

# Reporting EXCELence: Automate your Report Generation Process Using Microsoft Excel Macros

Bob Gonyea, John Moore and Rick Shoup

## Why Use Macros?

- ◆ NSSE's experience: "Necessity is the mother..."
- ◆ In the I.R. shop: Report generation
  - ◆ for different departments
  - ◆ annual, quarterly, monthly updates
- ◆ Context: Running same basic reports (template) repeated times (periodically, or for different entities).
- ◆ Variables stay the same for the most part, data changes.

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## Goals

- ◆ To show how we create and utilize Macros in MS Excel, a valuable tool for increasing efficiency and accuracy in report production
- ◆ To demonstrate what CAN be done, and provide additional resources that will help you learn HOW.
- ◆ By the way, we're not expert code writers ... most can do this.

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## Outline

- ◆ Excel Macro basics
- ◆ Demonstration:
  - ◆ Report Generator
  - ◆ Report Checker
  - ◆ Looping Applications
- ◆ Questions/Discussion

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## XLVB "Basics"

- ◆ Excel (XL) Macros
  - ◆ Recording
  - ◆ Demonstrate on simple table
  - ◆ Creating a control button
- ◆ Discovering Visual Basic (VB) beneath XL
  - ◆ VB is the code the runs XL
  - ◆ Basic elements of VB windows
  - ◆ Basic code structure

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## Hypothetical Reporting Situation

- ◆ Upcoming campus-wide meeting
- ◆ Meeting will focus on results from a student feedback form
- ◆ Need to generate individual reports for each department, with comparative information from College and University respondents

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## Application #1 – Report Generator

- ◆ Report output is often produced via SPSS, SAS or some other statistical package
- ◆ The final reports are seldom produced using the same platform as the one that generated the output
- ◆ Visual Basic macros can be used to draw raw output into a formatted Excel template.
- ◆ Macros can also automate tedious tasks such as printing and saving reports

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## Application #1 – Macros

- ♦ **Button 1: Get Dept**
  - After entering department number, fetches the department and college information and places it in the control panel
  - Saves the Template (so you know which was the last report your generated)
- ♦ **Button 2: Get Output**
  - Finds the saved data file for the department, opens it, copies the data
  - Pastes the data into the template, closes the data file
- ♦ **Button 3: Print Report**
  - Selects report page(s) and prints it
- ♦ **Button 4: Save Report**
  - Saves data in template (removes formulas)
  - Deletes control and data pages
  - Saves Report out to appropriate folder

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## Application #2 – Report Checker

- ♦ "Double-blind" checks of report output are always a good idea
- ♦ Manual checks are time intensive and subject to fatigue-based error
- ♦ Is not feasible to check every number in every report manually
- ♦ Automated, electronic checks of reports provide a reliable way to save substantially staff time and effort

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## Application #2 – Macros

- ♦ **Button 1: Get Checksheet**
  - Finds the checksheet for the department, opens it, copies the data
  - Pastes the data into the template, closes the checksheet
- ♦ **Button 2: Get Report**
  - Finds the saved report for the department, opens it, copies the data
  - Pastes the data into the template, closes the report
- ♦ **Button 3: Make Static**
  - Checker application has cell formulae that need to be changed into values, otherwise when you save pages out the values don't remain
- ♦ **Button 4: Run Checker**
  - Counts how many errors were found on a "match" page
  - If there are places where checksheet and report do not match, it saves out a report that shows which questions/responses have different values

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## Application #3 – Looping

- ♦ IR offices are rarely asked to produce just one report
- ♦ Standard reports are generally produced for each department/college at an institution
- ♦ 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

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## Summary

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

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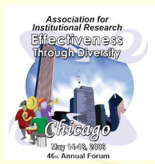
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## For More Information

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Copies of this presentation as well as other papers and presentations are available through the website

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