AGENDA
OHEC FALL MEETING
OCTOBER 8-9, 1981
AT
WRIGHT STATE UNIVERSITY

OCTOBER 8 (THURSDAY)

11:30    Arrive at Fairborn Holiday Inn
11:45    Lunch (wherever)
1:00     OHEC Registration (155 B & C University Center)
1:15     Introduction and Welcome
1:30     Staff Productivity (Software Aids, Hardware Aids, People Aids)
2:45     Break
3:15     Resource Allocation and Planning System (RAP) Application Overview
4:00     WIDJET at WSU
5:00     Announcements and Adjourn
6:00     Social Hour and Fifteen Minutes (at Ichabods in Oregon District of downtown Dayton)
7:15     Dinner
9:00     On Your Own (The Oregon District has several night spots.)

OCTOBER 9 (FRIDAY)

8:30     Coffee and Danish
8:45*    Business Meeting
          Chairman, Carroll Notestine
          Secretary, Tom Doctor
10:30    Break
10:45    Resume Business Meeting
12:00    Adjourn

*Call Carroll with agenda items if you haven't already.
(614) 422-3687

FRIDAY AFTERNOON (OPTIONAL)

12:00    Beer (25¢) and brats at the student-sponsored October Daze on campus, complete with live bands, Greek booths, etc.
12:00    Tours of the Center and demonstrations
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<th>University</th>
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<td>Ball State University</td>
<td>James L. Smith</td>
<td>Admin. Asst., Computer Services</td>
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<td>Richard Conrad</td>
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<td>Miami University</td>
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<td>Director, Admin. Computer Services</td>
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<td>Daniel K. Leggett</td>
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<td>Donald J. Schaefer</td>
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<td>Program Consultant, RICC</td>
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<td>Assoc. Prof. of Communications</td>
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<td>David R. Darr</td>
<td>Director of Financial Aid</td>
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<td>Youngstown State University</td>
<td>Thomas W. Doctor</td>
<td>Director of Computer Center</td>
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<td>Richard P. Barnes</td>
<td>Asst. Dir. for Computer Operations</td>
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<td>Richard A. Molnar</td>
<td>Systems Programmer</td>
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<td>Richard D. Rolland</td>
<td>Asst. Dir. for Acad. Consulting</td>
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<td>Thomas R. Davidson</td>
<td>Academic Consultant</td>
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*** O.H.E.C. ***

THURSDAY 1:30 - 2:45

OCTOBER 8, 1981

DAN - INTRO 1:30 - 1:40

BC - SOFTWARE 1:40 - 2:22

DARR - USER INVOLVEMENT 2:22 - 2:29 + questions

DAN - PEOPLE; SOFTWARE TOOLS 2:37 - 2:48

CLOSING
OTHER AREAS THAT SUPPORT INCREASED PRODUCTIVITY

TEAM DEVELOPMENT APPROACH

TEAMS OF 3 TO 5 PLUS STUDENT PROGRAMMERS.
PROJECT LEADER AND BACK-UP DESIGNATED.
ALL MEMBERS KNOWLEDGEABLE -
APPLICATION SYSTEM -
FEEL VALUABLE/ARE MORE VALUABLE.
FEEL MORE SENSE OF RESPONSIBILITY TO SYSTEM.
TECHNICAL EXPERTISE -
TRADE OF TRAINING TIME VS. SPOON-FEEDING THROUGHOUT
ENTIRE PROJECT.
MAP AIDS TO ASSIST IN TRAINING AND FOR LATER REFERENCE.
PROJECT LEADERS TRY TO EXPLAIN THE WHY'S RATHER THAN
SIMPLY DISPENSING THE CORRECT ANSWERS.

STUDENT PROGRAMMERS ARE A PART OF THE TEAM.
INEXPENSIVE LABOR.

GREAT SOURCE FOR RECRUITMENT -
WE KNOW WHAT WE'RE GETTING.
THEY ARE ALREADY TRAINED FOR OUR INSTALLATION.
THEY KNOW THE BENEFITS OF A UNIVERSITY ENVIRONMENT.

USER IS A PART OF THE TEAM -
A) TOTAL INVOLVEMENT IN DESIGN AVOIDS SO MANY SURPRISES.
B) USER WHO UNDERSTANDS COMPLEXITIES OF DEVELOPMENT.
C) USER KNOW DB DESIGN (HEIRARCHY) ; USEFUL FOR CODING
MARKIV REQUESTS.
D) USER KNOWS DATA ELEMENTS (BY MNEMONIC) FOR PRECISE
COMMUNICATIONS; ALSO USEFUL FOR CODING MARKIV REQUESTS.
E) GOOD ACCESS TO USER IS HELPFUL ALL ALONG THE WAY.
F) GOOD RELATIONSHIP WITH USER IS MUCH BETTER THAN AN
ADVERSARY RELATIONSHIP.
G) USER ACCEPTS MORE RESPONSIBILITY FOR SYSTEM.
H) HOPEFULLY, USER RECEIVES A SYSTEM CLOSER TO HIS/HER LIKES.
STANDARD JCL - THE COMPLEMENT OF STANDARD PROGRAMS ---

STANDARD PROCS
  __DBPROC (SINGLE STEP)
  __EPPROC (EXTRACT/SORT/PRINT)
STANDARD EXEC TEST JCL (ADAPTABLE TO PRODUCTION)
  __TSTJCL
NAMING CONVENTIONS ALLOW EASY SCAN/REPLACE FOR SET-UP.

STANDARD PROCS:

SCAN/REPL; SET COMMENTS; FORCED CHECKING OF CERTAIN CODE
  (E.G. DISP OF MASTER FILES).
READY TO GO.
IMS - STANDARD PROC CAN INTERCHANGE (SIMPLY) BETWEEN ON-LINE
  BATCH (BMP) AND OFF-LINE BATCH (DLI) VIA SYMBOLICS
  AND DUMMY ALLOCATIONS. (IBM SUPPLIES TWO PROCS - 1 FOR
  ON-LINE, 1 FOR OFF-LINE.)
HEAVY USE OF SYMBOLICS (FOR FLEXIBILITY)
HEAVY USE OF REFER-BACKS (FOR ACCURACY/SIMPLICITY)
DOCUMENTATION IN PROCS -
  COMMENTS FOR MAINTENANCE DATE AND INITIALS
  STEP DESCRIPTIONS
  FILE/D.B. INTENT (INQUIRY VS. UPDATE)

STANDARD TEST JCL:

SAMPLES OF CTLG; SORT CARD FORMAT
SCAN/REPL; SET CTLG OPTIONS AND SORT CARD VALUES
READY TO GO
VERY FEW JCL ERRORS

SUMMARY OF BENEFITS ---

READABILITY/MAINTAINABILITY.
UNIFORMITY.
SAMPLE OF STANDARDS.
  VIA STANDARD PROGRAMS AND JCL, "STANDARDS" ARE
  ADHERED TO THAT MAY OR MAY NOT APPEAR IN PUBLISHED
  STANDARDS. (OUR PUBLISHED STANDARDS OFTEN FOLLOW CURRENT
  USAGE.)
"BEST" OF EVOLVED CODING TECHNIQUES.
TESTING TIME REDUCED (BASICS ARE ALREADY "ERROR FREE")
PROGRAM CODING - PROGRAMMER MOVES IMMEDIATELY TO LOGIC
  (REMOVED FROM DRUDGERY).
MAIN-LINE

SAMPLE DB RETRIEVAL CODE
INCLUDING SETTING UNIQUE IDENTIFIER
FOR EACH DB ACCESS TYPE (FOR DEBUGGING)
KEY FORMATTING (TO HELP STANDARDIZE DISPLAY MESSAGES)
LIMIT COUNT (PLACED BETWEEN SELECTION AND PROCESS
(UPDATE/PRINT) CODE)

DETAIL PRINTING
LINE COUNT BASED ON CC
PAGINATION (NO EMPTY FIRST PAGE
OR TRAILING HEADERS ON LAST PAGE)
I.E. - NO HEADERS TILL NEEDED
CLEARING OUT OF DETAIL LINE (AVOID FALL-THRU)
THEREFORE, PROGRAMMER SIMPLY SETS UP DETAIL LINE
(INCL. CC) AND HANDS TO PRINT ROUTINE

TERMIN
DISPLAY PAGES OF OUTPUT
TIME STAMP - DISPLAY
- PRINT ON REPORT
DISPLAY OF RETURN-CODE SETTING
CLOSE FILES

STDTP -

VARIOUS SIMILARITIES TO BMP PLUS -
REMARKS: PFKEYS DOCUMENTED.
WORKING-STORAGE:
MESSAGE TABLE.
MSG-IN - PREFIX; BASIC KEYS; HIDDEN KEYS ("CONVERSATIONAL
WITHOUT SPA).
MSG-OUT - PREFIX; KEYS; DATE; PSWDMODE; MSG AREA.

PROCEDURE DIV:
PSWD FUNCTION/SECURITY CHECKING.
MENU SWITCHING LOGIC.
MSG Q I/O.
MAX. FIELDS DEMO PFKEY (-I, -O).
ERROR MSG SENDING CODE (SOME WITH Q'S BY SEVERITY).

TP PROTOTYPE EVOLVED FROM STANDARD TP -

INTERFACES WITH M.F.S. (MESSAGE FORMAT SERVICES) DEFINED SCREEN
DB I/O COMMENTED OUT.
DEMO FIELD SIZE/LOCATIONS (NOT ALWAYS THAT OBVIOUS FROM LAYOUT)
ABLE TO VIEW SCREEN -
1) NO DATA IN OR OUT (BASIC PREDEFINED SCREEN).
2) DATA OUT.
3) DATA OUT AND INPUT AREAS FORMATTED WITH UNDERScores.
EXAMPLES: (COBOL)

STDBMP - (STANDARD BATCH)

DIVISIONS - desire to hurry to Procedure Div. (logic); attempt to provide most of other 3 Divs.

ID DIV

PLUG IN PROGRAM-NAME, AUTHOR, DATE AND REMARKS

REMARKS SECTION

SAMPLES/REMINDEES

DOCUMENTATION OF CONTROL CARD OPTIONS

DB CALL STRUCTURE (SSA'S)

MAINTENANCE COMMENT

(CONTROL #, DATE, PROGRAMMER, DESCRIPTION)

ENV DIV

STRIPPED TO BARE MIN

CARDS/PRINTER DEFINED (SELECT/ASSIGN - LINK TO JCL)

ADD EXTRA FILES

(NOTE: DB'S NOT DEFINED HERE IN IMS)

(NO SELECT CLAUSES)

DATA DIV

FILE SECTION

FD'S FOR CARDS/PRINTER

(STRIPPED VERSIONS)

WORKING STORAGE SECTION

COUNTERS - IDENTIFIED FOR DUMPS (VIA LITERAL)

SWITCHES - IDENTIFIED FOR DUMPS (VIA LITERAL)

STANDARD WORK AREAS

BASIC COPYLIBS

CONTROL CARD

(SUPPLEMENTED BY STD PGM CODE)

SEGS/SSA'S

TITLES

DATE=VALID/FORMAT

PRINT DETAIL/HEADER

LINKAGE SECTION

PROC DIV

INIT.

MAIN DRIVING LOOP

TERMIN.

INIT -

FILE OPENS

CTLC VALIDATION -

(CTLC-OPTIONS CARD;PARMS/VARIABLES WHICH GOVERN THE EXECUTION OF THE PROGRAM.)

1) CORRECT CTLC/PGM MATCH

2) OVERRIDE DATE CAPABILITY (WITH VALIDATION)

3) KEY VALIDATION (TERM, FISCALYR, ETC.)

** 4) LIMIT COUNT

** 5) PRINT MODE EVEN IF DEFAULT IS 'NO'; (DEBUG MODE)

** 6) UPDATE MODE

*** LOCKS OUT DB UPDATES, EVEN IF PROGRAMMER ERROR
TALKING IN TERMS OF COBOL PROGRAMS (CERTAINLY DEGREE OF
APPLICABILITY TO OTHER HIGH-LEVEL LANGUAGES).
COMMONLY KNOWN AND USED (PEOPLE TRAINED IN IT).
IN MANY WAYS, A VERY GOOD LANGUAGE.
BUT TEDIOUS.
VARIOUS PRODUCTS EMERGING TO RENDER COBOL OBSOLETE.
STILL HERE, AND IT IS USEFUL.
STANDARD/SKELETAL PROGRAMS ATTACK PROBLEM OF DRUDGERY —
REMOVE BORING INITIAL SET-UP;
ALLOW PROGRAMMER TO MOVE TO LOGIC IMMEDIATELY

STANDARD (SKELETAL) PROGRAMS —

TYPES —
TP — SUPPORT VIDEO DISPLAY SCREEN; ACCESS ON-LINE D.B.
BMP — BATCH PROGRAM WITH D.B. INTERFACE
PRT — NON-IMS BATCH-TYPE PROGRAM; DRIVEN BY EXTRACT FILE
TP THEN SPAWNED TP PROTOTYP (DEFINE LATER).
ALL INCORPORATE HEAVY USE OF COPYLIB.
STANDARD PROGRAMS ALSO PROVIDE CODE WHICH MAY NEED TO HAVE
TAILORED CODE INTERSPERSED.
EACH NEW APPLICATION DEVELOPMENT AREA CREATES ITS OWN VERSION OF
STANDARD PROGRAMS. THEY ACCUMULATE THE BEST FROM PRIOR SYSTEMS
AND MAY ADD THEIR OWN ENHANCEMENTS, THUS ALWAYS EVOLVING
UPWARDS.
ALTERNATE METHOD IS TO COPY A "SIMILAR" PROGRAM.
COPY FROM STANDARD PROGRAM IS SUPERIOR BECAUSE IT IS LATEST
"STANDARDS" AND TECHNIQUES.
(Granted, certain techniques such as file matching or summary
level breaks are too specific for a standard program — but
these may still be copied in the context of a standard
program.)
STANDARD PROGRAM NOT ONLY PROVIDES STANDARD SET OF PROGRAM
CODE BUT ALSO SERVES AS SAMPLE OF CODING
STANDARDS/CONVENTIONS — WHICH IS SIMPLER THAN TURNING TO A
STANDARDS NOTEBOOK.
THERE IS ALSO THE OBVIOUS BENEFIT OF READABILITY AND
MAINTAINABILITY.
TESTING — SIMPLE; BASIC CODE IS ALREADY "GOOD"; I/O IS ALREADY
TAKEN CARE OF.
THE SUBJECT OF PRODUCTIVITY ENCOMPASSES NUMEROUS AREAS. DURING THE NEXT HALF HOUR I WILL BE EMPHASIZING PRODUCTIVITY FROM A PROGRAMMING STANDPOINT. I WILL BEGIN BY DISCUSSING STANDARD OR "SKELETAL" PROGRAMS AND WILL BE GOING INTO SOME DETAIL TO DEMONSTRATE THE FUNCTIONS AND BENEFITS AVAILABLE THROUGH THIS METHOD. THE NEXT SUB-TOPIC WILL BE STANDARDIZED JCL, THEN THE TEAM DEVELOPMENT APPROACH AND FINALLY A BRIEF MENTION OF ADDITIONAL TECHNIQUES UTILIZED TO INCREASE PRODUCTIVITY.

WHAT I WILL PRESENT, REPRESENTS TECHNIQUES EMPLOYED HERE AT WRIGHT STATE. THERE MAY BE SOME VARIANCE FROM ONE APPLICATION AREA TO ANOTHER, BUT THE APPROACHES ARE BASICALLY USED BY ALL.

PRODUCTIVITY AND EMPLOYEE SATISFACTION (& RETENTION) ---

ACCOMPLISHMENT GIVES FEELING OF SATISFACTION. TOTAL EMPHASIS ON PRODUCTIVITY MAKES THE PRODUCT OR SERVICE SEEM ALL IMPORTANT AT THE EXPENSE OF THE EMPLOYEE. (LEAVING THE INDIVIDUAL FEELING INSIGNIFICANT.) (SOMEONE FEEDING PENCILS AND CODING SHEETS INTO A BOX AND HAVING GREAT CODE EMERGE WOULD NOT FEEL VERY SATISFIED.) REMOVAL OF THE DRUDGERY AND THE MUNDANE IS SATISFYING. PROGRAMMER NEEDS TO FEEL BOTH PRODUCTIVE AND CREATIVE. PRODUCTIVITY NOW AND LATER - LOOK TO FUTURE BOTH FOR EASE OF MAINTENANCE AND "PROTECTION" AGAINST PROGRAMMER ERRORS. (AGAIN LEADING TO EMPLOYEE SATISFACTION.)
WALK-THRUOUGHS

TYPES

1) PROGRAM SPECS - A) USER VERSION
   B) PROGRAMMER VERSION - REVIEWED IN W-T

2) BASIC APPROACH REVIEWED BY EXPERIENCED TEAM MEMBER
   (TOP LEVEL OF TOP-DOWN DESIGNED CODE).

3) PROGRAM CODE - W-T BEFORE FIRST TEST

4) TESTING REVIEWED BY
   A) OTHER TEAM MEMBERS
   B) USER
   C) DOCUMENTATION SPECIALIST

PROGRAM WALK-THROUGH

CHECK STANDARDS
CHECK READABILITY
CHECK LOGIC
CHECK MAINTAINABILITY -
   LOOK TO FUTURE (MAINT. AND PROTECTION)
ALL TEAM MEMBERS MAY PARTICIPATE (AT VARIOUS TIMES),
   NOT JUST TEAM LEADER.
ALL FEEL LIKE PART OF TEAM.
ALL GAIN EXPERTISE -
   CODING
   KNOWLEDGE OF SYSTEM

TESTING TIME MINIMIZED
TOP-DOWN DESIGN/CODING

STRUCTURED CODING -
- CPU CYCLES VS PROGRAMMER TIME (INITIAL CODING AND MAINT.)

STANDARDS -
- KEEP SIMPLE
- ACCEPTED WIDELY
- CHANGEABLE

COPYLIB -
- UNIVERSAL (CROSS-SYSTEM) E.G. DATE CONVERSION/VALIDATION, STATE TABLES.
- INTRA-SYSTEM -
  - SYSTEM-TAILORED E.G. TITLES (SYSTEM NAME/FY VS TERM/ETC.)
  - SYSTEM-UNIQUE E.G. VALIDATION Routines (ROUTINES FOR WHICH NO ANALOGOUS ROUTINES IN OTHER SYSTEMS).

CONTROL-CARD OPTIONS -
- TO ALLOW MULTI-FUNCTIONS IN PROGRAM (TO AVOID DUPLICATING CODE AND GIVE GREATER FLEXIBILITY).
- TO GIVE TESTING OPTIONS.

CODES DATA BASE -
- FOR DYNAMIC TABLES (HIGH MAINT. TYPE)

GOLD (GENERATED ON-LINE DOC.) -
- ON-LINE REFERENCE TOOL TO DED, COPYLIB'S, MFS, ETC.

INTERACT -
- TEXT EDITING (COPY;SCAN/REPLACE)
- ON-LINE JOB SUBMISSION/RETRIEVAL
COMBINED EFFECT OF TECHNIQUES (CODING/TESTING) ---

1) PROGRAM SPECS - 1ST PASS BY USER
   - SET WRITTEN BY PROGRAMMING STAFF *W-T*

2) TOP-DOWN DESIGN - REVIEWED

3) COPY STANDARD PROGRAM
   FROM A BRIEF SAMPLING -
   TP PROGRAMS HAD 25 TO 40% OF THE CODE PROVIDED
   VIA EITHER STANDARD CODE OR COPYLIB MEMBERS.
   BMP PROGRAMS HAD 50 TO 75% OF THE CODE PROVIDED
   VIA EITHER STANDARD CODE OR COPYLIB MEMBERS.

4) TEXT EDITING (COPY; SCAN/REPLACE)

5) COMPILATION - REVIEWED *W-T*

6) COPY STANDARD PROC/EXEC JCL

7) ON-LINE JOB SUBMISSION/RETRIEVAL

8) TEST OPTIONS (LIMIT COUNT; NO UPDATE)

RESULT: BETTER PROGRAMS IN LESS TIME
I.E. INCREASED PRODUCTIVITY -
      QUANTITATIVELY AND QUALITATIVELY.

\[
\text{STDBMP} \quad 333 \text{ lines hard-coded} \\
\text{218} \text{ lines from COPYLIB} \\
\text{total: 551 \text{ pre-coded}}
\]
AT THIS POINT, I WOULD LIKE TO TURN THE TIME OVER TO WRIGHT STATE'S DIRECTOR OF FINANCIAL AID - MR. DAVE DARR. DAVE HAS BEEN WORKING WITH THE TEAM WHICH IS DEVELOPING A NEW ON-LINE FINANCIAL AID SYSTEM. HE WILL PRESENT SOME OF HIS PERSPECTIVES ON USER INVOLVEMENT IN THE DEVELOPMENT PROJECT.

DAVE DARR ....