Organizations

Introduction

Organizations are sets of Diaries and Notebooks that are associated with one another. The diaries do not need to share the same Diary Directory and the Notebooks do not need to share the same Notebooks subdirectory of a single Diary Directory. This allows you to associate Diaries and Notebooks in a way that are looser than the more structured relationship that exists between Diaries in a given Diary Directory and their Notebooks in its Notebooks subdirectory.

In addition to this, the Diaries and Notebooks of an Organization can execute custom *Mathematica* code through Delayed Rules and their tags in a way similar to the way that WorkFlows do.

A given Diary or a given Notebook can belong to a one or more Organizations, and it can execute any combination of the tags associated with the Delayed Rules of the Organization.

As with WorkFlows, it is probably easiest to see how an Organization works by constructing a simple, but useful, example.

Organization Example: Contacts

For the buttons and executable commands that are described n this section to work it is assumed that you have installed the WorkLife FrameWork™ and have loaded it. This can be done either from the **Load WorkLife Framework** button on the supplied palette, by executing the command `Needs["Diary`Diary`"]`, or by clicking on the following button: **Load WorkLife FrameWork™**
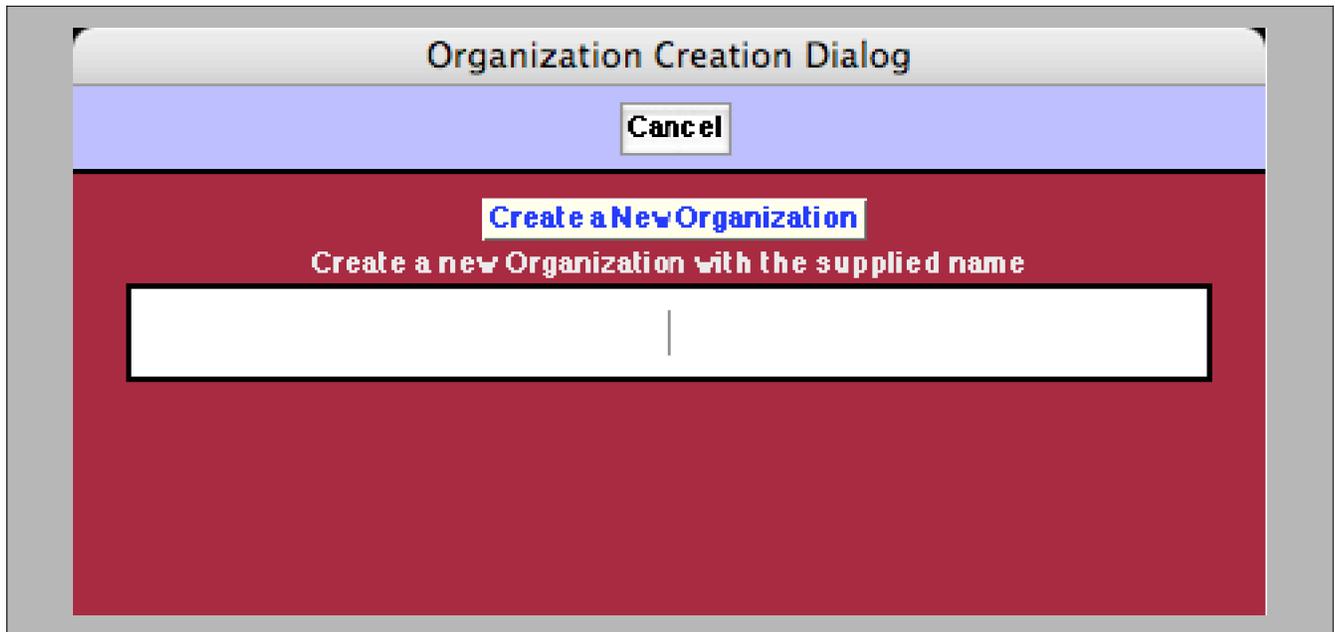
Creating an Organization

A simple, but quite useful example of an Organization is a set of Diaries that cover a range of individuals that you have contact with even though those Diaries may exist in different Directories.

On a very basic level this might be a set of Diaries—all in the same Diary Directory—with one for each contact individual. You might also have other Diaries in this directory, but those will not be in the Organization. Or the set of diaries may be distributed amongst a number of directories because the differing contacts are associated with differeing projects, and you may have organized the diaries associated with those projects into distinct Diary Directories.

To create this Organization—call it "Contacts"—you open the **Organizations** Palette from the **All Palettes** Palette and click on the **Create Organization** Button.
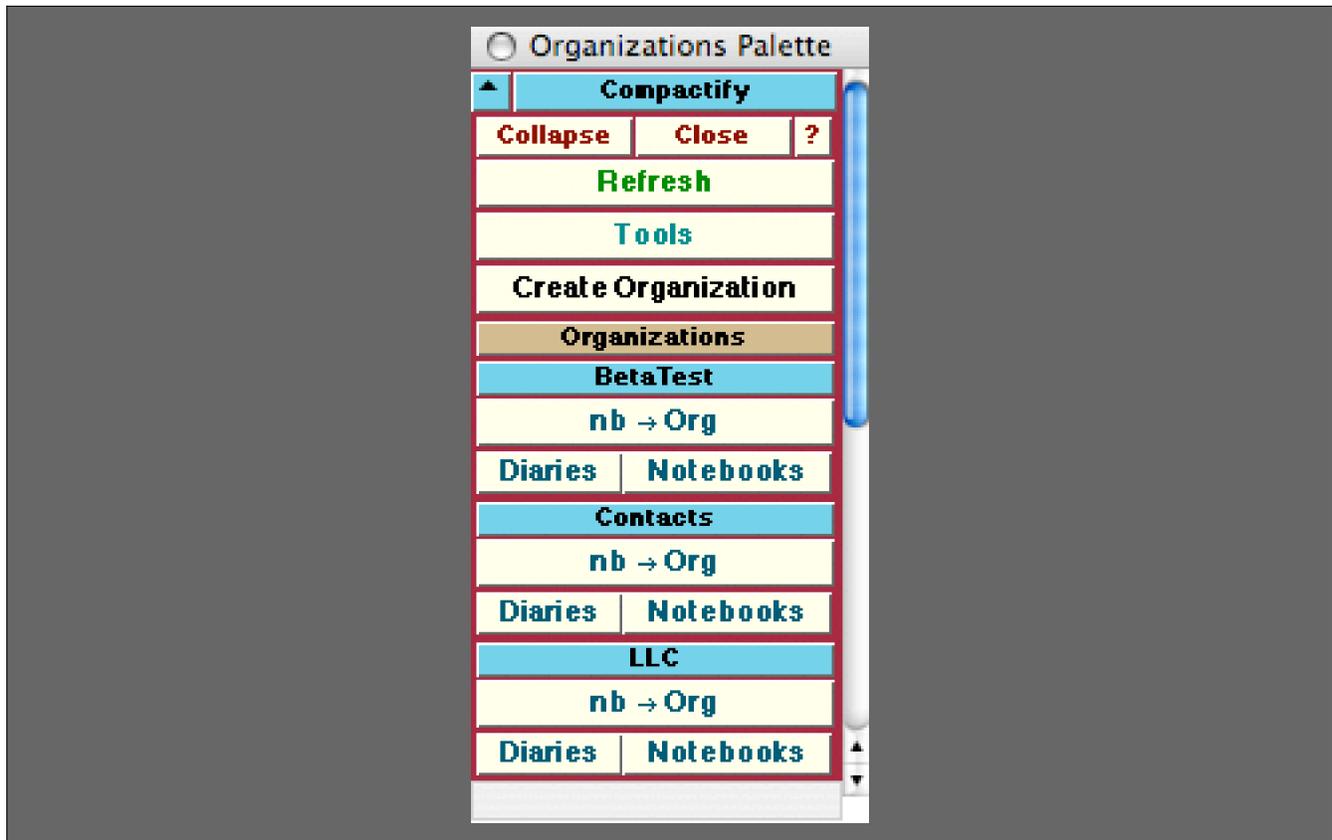
In the dialog that opens, you enter the name of the new Organization that you want to create. The dialog looks like:

The Organization Creation Dialog

When you click on the **Create an Organization** button, the Organization is created and it appears in the **Organizations** Palette.

Here is an example of the **Organizations** Palette:

An Example of the Organizations Palette

In this case there are three Organizations defined: **BetaTest**, **Contacts**, and **LLC**. Associated with each of these are three buttons: **nb→Org**, **Diaries**, and **Notebooks**. The **nb→Org** button assigns whatever the current `InputNotebook` is to the indicated Organization. The **Diaries** and **Notebooks** buttons each open a dropdown palette to allow you to open one of the Diaries or Notebooks that are part of that Organization.
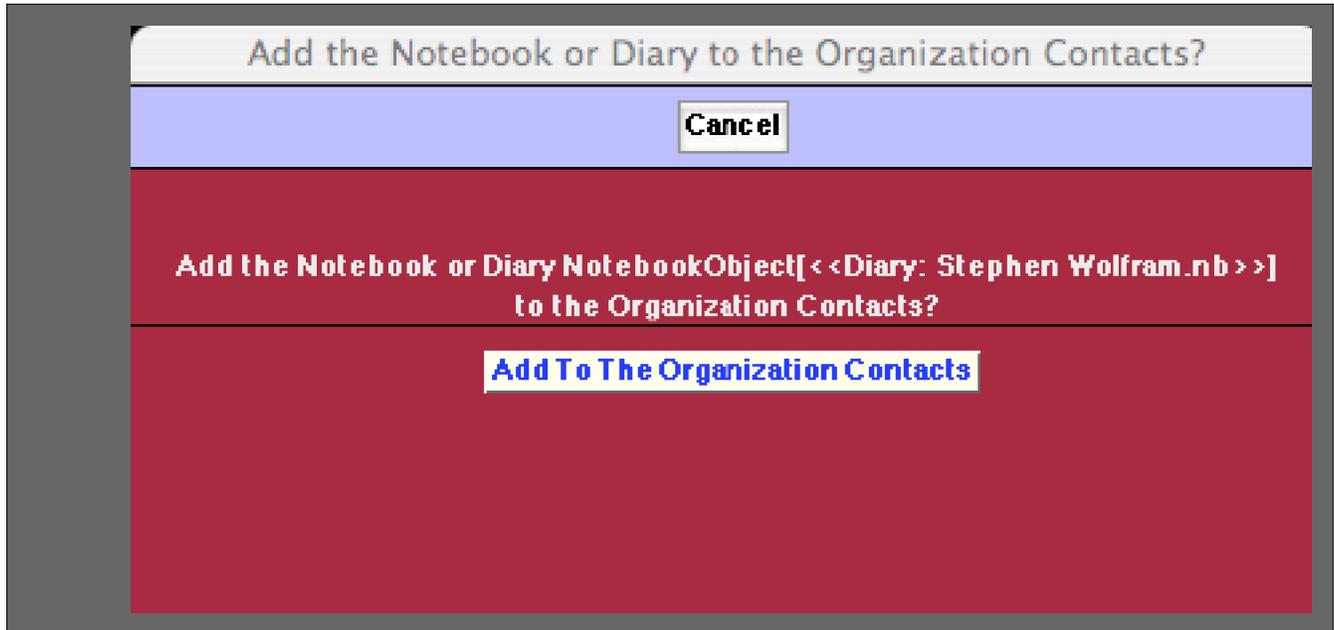
A Diary or a Notebook may each belong to multiple organizations.

Assigning to an Organization

So, for example, if the current `InputNotebook` is a Diary called "Stephen Wolfram," and you wish to assign this Diary to the Organization "Contacts," you would click on the **nb→Org** button under the **Contacts** sub-palette when the "Stephen Wolfram" notebook is the `InputNotebook`.

> ☿ *Remember that the current* `InputNotebook` *is the notebook that, if you were to type something, the typed material would appear in.*

In this example, when the **nb→Org** button from the **Contacts** sub-palette of the **Organizations** Palette is clicked on, a dialog is opened asking for confirmation. This dialog looks like:

The Add to Organization Dialog

Accessing an Organization's Diaries and Notebooks

To quickly access an Organization's Diaries and Notebooks you can make use of the **Diaries** and **Notebooks** buttons on the Organizations Palette. Each of these opens a Popup Palette listing the **Diaries** and **Notebooks** contained in the indicated Organization.

For example, clicking on the **Diaries** button under the **Contacts** sub-palette for the case of the imaginary user that has the three Organizations, **BetaTest**, **Contacts**, and **LLC**, opens up the following Popup Palette over the Organizations palette:

An Example of the Popup Palette for a **Diaries** Button from the Organizations Palette

The buttons on this palette have the same function that they have on, for example, the Diary List Palette. In each case the button with the Diary's name, when clicked on, opens that Diary and makes it the current Diary. The button with the ★ makes that Diary the current one but does not open it up. The **Open All** button opens all of the Diaries listed in the palette (but the current Diary remains the same as it was prior to clicking on this button).

Information on an Organization

Although the title of this section sounds a bit like espionage work it is really about how to make use of the classification structure that an Organization provides.

Whether or not your current Diary Directory is that of a particular Organization you can access information on the Diaries and Notebooks of that Organization using the `OrganizationDiaries` and `OrganizationNotebooks` functions.

The function OrganizationDiaries gives a list of the file names and full paths to the diaries that are in the given Organization. For example, here are the items that are in the Organization "Contacts" at this time on my computer:

```
OrganizationDiaries["Contacts"] // TableForm
```

```
Antonine Dvorak.nb    /Users/dreiss/Documents/Diaries/My Contacts/Antonine Dvorak.nb
Donald Duck.nb        /Users/dreiss/Documents/Diaries/My Contacts/Donald Duck.nb
Pete Seeger.nb        /Users/dreiss/Documents/Diaries/My Contacts/Pete Seeger.nb
Stephen Wolfram.nb    /Users/dreiss/Documents/Diaries/My Contacts/Stephen Wolfram.nb
```

The function `OrganizationNotebooks` serves the same purpose for those Notebooks that are in the Organization. In the current case there are no Notebooks in the Organization "Contacts":

```
OrganizationNotebooks["Contacts"]
```

```
{}
```

As one example of how to create a set of buttons that open the Diaries in an `Organization` here is a small bit of code to do this in the form of a function called `MyOrganizationDiaryButtons`. This code snippet will write the buttons below the code when executed in a Notebook. To make it work, for example, for the Organization "Contacts" you would execute `MyOrganizationDiary⸱ Buttons["Contacts"]` after first executing this definition of `MyOrganizationDiaryBut⸱ tons`.

```
MyOrganizationDiaryButtons[organization_String] :=
 NotebookWrite[EvaluationNotebook[],
  Function[x,
   PaletteButtonCell[{x[[1]],
      Module[{nb},
        nb = NotebookOpen[x[[2]]];
        MakeCurrent[nb]] &,
      {$GeneralButtonTextStyle},
      {$GeneralButtonButtonOptions}},
     "Text"]
   ] /@ OrganizationDiaries[organization]
 ]
```

Visualization of an Organization

Another way to view information on an organization is to visualize the statistics of the Diaries and Notebooks in an Organization. There are several functions within the WorkLife FrameWork™ to do this, and their use is automated through the **Analytics** Palette.

By clicking on the on the **Analytics** button on the All Palettes Palette you will open the All Notebooks Palette. You can also

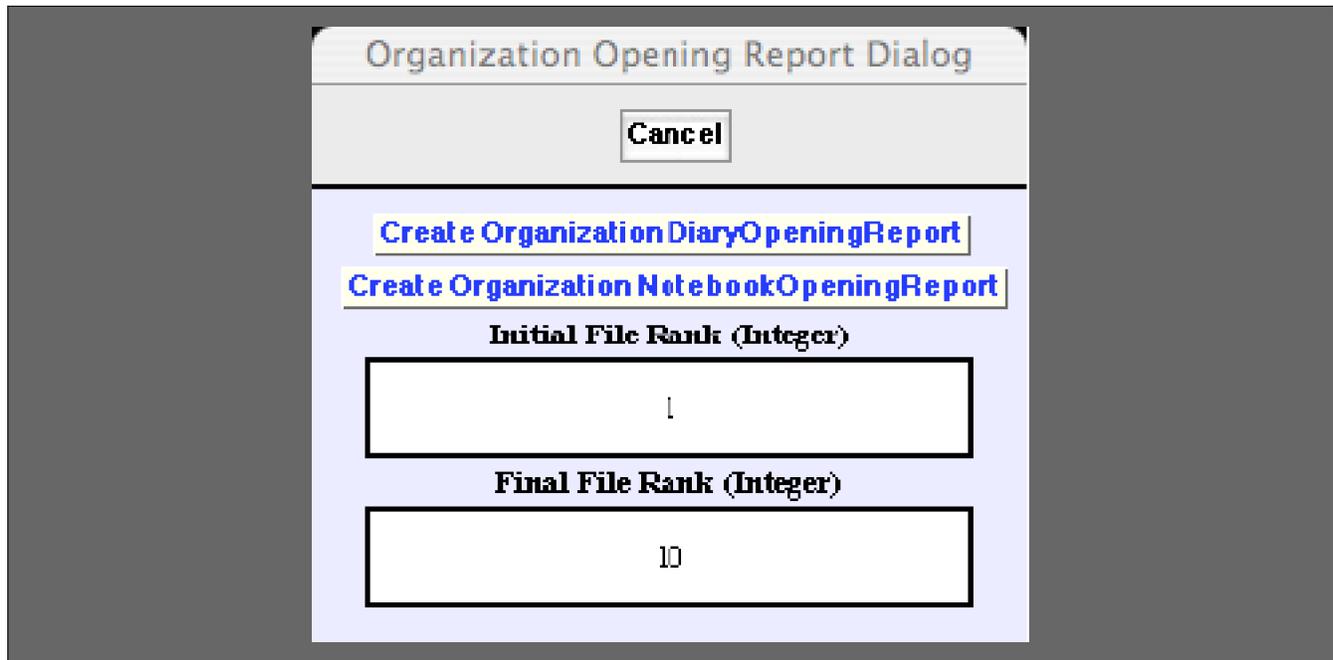open the All Notebooks Palette by executing

```
AnalyticsPalette[];
```


The Analytics Palette

The **Openings: Organizations** button provides a way to see how many times the Diaries and the Notebooks in an Organization have been opened.

The **Openings: Organizations** button opens a dialog that allows you to see graphical and numerical information on the statistics of the opening of all Diaries that are members of a particular Organization and of Notebooks that are members of a particular Organization.
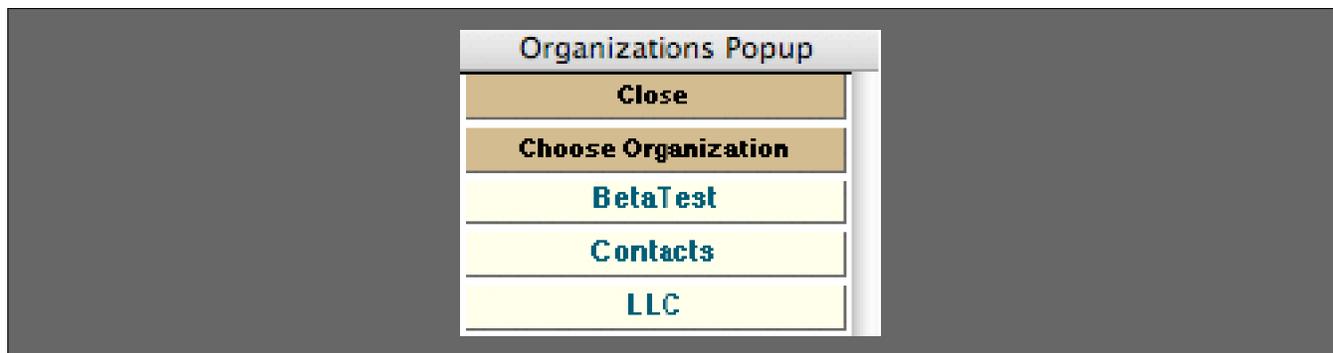
The dialog looks like:

The Local Opening Report Dialog

In this dialog the meanings of the fields are similar to those in the Global Opening Report Dialog. The only difference is that the buttons generate a report for just the Diaries that are in an Organization (to be chosen in the next step) or just the Notebooks that are in an Organization. Thus it is a localized view of a different sort than provided by the **Openings: Local** button .

When one of the buttons **Create OrganizationDiaryOpeningReport** or **Create OrganizationNotebookOpeningReport** are clicked, a popup menu appears that allows you to select the Organization that you want the report on. This popup menu looks like the following, although the choices will be different depending on what Organizations you have created:

The Organizations Popup

When, for example, the **Contacts** button is clicked on, a report is generated that might look like the following:

In this case there were only four Diaries within the Organization "Contacts."

Organization Flows

For the buttons and executable commands that are described n this section to work it is assumed that you have installed the WorkLife FrameWork™ and have loaded it. This can be done either from the **Load WorkLife Framework** button on the supplied palette, by executing the command `Needs["Diary`Diary`"]`, or by clicking on the following button: **Load WorkLife FrameWork™**

Defining the Rules

The use of Organizations gives a way to create sets of Diaries and associated notebooks that are associated with each other in some way. How you choose to use this association is something that you define. One way to further define the association is to associate Rules with an Organization that may be used to execute *Mathematica* expressions automatically. These rules are very much like those that are used in WorkFlows. And, the entity that is used to define how the rules are used is an OrganizationFlow.

When an Organization is created the rule associated with it are not specified. In the case of "Contacts" this can be seen in the last element of the List that specifies the Organization's information

> **Organization["Contacts"]**

> {Contacts, /Users/dreiss/Documents/Diaries/My Contacts/, None}

And another way to see this directly is to use the function OrganizationRules,

> **OrganizationRules["Contacts"]**

> None

To specify the rules for an Organization one uses the function UpdateOrganizationRules. As in the case of WorkFlows, the rules must be Delayed Rules where the left hand side of each of the rules is a String, and these Strings must not be repeated.

So, or example, if you wanted the Organization "Contacts" to have rules to be avaliable for use you could define them as in the following:

> **UpdateOrganizationRules["Contacts",**
> **{"nbopen" :→ NotebookCreate[Background → Hue[0.1`]],**
>   **"allpalettes" :→ AllPalettesPalette[],**
>   **"todosstatistics" :→ ToDoStatistics[Notebook]}]**

> {nbopen :→ NotebookCreate[Background → Hue[0.1]],
> allpalettes :→ AllPalettesPalette[], todosstatistics :→ ToDoStatistics[Notebook]}

Now the Organization has these rules associated with it:

> **OrganizationRules["Contacts"]**

> {nbopen :→ NotebookCreate[Background → Hue[0.1]],
> allpalettes :→ AllPalettesPalette[], todosstatistics :→ ToDoStatistics[Notebook]}

The rule with the tag "nbopen" creates a Notebook with an orange background; the rule with the tag "allpalettes" opens the AllPalettesPalette; and the rule with the tag "todosstatistics" opens up a graphical visualization of the statistics of ToDos in the current Diary.

The list of tags for the rules associated with an Organization is given by the function OrganizationFlowTags. Here they are for the Organization "Contacts:"

> **OrganizationFlowTags["Contacts"]**

> {nbopen, allpalettes, todosstatistics}

> ⚲   *Remember that these tags are Strings even though the default behavior of Mathematica is to not show the*

| *quotation characters in Output Cells.*

Note that the tags in this list are given in the same order as in the list of rules themselves. This order is often relevant because it is the order that the expressions are executed in when the Flow is executed in a Default manner.

Executing an Organization's Rules

To execute the *Mathematica* expressions on the right hand sides of an Organization's rules, one uses the function `Execute` `OrganizationFlow`. There are three ways that the function `ExecuteOrganizationFlow` can be called.

> ExecuteOrganizationFlow[nb,"organization",{"flowTagA","flowTagB",...}] executes the Organizatio Organization if the notebook belongs to it.
>
> ExecuteOrganizationFlow[nb,"organization",Default] executes the default OrganizationFlow given b OrganizationFlowTags["organization"] if the notebook nb belongs to "organization".
>
> ExecuteOrganizationFlow[nb,"organization"] executes the OrganizationFlow corresponding the list o

Usage Message for `ExecuteOrganizationFlow`

◻ First Form

When `ExecuteOrganizationFlow` is called in the first form it executes the *Mathematica* expressions corresponding to the Organization's rules in the order of the tags that appear in the list (read from left to right). Thus, for the Organization "Contacts"—where we assigned the three rules earlier: `{"nbopen","allpalettes","todosstatistics"}`— we can build a list from these and execute the associated *Mathematica* expressions as in the following example. Note though that the Diary or Notebook that appears in the first argument of `ExecuteOrganizationFlow`, must be one of those listed in either `OrganizationDiaries["organization"]` or `Organization` `Notebooks["organization"]`. (The case that we are looking at here has `"organization"` replaced by `"Con` `tacts"`.) So, if the current Diary notebook is open and it is one of those listed in `OrganizationDiaries["Con` `tacts"]`, then executing the following makes sense:

```
ExecuteOrganizationFlow[$CurrentDiaryNotebook,
  "Contacts", {"allpalettes", "nbopen", "nbopen", "todosstatistics"}]

{NotebookObject[«All Palettes»], NotebookObject[«Untitled-38»],
 NotebookObject[«Untitled-39»], NotebookObject[«Basic ToDo Statistics»]}
```

In this case the `AllPalettesPalette` is first opened, then two orange Notebooks are created, and then finally the ToDosStatistics visualization is created for the current Diary Notebook.

◻ Second Form

If, however, `ExecuteOrganizationFlow` is called in the second form, it executes the *Mathematica* expressions in the order that they appear in `OrganizationFlowTags["Contacts"]`: `{"nbopen","allpalettes","todosstatistics"}`. An orange notebook is opened, the `AllPalettesPal` `ette` is opened, and then the `ToDosStatistics` visualization is created for the current Diary Notebook.

```
ExecuteOrganizationFlow[$CurrentDiaryNotebook, "Contacts", Default]

{NotebookObject[«Untitled-40»], NotebookObject[«All Palettes»],
 NotebookObject[«Basic ToDo Statistics»]}
```

◻ Third Form

When `ExecuteOrganizationFlow` is called in the third form it looks at the `OrganizationFlow` information that appears in the `NotebookTaggingRules` of the Diary or Notebook nb. (This is embedded information within the Diary or Notebook that you cannot see directly; however, the function `NotebookTaggingRules[nb]` allows you to see a list containing this information.)

When a notebook is assigned to an Organization it initially has no `OrganizationFlow` information embedded in it. To add such information you use the function `UpdateNotebookOrganizationFlow`.

UpdateNotebookOrganizationFlow[nb,{"flowtag1","flowtag2",...}] updates the OrganizationFlow of OrganizationFlow to be the list of tags given.

Usage Message for `UpdateNotebookOrganizationFlow`

For example, to add the list of tags, `{"nbopen","allpalettes","nbopen","nbopen","todosstatistics"}` to the current Diary (if it is currently open) you would execute:

```
UpdateNotebookOrganizationFlow[$CurrentDiaryNotebook,
 {"nbopen", "allpalettes", "nbopen", "nbopen", "todosstatistics"}]
```

This confirms that the OrganizationFlowTags were added to the current Diary.

```
OrganizationFlowTags[$CurrentDiaryNotebook]
```

{nbopen, allpalettes, nbopen, nbopen, todosstatistics}

Now that the Current Diary has this OrganizationFlow embedded in it, this particular Flow can be executed by evaluating `ExecuteOrganizationFlow[$CurrentDiaryNotebook,"Contacts"]` as long as the current Diary is open.

```
ExecuteOrganizationFlow[$CurrentDiaryNotebook, "Contacts"]
```

{NotebookObject[≪Untitled-35≫],
 NotebookObject[≪All Palettes≫], NotebookObject[≪Untitled-36≫],
 NotebookObject[≪Untitled-37≫], NotebookObject[≪Basic ToDo Statistics≫]}

Uses of Organization Flows

The possible uses of OrganizationFlows are quite varied, and really are only limited by creative inspiration.

One typical sophisticated use is to perform automatic extraction from or insertion of material into a Diary or Notebook when it is opened. For example, the Diary or Notebook might be updated from a database or other data source when it is opened. Or, a database might be updated based upon the current contents of the Diary or Notebook.

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