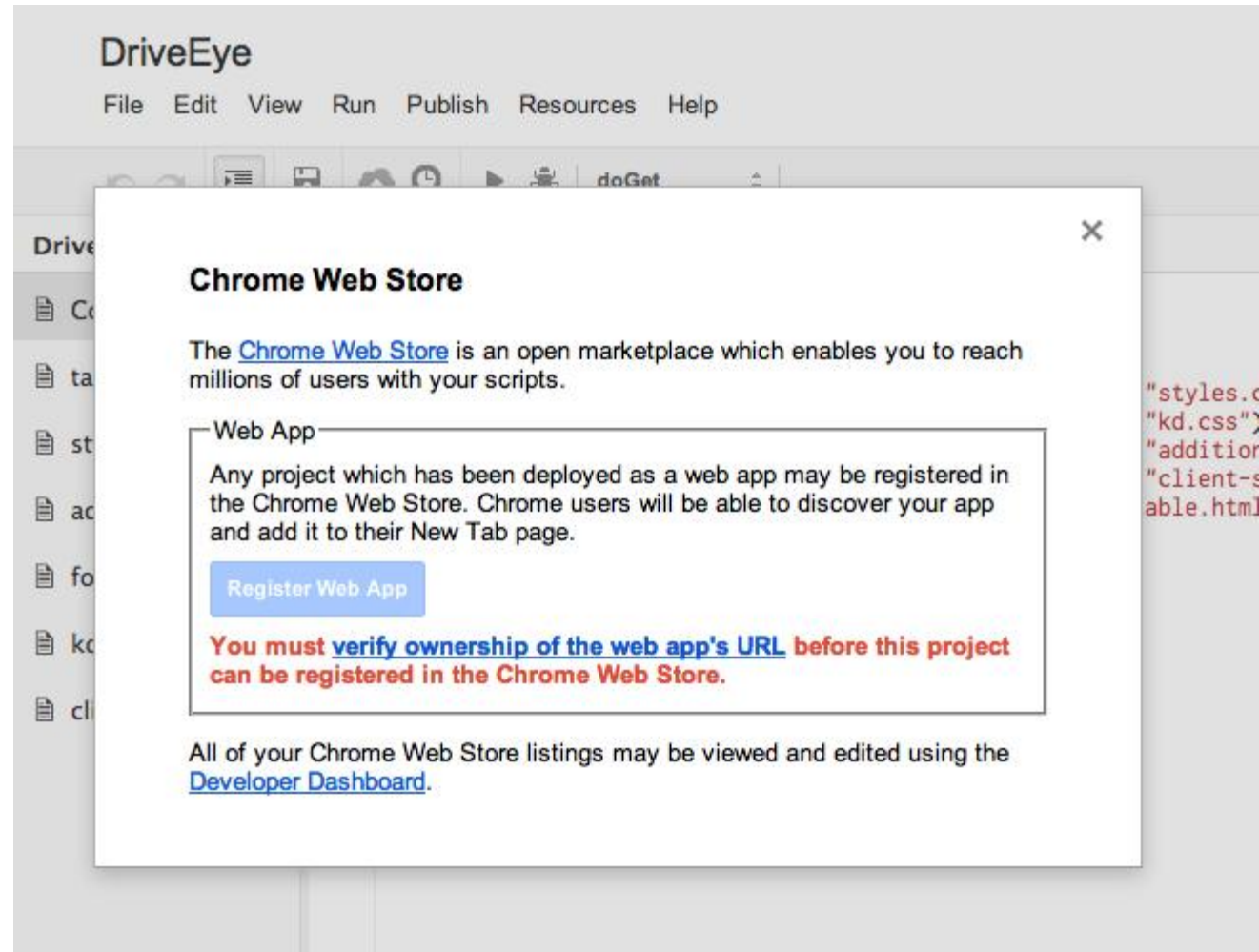
2

3

4

Register the Web App in Chrome Web Store

- Required to register as a developer on Chrome Web Store
- From Script editor, click **Publish > Register with Chrome Web Store**
- Every application in Chrome Web Store needs a manifest
- Visit Developer Dashboard in Chrome Web Store to view the uploaded item





Customize Listing Chrome Web Store

- Standard Chrome Web Store requirements
- Icons, Screenshots and Display Images
- Good quality assets == Better rank in Chrome Web Store





Publish and go live !



Completing the story

DriveEye

Shared Folder Notifications





Demo of DriveEye

Create

Share

Deploy

Publish

New Features of Google Apps Script

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Share scripts in a simple way

5

Deploy new type of web apps

6

Integration with Chrome Web Store



script.google.com



#io12

+Saurabh Gupta

script.google.com



#io12

