

World Class Macros:
Practical Applications of Microsoft Excel
Macros for an Institutional Research Office

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Why Use Macros?

- ▶ Our experience
- ▶ In the I.R. shop: Report generation
 - for different departments
 - annual, quarterly, monthly updates
- ▶ Macros allow users to accomplish complex (or tedious) tasks with the click of a button
- ▶ Saving time!



Goals

- ▶ Build a solid foundation for additional professional development in macros
 - Relay some of the essential skills in MS Excel
 - Gain hands-on experience in creating, editing, and executing macros
 - Share some powerful, practical applications of Excel Macros
- ▶ Provide the resources you need to do this on your own



Outline

- ▶ MS Excel Visual Basic (XLVB) macro essentials
- ▶ Hands-on activity
- ▶ Demonstration
- ▶ Questions/Discussion



A Quick Survey



XLVB “Essentials”

- ▶ What is Excel and VB
- ▶ Program/computer setup
- ▶ Recording macros
- ▶ Editing macros
- ▶ Activating macro
- ▶ Quick walk-through

By the way, we are not experts...



XLVB “Essentials” – What is Excel and VB

- ▶ Excel is a software program that allows the easy analysis and manipulation of data using tables and formulas.
- ▶ Workbooks versus worksheets
- ▶ Graphic User Interface (GUI)
- ▶ Visual Basic is programming code that you can use to perform many functions in Excel with the click of a button
- ▶ Macros are packets of Visual Basic code that perform specific functions.



XLVB “Essentials” – Before you Start

- ▶ What version of MS Excel are you using?
- ▶ Accessing the Visual Basic toolbar/ribbon
 - Excel03 – View/Toolbars/Visual Basic
 - Excel07 – Office Button/Excel Options/Popular/Show developer tab in the ribbon
- ▶ Set the appropriate macro security level
 - Excel03 – Tools/Macro/Security – Set to Medium
 - Excel07 – Developer/Macro Security – Disable all macros with notification



XLVB “Essentials” – Recording Macros

- ▶ Recording macros
 - Code for most MS Excel actions can be captured, saved and “replayed”
- ▶ Keep it simple at first
 - While learning, best to record one action at a time
- ▶ Save all macros in a different workbook
 - Macro workbook in same folder as report template
 - Cut and paste from your active workbook



XLVB “Essentials” – Visual Basic Editor

- ▶ Visual Basic is the command language that runs your MS Excel macros
- ▶ Basic elements of the VB Editor
 - Project Window (Objects versus Modules)
 - Code Window
- ▶ Basic macro structure
- ▶ Using comments



XLVB “Essentials” – Activating Macros

- ▶ Creating a control button
 - Excel03 – View/Toolbars/Forms – select “button”
 - Excel07 – Developer/Insert/Form Controls – select “button”
- ▶ Right-click, select “assign macro”, and select macro name
- ▶ Designate worksheet for macro controls
- ▶ Beware of save commands!!!



XLVB “Essentials” – Quick Walk-Through



The Lifeline of a Macro

- ▶ RECORDING core processes and/or RECYCLING existing code
- ▶ EDITING to isolate desired code
- ▶ CONSOLIDATE core processes to perform larger, more complex task
- ▶ TEST and REVISE your macro
- ▶ EXECUTE your final macro



Recycling Macros

- ▶ No need to re-invent the wheel
- ▶ Make a backup of prior macro before making any changes
- ▶ Be aware of what parts of the template often change
- ▶ Carefully test changes as you go



Hands-on Practice



Sample Template

- ▶ Survey Tab - Polished, formatted presentation of alumni survey results
- ▶ Output Tab - Raw output originally generated using SPSS
- ▶ Dept List Tab - Department and College Names, locations of raw output, and where to save final reports



Report Macros

- ▶ FETCH DEPT – Fetches the department and college information and places it in the control panel
- ▶ FETCH OUTPUT – Finds output file for current department, copies and pastes it into the template
- ▶ SAVE REPORT – Preps final report and saves it to specified spot on the server



Demonstration – Practical IR Excel Macros



Looping

- ▶ IR offices are rarely asked to produce just one report
- ▶ Macros can be created that run other macros
- ▶ It is useful to be able to “loop” an application, where a generic template is populated for each applicable entity
- ▶ Looping an application represents a HUGE saving in time



Demonstration Macro Applications

- ▶ Report Generator
- ▶ Report Checker
- ▶ Auto-PDF
- ▶ Folder Creation
- ▶ Graph Modification



Summary

- ▶ Increased efficiency through Excel macros can reap tremendous dividends for an IR office.
- ▶ Microsoft Excel Visual Basic macros represent a valuable addition to existing IR processes
- ▶ XLVB macros have several powerful, practical applications in an IR office
- ▶ XLVB basics are straightforward to learn



Your New Skills

- ▶ Obtain the essential skills needed to create and operate macros in MS Excel
- ▶ Gain hands-on experience with practical macro applications
- ▶ Build a solid foundation for additional personal development.



Questions/Discussion



For More Information

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Copies of this workshop's materials as well as other papers and presentations are available through the website

