

**ATSE:
A SURVEY INSTRUMENT
FOR ASSESSING ATITUDE
TOWARD SOFTWARE
ENGINEERING**

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ORIGINAL PURPOSE

- **ASSESSMENT OF EFFICACY OF LIVE-THRU CASE HISTORIES**

ADDITIONAL USES: OUTCOMES ASSESSMENT OF

- **SOFTWARE PROCESS ASPECTS OF COMPLETE CS DEGREE PROGRAM**
- **INDIVIDUAL SOFTWARE ENGINEERING COURSE**
- **SPI (SOFTWARE PROCESS IMPROVEMENT) EFFORTS**

RESULTS OF ADMINISTRATION AT USC

AUGUST, 2002 I

- *Developers of custom software, that is software being developed for a specific customer, should be shielded from the customer by management (A9): 44/124 students either agreed or agreed strongly*
- *If a customer fails to specify everything they need in software being developed for them, then it's the customer's problem if the finished software doesn't work right (A17): 39/124 students agreed or agreed strongly*

RESULTS OF ADMINISTRATION AT USC

AUGUST, 2002 II

- *It would be unreasonable for a software developer to be told that s/he must have other team members read his/her code (A15): 25/124 students either agreed or agreed strongly*
- *Most of the problems given to professional software developers are very clearly defined (A21): 21/124 students agreed or agreed strongly*

RESULTS OF ADMINISTRATION AT USC

AUGUST, 2002 III

- *When working on a team project, team members should start by coding their own modules and then figure out how to put the modules together (A27): 24/124 students agreed or agreed strongly*
- *I would probably get my code debugged and working faster if other people read the code and provided feedback on it (A28): 22/124 students disagreed or disagreed strongly*

RESULTS OF ADMINISTRATION AT USC

AUGUST, 2002 IV

- *On a COTS-based software development project, that is, a project which will use Commercial Off The Shelf software components, it's best for the project manager to assume that each COTS product will perform as specified in its documentation (A33): 43/124 students agreed or agreed strongly*
- *Software development is a sufficiently uncertain/unscientific activity that schedule overruns of less than 50% should be readily accepted by customers (A35): 38/124 students agreed or agreed strongly*

RESULTS OF ADMINISTRATION AT USC

AUGUST, 2002 V

- *In a software development project it's usually unproductive for the project/manager to consider problems that might conceivably arise before they actually do arise (A36): 30/124 students agreed or agreed strongly*
- *It's most efficient for each member of a software development team to be allowed to write code according his/her own preferred coding style/standard (A42): 32/124 students agreed or agreed strongly*

ATSE's DEVELOPMENT

- **LIST INAPPROPRIATE ATTITUDES / BEHAVIORS OBSERVED IN CS STUDENTS AND SOFTWARE DEVELOPMENT PROFESSIONALS**
- **WRITE QUESTIONS**
- **ADMINISTER (SURVEY+FOCUS GROUPS)**
 - **TO STUDENTS: TO CATCH CONFUSING / AMBIGUOUS WORDING**
 - **TO PROFESSIONALS: TO CATCH CONFUSING / AMBIGUOUS WORDING AND TO VALIDATE “CORRECT” RESPONSES**
- **ITERATE PROCESS TO REFINE ATSE (IMPROVE WORDING: EXTEND COVERAGE; CHECK RELIABILITY)**

ATSE's VETTING

- **50 attendees at a North Jersey SPIN meeting (January 16, 2002)**
- **7 members of Xerox Corporation's SPI Group at a monthly phone conference (February 11, 2002)**
- **50 students finishing the second semester of Stevens Institute's Senior Project course (April 16, 2002)**
- **98 attendees of DoD's Software Technology Conference (April 30, 2002)**
- **50 attendees of Southern California SPIN meeting (December 6, 2002)**

ISSUES ADDRESSED

-Attitude Toward Technical/Quantitative Software Development Issues Other Than Writing Code.

**-attitude toward technical/quantitative issues typically dealt with
in Computer Science programs**

**-attitude toward technical/quantitative issues typically not dealt
with in Computer Science programs-**

-attitude toward use of and utility of software metrics

-attitude toward use of and utility of software economics

-attitude toward confronting and dealing with risk

-Attitude Toward Non-Technical/Non-Quantitative Issues

-attitude toward (inter-)personal issues

-attitude toward issues relating to personal space and introversion

-attitude toward teamwork

**-attitude toward the responsibility of software developers with
computer science backgrounds**

-attitude toward discipline

FURTHER WORK

- *ATTITUDE TOWARD SOFTWARE DEVELOPMENT PROCESS*
- **KNOWLEDGE OF SOFTWARE DEVELOPMENT PROCESS**
- **ABILITY TO APPLY SOFTWARE DEVELOPMENT PROCESS**

CONCLUSIONS

- **OFFERING ATSE TO ANYONE WILLING TO SHARE RESULTS (ANONYMOUSLY IF DESIRED)**
- **IMPROVING ATSE'S COVERAGE THRU ADDITIONAL QUESTION WRITING, ADMINISTRATIONS, AND FOCUS GROUPS**
- **WELCOME INPUT AND HELP RE ADDITIONAL TOPICS, QUESTIONS, ETC.**