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# **Apprenez la sécurité des macros et le tri automatisé dans Excel**

Excel For Freelancers – Randy Austin

**YouTube** : <https://www.youtube.com/watch?v=aoLu_iuTYy4>

Excel File: “C:\VBA\Reference\Excel for Freelancers\MacroSecurity\_VBAEditorOptions.xlsm”

**MACRO SECURITY** (**02:34**)

Une image contenant texte, Appareils électroniques, capture d’écran, affichage

Description générée automatiquement

* Security tab (Sécurité)
  + List the trusted sites

**VBA EDITOR OPTIONS** (**04:07**)

* Tools | Options

Une image contenant texte, Appareils électroniques, capture d’écran, affichage

Description générée automatiquement

* + Force Variable Declaration with the ‘Déclaration de variables obligatoire’ option activated
  + Etc.

**SORTING** (**12:05**)

We want to sort the names that are on ‘Sheet1’ in an alphabetic order.

**Steps:**

1. Specify the sheet, using its Code Name (Feuil1)
2. Specify the range ("C:C")
3. Add .Sort, and use IntelliSense
4. Create dynamic ranges (Table)

**Automatically sorting when my range changes** (**22:39**)

1. WorkSheet Change event

# **Slide Out Menu**

Excel For Freelancers – Randy Austin

**YouTube** : <https://www.youtube.com/watch?v=Oe-J3Y_Lbow&t=620s>

Excel File: “C:\VBA\Reference\Excel for Freelancers\Slide\_Out\_Menu.xlsm”

Why is it important ? (**00:25**)

1. More control over user experience
2. Familiar & Professional Interface

Pause, and go to the Developer tab (**01:38**)

# **Contact Manager (using UserForm)**

Excel For Freelancers – Randy Austin

**YouTube** : <https://www.youtube.com/watch?v=e7tUsgWh3Uw>

Excel File: "**C:\VBA\Reference\Excel for Freelancers\ContactManager\_OK**"

Une image contenant texte, logiciel, nombre, ligne

Description générée automatiquement

Une image contenant texte, logiciel, Page web, Site web

Description générée automatiquement

Une image contenant texte, Visage humain, logiciel, Page web

Description générée automatiquement

**ContForm** (UserForm Code – Mainly event code) – Lignes 1 @ 62):

**Une image contenant texte, capture d’écran, Police, document

Description générée automatiquementComments**:

* All these subs are event driven (Click or Change).

Une image contenant texte, capture d’écran, Police, nombre

Description générée automatiquement

**ContactMacros** (Module for Contacts Related code) – Lines 1 @ 157):

**Une image contenant texte, capture d’écran, Police, nombre

Description générée automatiquementComments:**

* This Module groups all contacts logic code.
* Lines 3 to 6 are variable declarations that will seen by all the subs within that module.
* First sub (line 8) is fired manually by two buttons on ContactsDB and InteractionsDB.
* Line 16 (ContactListLoad Sub):
  + Determine the last used row for Contacts, create the criteria and use AdvancedFilter to generate results according to the criteria (far right side of the worksheet).
  + Once the results are created, they are sorted (line 30 to 39).

Une image contenant texte, capture d’écran, Police, nombre

Description générée automatiquement

Une image contenant texte, capture d’écran, Police, nombre

Description générée automatiquement

Une image contenant texte, capture d’écran, nombre, Police

Description générée automatiquement

Une image contenant texte, capture d’écran, Police, nombre

Description générée automatiquement

**InteractionMacros** (Module for Interactions Related code) – Lines 1 @ 121):

Une image contenant texte, capture d’écran, nombre, Police

Description générée automatiquement

Une image contenant texte, capture d’écran, Police, nombre

Description générée automatiquement

Une image contenant texte, capture d’écran, Police, document

Description générée automatiquement

Une image contenant texte, capture d’écran, Police, nombre

Description générée automatiquement

# **Login + Workbook Sharing & Sync**

Excel For Freelancers – Randy Austin

**YouTube** : <https://www.youtube.com/watch?v=aKV5seZmiBs&t=1178s>

Excel File: "**C:\VBA\Reference\Excel for Freelancers\ShareSyncMyWorkbook.xlsm**"

# **Excel Application Protection**

Excel For Freelancers – Randy Austin

**YouTube** : https://www.youtube.com/watch?v=NXNA2uyCyJo

Excel File: "**C:\VBA\Reference\Excel for Freelancers\ExcelApplicationProtection.xlsm**"

Une image contenant texte, capture d’écran, Police, nombre

Description générée automatiquement

1. **Cell Protection (protected cells locked on worksheet protection) ()**

Locked or Unlocked (by default cells are locked)

Make sure that you unlock the cells that the user will be modifying

1. **Range Protection (protect specific range with password) ()**
2. **Worksheet Protection ()**

When adding a protection on a worksheet, all ‘locked’ cells are no longer available to select/modify.

VBA is allowed to make changes to cells that are protected.

# **Named Range**

Excel For Freelancers – Randy

**YouTube** : <https://www.youtube.com/watch?v=DVa2iKuf68A&t=72>

Excel File: “C:\VBA\Reference\Excel for Freelancers\ Ultimate\_Named\_Ranges.xlsm”

**Name Manager** : CTRL + F3

Formulas | Gestionnaire de noms

To create a name from a selection :

* CTRL + SHIFT + F3

A named range can be:

* A single cell
* A list
* A dynamic Range

It is suitable to include the header row in a range, when creating named range.

**With-out the Header Row:**

Une image contenant texte, capture d’écran, Police, nombre

Description générée automatiquement

‘,’ is to be replaced by ‘;’ in french version of EXCEL.

To avoid problem, when deleting all rows within a Named Rang you have to include the Header Row in the definition of your Name Range.

**With the Header Row:**

Une image contenant texte, capture d’écran, Police, nombre

Description générée automatiquement

‘,’ is to be replaced by ‘;’ in french version of EXCEL.

With the Name Manager, TAB IN and TAB OUT of the ‘Refers to’ section to highlight the Named Range.

The proper use of Named Range self explains later formulas:

* to determine how many invoices a given customer has.
* to determine total payments for a given customer
* Etc.

To get a list of all the Named Range:

* From Formulas | Use in Formula | Paste Names to get the whole list of Named Range:

Une image contenant texte, capture d’écran, Police, nombre

Description générée automatiquement

**From VBA:**

You can create Named Range, Workbook Scope, with the following code:



You can also create Named Range, Worksheet Scope, with the following code:



You can create ‘hidden’ Named Range to secure your workbook (Users, Passwords, etc.):



To make sure that you know all about hidden Named Ranges:

Une image contenant texte, capture d’écran, Police, ligne

Description générée automatiquement

To list all Named Ranges:

Une image contenant texte, capture d’écran, Police

Description générée automatiquement

To show all the hidden named ranges:

Une image contenant texte, capture d’écran, Police, nombre

Description générée automatiquement

You can delete Named Ranges from VBA:

First highlight a range, and from the Formula Ribbon, using Noms définis, click on Depuis Sélection to create a Names Range on the fly…



You can delete only the hidden Named Ranges:

Une image contenant texte, capture d’écran, Police, ligne

Description générée automatiquement

You can use Named Ranges to find a specific value:

Une image contenant texte, capture d’écran, Police

Description générée automatiquement

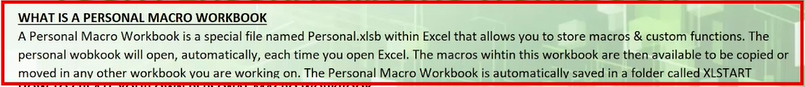
# **Personal Macro Workbook**

Excel For Freelancers – Randy

**YouTube** : <https://www.youtube.com/watch?v=q32VsBBPeOQ>

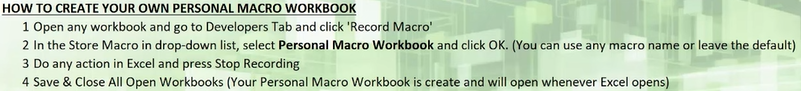
Excel File: "C:\VBA\Reference\Excel for Freelancers\PersonalMacroWorkbook.xlsm"

**What is a Personal Macro Workbook ?** (**04:11**)



The file is called 'Personal.xlsb' and it is save in a directory called 'XLSTART'.

**How to create your own Personal Macro Workbook ?** (**05:05**)



From any workbook, record a macro. That macro gets recorded and stored within 'Personal.xlsb' file.

When adding/changing some macros within the 'Personal.xlsb' file, the Excel application will ask you if you want to save theses changes to your Personal Macro Workbook.

This file is stored in "C:\Users\Robert M. Vigneault\AppData\Roaming\Microsoft\Excel\XLSTART".

The macro can be copy/paste into a project -OR- the entire module from 'Personal.xlsb' can be drag and drop into a project.

You can also export a module as a .BAS file. You can also import a \*.BAS file into a project.

You can delete the 'Personal.xlsb' file if you do want those macros anymore, but the next time you will recording a macro, that file will be created again with the recorded macros.

Two free files, within 'C:\VBA\Reference\Excel for Freelancers' directory:

* PERSONAL.xlsb
* Personal\_Macro\_Workbook.xlsm

Comments on the 'ListMacrosAndModulesFromWorkbook' procedure:

* Declare some objects:
  + xlApp as Excel Application
  + xlWorkbook as a Workbook
  + vbProj as the project (that includes all the macros and modules)
  + vpComp as vbComplete
* Create an instance of Excel Application
* Set the Workbook to analyze (xlWorkbook)
* Create an instance of VBIDE.VBProject
* Clear everything on 'Feuil1'

# **The Ultimate Developers VBA Library**

Excel For Freelancers – Randy

**YouTube** : <https://www.excelforfreelancers.com/docs/the-ultimate-developers-vba-library-tutorial/>

Excel File: “C:\VBA\Reference\Top\_5\_Hacks.xlsm”

From the Email (2023-11-28 23:23), confirming the purchase, download "The VBA Developers Library". Unzip the file into your directory. There is 3 files inside the Zip file:

* AutoHotkey\_1.1.37.01\_setup.exe
* VBA\_Code\_Library.xlsm
* VBA\_Code\_Library\_Script.ahk

From the same Email, you get the license key. Enter it under "License & Registration".

Une image contenant texte, logiciel, Page web, Icône d’ordinateur

Description générée automatiquement

Now, let’s integrate HOTKEY with this… **(04:40)**

* Choose a Procedure
* Enter the AhtoHotKey Shortcut
* SaveCode Item
* From within VBE window, type the Shortcut and watch the Macro appears…

# **Top 5 VBA Hacks -**

Excel For Freelancers – Randy

**YouTube** : <https://www.youtube.com/watch?v=z2ru9BqJmKA>

Excel File: “C:\VBA\Reference\Top\_5\_Hacks.xlsm”

## **Advanced Filters**

Une image contenant texte, Police, blanc

Description générée automatiquement

Appointment Scheduler Application (**04:50**)

Advanced Filters allow us to quickly filter data regardless of how much whether the number of records to filter.

You can have 0 to many criteria.

* On the SCHEDULE worksheet you have Columns A & B to specify certain parameters:
  + Schedule Move TRUE -or- FALSE
  + Selected Year # 1
  + Start Day # StartDayNumb =EQUIV(StartDay;Weekdays;0)
  + Month Start Date MonthStart =DATE(B6;B5;1)
  + Month # 10
  + Year # 2023
  + Month =MAJUSCULE(TEXTE(MonthStart;"mmmm, yyyy"))
  + Selected Item ID 29
  + Selected Item DB Row =SIERREUR(EQUIV(B9;Item\_ID;0)+3;"")
  + Next Item ID =SIERREUR(MAX(Item\_ID)+1;1)
  + Recurring FALSE
  + Selected Contact DB Row =SIERREUR(EQUIV(M5;Cont\_Name;0)+3;"")
  + Next Contact ID =SIERREUR(MAX(Cont\_ID)+1;1)
  + Selected Shape Left Pos.
  + Selected Shape Top Pos.

Une image contenant texte, capture d’écran, nombre, Police

Description générée automatiquement

From the Appt. Items DB worksheet: (**06:35**)

* Columns **A** to **G** represents all the items in the schedule
* **I2:J3** represents the criterias (see **A1:B16** on Schedule worksheet)
* Columns **M** to **Q** represents the filtered results.

**Procedure**:

* Determine the last row we need to filter. If the last row is the Header Row, there is no entries in the schedule to be processed.
* Determine the criterial (starting date and ending date with the Named Range ‘MonthStart’):
  + I3 = Starting Date:
  + J3 = Ending Date:
  + Both I3 and J3 must be in a number format, independently from Date format and Regional Settings
  + From the results, loop through each appointment
  + Module ‘Schedule\_Macros’, Sub ‘Schedule\_Refresh’ (quite big), we have: (**09:49**)

Une image contenant texte, Police, capture d’écran, ligne

Description générée automatiquement

* Determine the LastRow
* Verify if we have actual data.
* Turn Off Screen Updating to speed up the process.
* Execute the Advanced Filter command and verify if there is something to process (make sure to turn the ScreenUpdating option back to TRUE), and verify if there is something to SORT:

Une image contenant texte, capture d’écran, Police

Description générée automatiquement

* **When using that technique make sure that the columns name are IDENTICALS, from the source to the filtered results…**

To create a unique record list, you can also use the Advanced Filters: (**14:21**)

A unique list does not modify the basic data (empty rows, etc.) and can sort the results into alphabetic order. To do that we use Advanced Filters without criteria…

Example:

Une image contenant texte, nombre, Police, capture d’écran

Description générée automatiquement

From Module ‘Contact\_Macro’, Sub ‘Contact\_SortNames’, we have the following code:

* Determine LastRow
* Is there anything to copy?
* Delete any previous Criterial on the same Worksheet
* Use Advanced Filter to create the result list, no criteria, with the UNIQUE parameter
* Determine the LastResultRow of the result list.
* Is there anything to sort?

Une image contenant texte, capture d’écran, Police, ligne

Description générée automatiquement

## **Fundamentals Formulas**

There are four (4) fundamentals formulas used in almost any application. (**19:23**)

Une image contenant texte, Police, capture d’écran, information

Description générée automatiquement

**Match**

Used to find out something specific in a database.

* Need to use a Named Range
* Shedule.Range(“B9”).value will store the Selected Appointment ID
* Schedule.Range(“B10”).value will store the Appointment ID

**Index / Match** (**22:19**)

Used to find out something specific in a database and allow return of specific column within that row. Example: Determine if a date is an holiday, from Admin Worksheet, named range (Holid\_Dates & Holid\_Names).



**Max** (**26:44**)

Max is a great function to find a Unique ID, within a range of numeric values. Using the Named Range (Item\_ID):



**OFFSET / COUNTA** (**28:20**)

Largely used with Named Ranges

## **Data Mapping**

Basically, the ability to take either a worksheet or a user form and map data, in order to copy data (**31:11**)

Une image contenant texte, Police, blanc, typographie

Description générée automatiquement

The way the columns are organized (Appt. Items DB) dictates the way the rows are placed (Schedule.Range(“M4:M9”)).

With the use of LOOP, we can ‘send’ data from columns Appt. Items DB to rows on Worksheet.

Une image contenant texte, Police, ligne, capture d’écran

Description générée automatiquement

And we can also do the opposite (from Worksheet to DB):

Une image contenant texte, Police, capture d’écran, ligne

Description générée automatiquement

**From a UserForm to Worksheet (38:23)**

Again, it is much easier to respect the order of columns (DB) / fields (UserForm).

We will name each field of the UserForm with generic names (Field1, Field2, …, Field7).

From the Module ‘’, Sub ‘’ we perform the following:

* Make sure that there is information in the Contact Name
* Determine if we are adding a new contact -OR- updating an existing one
* Copy the values of every fields (one at the time) to the appropriate row in ‘Contacts DB’
* Update the Schedule.Range(“M5”).Value with the contact name
* Unload the UserForm
* Sort contacts within Contacts DB

Une image contenant texte, capture d’écran, Police, Page web

Description générée automatiquement

From a worksheet to UserForm is exactly the opposite of the previous section.

## **Shape Utilization**

Une image contenant texte, Police, information

Description générée automatiquement

Lightning-fast data visualization. (**46:07**)

Shapes are a terrific way to represent data:

* Thet can hold a lot of data.
* Extremely fast.
* Versatile.
* Can be moved around.
* Can be beautiful and colored.
* Can show the data in many many ways.

With our example, all the appointments are represented by shapes.

Une image contenant texte, capture d’écran, nombre, Police

Description générée automatiquementLet’s start with a pre-formatted shape that is formatted exactly the way you want it to be (somewhere off the screen).

Une image contenant texte, capture d’écran, Police, ligne

Description générée automatiquement

The idea is to copy this standard shape into a new appointment, and format accordingly.

**Procedure**: ()

1. All the appointments shapes are called ‘CallAppt\*\*’ with ‘\*\*’ being the ID of the appointment.)
2. First, delete all the shapes that are called ‘CallAppt\*\*’. Within the Sub ‘Schedule\_Refresh’:

Une image contenant texte, Police, capture d’écran, ligne

Description générée automatiquement

1. Loop through all results rows (3 to 53) (**52:39**)

Une image contenant texte, Police, capture d’écran, ligne

Description générée automatiquement

1. How many appointments per day (to determine the way it will be displayed).

Une image contenant texte, Police, capture d’écran

Description générée automatiquement

1. Loop through all rows of the calendar, the within each row, loop trough each column to determine if there is appointment to display for each cell (row, column). If there is appointment for that day, duplicate the standard shape, and rename that new shape with ‘CallAppt’ & ID. Then build the shape according to parameters (number of appointments for that day, width of an appointment, maximum number of appointments).



Une image contenant texte, capture d’écran, Police

Description générée automatiquement

1. When you select a shape (appointment) you can do various things by assigning a macro (Schedule\_Appt\_Select) to the shape, with “.OnAction”:



Une image contenant texte, capture d’écran, Police, nombre

Description générée automatiquement

It is easy to determine the ID of the appointment, substring of shape name (CalAppt\*\*).

Make sure all the shapes are back to normal color (not selected), then change the color of the selected shape to **Admin.Range(“F9”).Interior.Color**.

By using Drag and Drop, it changes the position of the shape, then you must update the appointment (date) if the shape has moved.

Then the macro (Schedule\_CheckForMove):

* Start a loop to delay the application (10 to 15 seconds):
* During the delay loop, the DoEvents instruction allows for other things to happen:
* As soon as Schedule.Range(“B1”).Value = True the application exits out of loop.
* As the shape is selected, Schedule.Range(“B1”).Value is set to FALSE.
* Determine if the shape has been moved:

Une image contenant texte, Police, ligne, capture d’écran

Description générée automatiquement

* If the shape has been moved, verify that it has been moved within valid boundaries.
* If the shape has been moved within valid boundaries, update the appointment with the new date, and set Schedule.Range(“B1”).Value to TRUE to exit the delay loop:

Une image contenant texte, Police, capture d’écran, ligne

Description générée automatiquement

…

## **Sorting Data**

Super powerful tool (**1:21:41**)

Une image contenant texte, Police

Description générée automatiquement

We have to sort the results (after the results are computed) in two levels (date and time). From the ‘Schedule\_Refresh’ Sub, make sur all previous sort are cleared then sort:

Une image contenant texte, Police, capture d’écran

Description générée automatiquement

Another example, from ‘Contact\_Macros’, ‘Contact\_SortNames’ Sub. First apply Advanced Filter, the sort the results: (**1:26:09**)

Une image contenant texte, capture d’écran, Police, Page web

Description générée automatiquement

# **Contact Manager with a UserForm**

Excel For Freelancers – Randy Austin

**YouTube** : <https://www.youtube.com/watch?v=e7tUsgWh3Uw>

Excel File: “C:\VBA\Reference\Excel for Freelancers\ContactManager.xlsm”

Une image contenant texte, capture d’écran, Site web, Page web

Description générée automatiquement

**Three Worksheets (03:35)**

* Admin
* ContactsDB
* InteractionsDB

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