

CI/CD Benefits

WHAT ARE THE BENEFITS OF CI/CD?

Content list

- **Faster time to market**
- **Reduced risk**
- **Shorter review time**
- **Better code quality**
- **Faster bug fixes**
- **Conclusion**

- **Faster time to market**

THE PRIMARY GOAL OF A CI/CD PIPELINE IS TO DELIVER WORKING SOFTWARE TO USERS QUICKLY AND FREQUENTLY. TECH GIANTS MAY HAVE LED THE WAY, ADOPTING AGILE AND DEVOPS TECHNIQUES TO TRANSFORM THEIR DEVELOPMENT PROCESSES AND DELIVER CONSTANT IMPROVEMENTS TO THEIR USERS, BUT WITH MANY SMALLER ORGANIZATIONS FOLLOWING SUIT THE LANDSCAPE IS BECOMING INCREASINGLY COMPETITIVE.

- **Faster time to market .Cont**

NEW FEATURES CAN BE LAUNCHED FASTER, WITH DEPLOYMENT STRATEGIES GIVING YOU THE OPTION TO EXPERIMENT AND COLLECT FEEDBACK, WHICH YOU CAN THEN INCORPORATE INTO THE NEXT UPDATE. BEING ABLE TO PUSH CHANGES OUT QUICKLY AND WITH CONFIDENCE MEANS YOU CAN RESPOND TO NEW TRENDS AND ADDRESS PAIN-POINTS AS THEY EMERGE.

- **Reduced risk**

HAVING A SHORTER TIME TO MARKET DOESN'T JUST HELP YOU KEEP UP WITH THE COMPETITION. RAPID RELEASES PROVIDE AN OPPORTUNITY FOR PRODUCT MANAGERS AND MARKETING PROFESSIONALS TO ENGAGE MORE CLOSELY WITH THE DEVELOPMENT PROCESS.

BEING ABLE TO TEST YOUR INNOVATIONS WITH USERS EARLY AND OFTEN – EITHER WITH TEST PARTICIPANTS IN A PRE-PRODUCTION ENVIRONMENT OR WITH REAL USERS IN LIVE – MEANS YOU CAN VALIDATE YOUR APPROACH BEFORE INVESTING MONTHS OR EVEN YEARS WORKING ON A FEATURE THAT DOESN'T ACTUALLY SOLVE A PROBLEM FOR YOUR USERS.

- # Shorter review time

WITH CONTINUOUS INTEGRATION, DEVELOPERS ARE ENCOURAGED TO COMMIT THEIR CODE CHANGES MORE FREQUENTLY – AT LEAST ONCE A DAY AS A RULE OF THUMB. SHARING CODE WITH THE REST OF THE TEAM REGULARLY NOT ONLY ENSURES EVERYONE IS BUILDING ON THE SAME FOUNDATION, BUT ALSO RESULTS IN FASTER CODE REVIEWS AND MAKES IT EASIER TO INTEGRATE CHANGES.

WORKING WITH SMALLER INCREMENTS MEANS THAT – AS A CODE REVIEWER – THERE IS LESS TO GET YOUR HEAD AROUND. AS SMALLER COMMITS TEND TO PRODUCE MORE SPECIFIC COMMIT MESSAGES, YOU CAN MORE EASILY SEE HOW THE LOGIC PROGRESSES. AND IF SOMETHING DOES NEED TO BE CHANGED BEFORE A COMMIT CAN BE MERGED, THERE IS LESS CODE TO REWRITE AND FEWER CONFLICTS TO RESOLVE.

- **Better code quality**

TESTING YOUR CODE'S BEHAVIOR IS AN ESSENTIAL STEP IN THE SOFTWARE RELEASE PROCESS BUT DOING IT THOROUGHLY CAN ALSO BE EXTREMELY TIME CONSUMING. A CENTRAL PART OF ANY CI/CD PIPELINE IS A SERIES OF AUTOMATED TESTS THAT ARE RUN ON EACH AND EVERY BUILD. ALTHOUGH WRITING AUTOMATED TESTS REQUIRES AN INVESTMENT OF TIME AND EXPERTISE, DOING SO PAYS SIGNIFICANT DIVIDENDS.

AS ANYONE WHO HAS HAD TO FOLLOW A MANUAL TEST SCRIPT KNOWS, TESTING IS A REPETITIVE PROCESS DEMANDING HIGH LEVELS OF CONCENTRATION. EVEN THE MOST COMMITTED TESTER CAN BE FORGIVEN FOR THE OCCASIONAL YAWN AS THEY RESET THEIR ENVIRONMENT TO PERFORM THE SAME STEPS WITH A SINGLE SMALL VARIATION FOR THE TENTH OR TWENTIETH TIME.

- **Faster bug fixes**

WHEN IT'S URGENT TO GET A FIX OUT TO PRODUCTION, IT CAN BE TEMPTING TO SKIMP ON MANUAL TESTING IN ORDER TO SAVE TIME, DESPITE THE RISK OF INTRODUCING A NEW FAILURE TO PRODUCTION. WITH A CI/CD PIPELINE, RUNNING AUTOMATED TESTS IS NO LONGER A SIGNIFICANT OVERHEAD, SO THERE'S LESS TEMPTATION TO COMPROMISE ON QUALITY.

- # Conclusion

THE BENEFITS OF AN AUTOMATED CI/CD PIPELINE RANGE FROM PRACTICAL CONSIDERATIONS LIKE CODE QUALITY AND RAPID BUG FIXES, TO ENSURE YOU'RE BUILDING THE RIGHT THING FOR YOUR USERS AND IMPROVING YOUR ENTIRE SOFTWARE DEVELOPMENT PROCESS.