

METHODS OF TESTING

- INTERFACE TESTING - TESTS GENERATED BY USING THE INTERFACE.
- INTEGRATION TESTING - TESTING THE COLLECTION OF COMPONENT FUNCTIONS
- ACCEPTANCE TESTING - CUSTOMERS PERFORM TESTING PRIOR TO PURCHASE.
- UNIT TESTING - TESTING INDIVIDUAL COMPONENTS OF THE PROGRAM
- ROBUST TESTING - TESTING UNINTENDED INPUTS
- PERFORMANCE TESTING - TESTING PERFORMANCE REQUIREMENTS (EX: 1000 TRANSACTIONS/MIN)
- LOAD TESTING - TESTING HOW LONG IT TAKES TO PERFORM OPERATIONS UNDER LOAD
- STRESS TESTING - SIMILAR TO LOAD TESTING BUT TO CHECK THE BEHAVIOR
- REGRESSION TESTING - TESTING ALL THE CHANGES THAT MIGHT OCCUR BY MODIFYING A SEGMENT OF CODE
- RELIABILITY TESTING - TESTING THE RELIABILITY OF CODE

PROGRAM VERIFICATION

PROS: • ELIMINATES ERRORS

CONS: • VERIFICATION PROCESS MIGHT BE INCORRECT

- TIME CONSUMING

- MOST OF THE TIMES IS NOT SUFFICIENT

3 SOFTWARE TESTING METRICS

1) ORGANIZATIONAL METRICS - ALLOWS SENIOR MANAGEMENT TO MONITOR THE OVERALL STRENGTH OF THE ORGANIZATION, OR THE WEAKNESSES

2) PROJECT METRICS - THE RATIO OF ACTUAL-TO-PLAN SYSTEM TEST EFFORTS AND TOTAL # OF TESTS.

3) PRODUCT METRICS - USEFUL IN MAKING DECISIONS ABOUT THE PRODUCT (EG: SHOULD IT BE RELEASED)

4) 2 PROS OF TEST FIRST:

PROS: 1) PROBLEMS ARE FOUND EARLIER

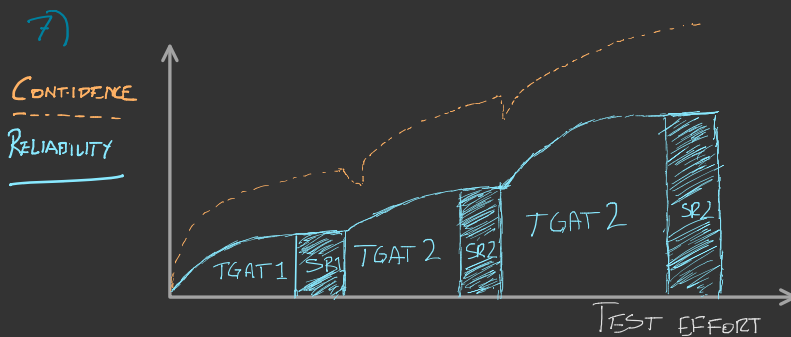
2) EXPOSES REQUIREMENT PROBLEMS SOONER

5) How AND WHEN DOES EACH APPROACH DO TESTING?

- 1) **WATERFALL** - TESTING OCCURS AT THE END (SYSTEM & ACCEPTANCE TESTING)
- 2) **V-MODEL** - TESTING IS PARALLEL TO DEVELOPMENT
- 3) **SPIRAL** - TESTING IS DONE IN INCREMENTS.
EARLY STAGE, AFTER PROTOTYPE REFINEMENT AND THEN IN FINAL STAGES
- 4) **AGILE** - TESTING HAPPENS OFTEN IN SMALL CHUNKS.
TESTERS AND DEVELOPERS WORK CLOSELY W/ EACH OTHER

6) WHY DOES XP REACH UP TO 97% DEFECT REMOVAL?

- EXTREME PROGRAMMING HAS BETTER DEFECT REMOVAL BECAUSE IT EMPHASIZES MORE ON CODE REVIEWING TO REMOVE DEFECTS RATHER THAN TEST BASED DEFECT REMOVAL.



TGAT - TEST GENERATION AND ASSESSMENT TECHNIQUES

SR - SATURATION REGION

- EXPLAINED! AS TEST EFFORT INCREASES, SO DOES RELIABILITY AND CONFIDENCE, BUT AS EACH TEST METHOD REACHES A SATURATION POINT WHERE RELIABILITY FLAT-LINES AND EFFORT INCREASES THEN YOU BEGIN TO SEE A DIP IN CONFIDENCE. THAT IS UNTIL YOU SEE A NEW TESTING TECHNIQUE AND THE CYCLE CONTINUES.