POLYTECHNIC UNIVERSITY OF TIRANA
DEPARTMENT OF COMPUTER ENGINEERING

THE TREND OF USING SOFTWARE DEVELOPMENT PHASES IN THE STUDENTS' ACADEMIC PROJECTS

FLAVIA MARKU
FABIOLA CEJKU

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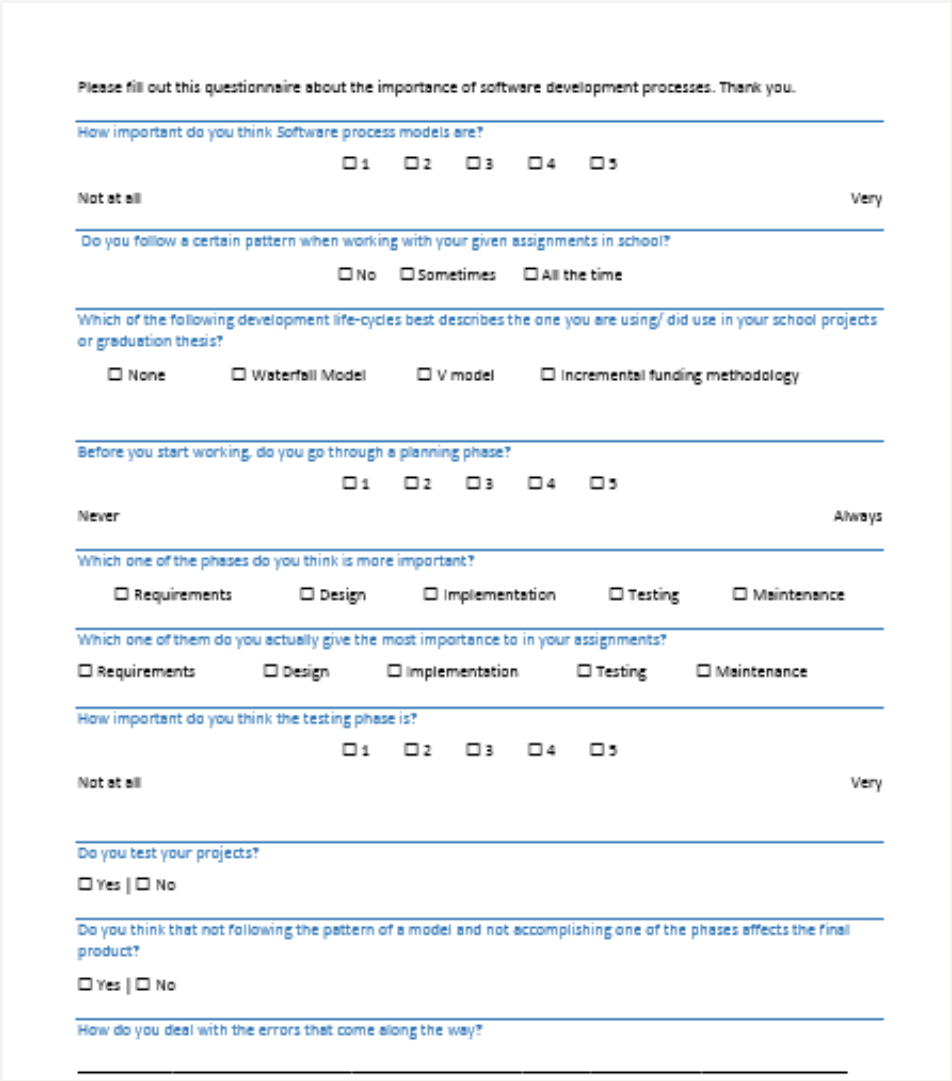
INTRODUCTION

- Software Engineering deals with software development of all kinds and matters.
- It is the application of a systematic, disciplined, quantifiable approach to the development, operation and maintenance of software.
- Considering this definition, it's safe to say that SE is very important throughout our education to help us get through all the obstacles as new engineers to be.
- But we do have to note that even though it is very important for us to become aware of SE's advantages, we must also put its theories to good use and make ourselves capable of building programs and software meeting all the requirements given.
- This is taught and developed in school, and that's what makes us wonder…

INTRODUCTION

- How concerned are students in making their school projects as acceptable as possible?
- How much effort do they put in these software applications for them to achieve their goals?
- Graduation thesis is a big deal in all universities, how do students work their way through that?
- How do they deal with the specific requirements a project has?
- How do they deal with errors?

We decided to do a survey concerning Software Engineering Development Phases from the students' point of view.



Please fill out this questionnaire about the importance of software development processes. Thank you.

How important do you think Software process models are?

☐1 ☐2 ☐3 ☐4 ☐5

Not at all Very

Do you follow a certain pattern when working with your given assignments in school?

☐No ☐Sometimes ☐All the time

Which of the following development life-cycles best describes the one you are using/ did use in your school projects or graduation thesis?

☐None ☐Waterfall Model ☐V model ☐Incremental funding methodology

Before you start working, do you go through a planning phase?

☐1 ☐2 ☐3 ☐4 ☐5

Never Always

Which one of the phases do you think is more important?

☐Requirements ☐Design ☐Implementation ☐Testing ☐Maintenance

Which one of them do you actually give the most importance to in your assignments?

☐Requirements ☐Design ☐Implementation ☐Testing ☐Maintenance

How important do you think the testing phase is?

☐1 ☐2 ☐3 ☐4 ☐5

Not at all Very

Do you test your projects?

☐Yes | ☐No

Do you think that not following the pattern of a model and not accomplishing one of the phases affects the final product?

☐Yes | ☐No

How do you deal with the errors that come along the way?

_____

THE SURVEY

12 questions

10 multiple choice

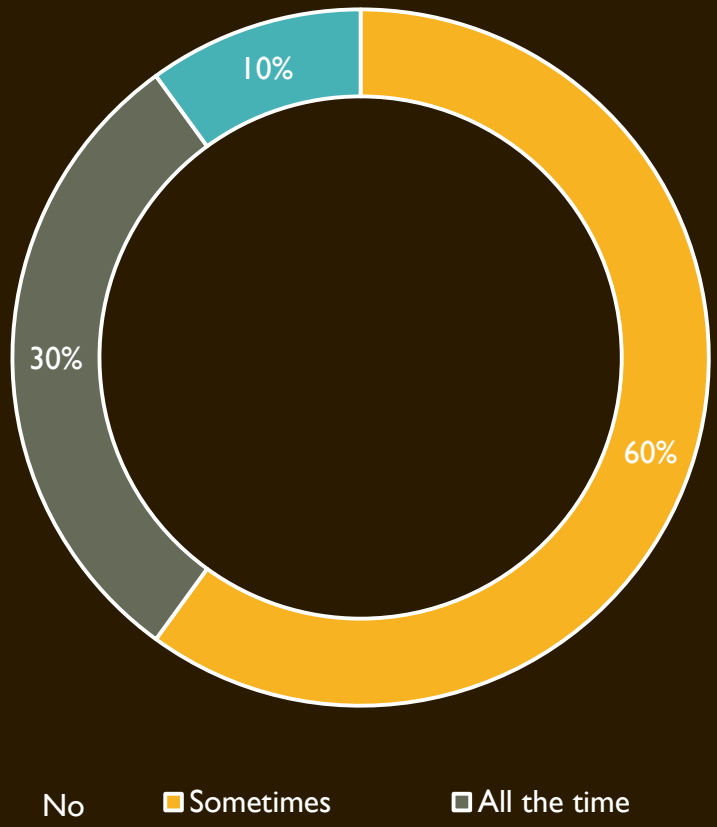
2 of them explanation and interpretation

30 students in total

(We considered only masters' students since they have a bit more in depth information about Software Engineering)

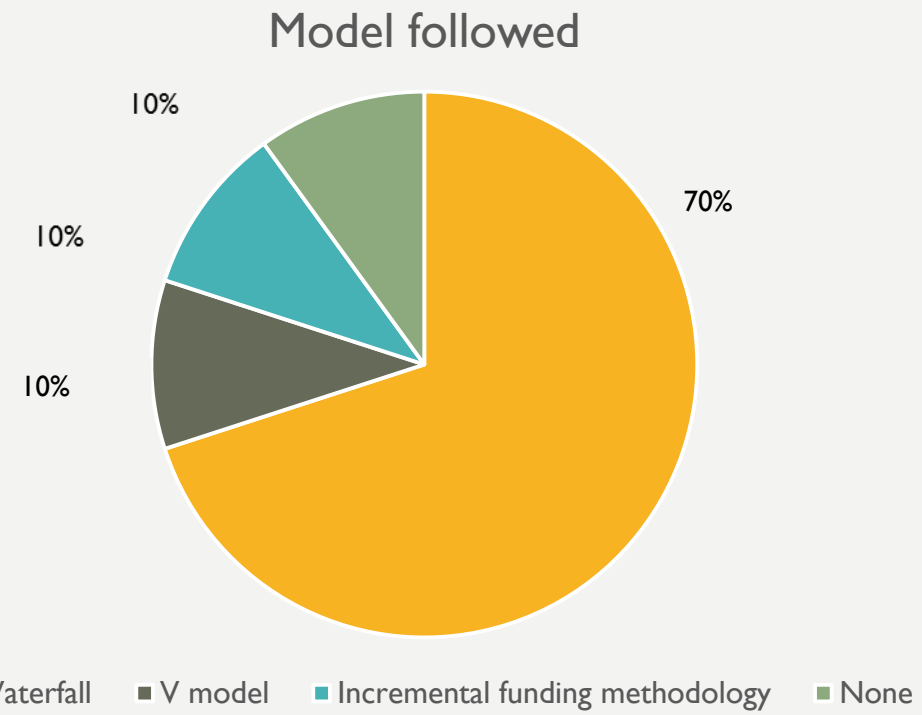
Results

Following a certain pattern

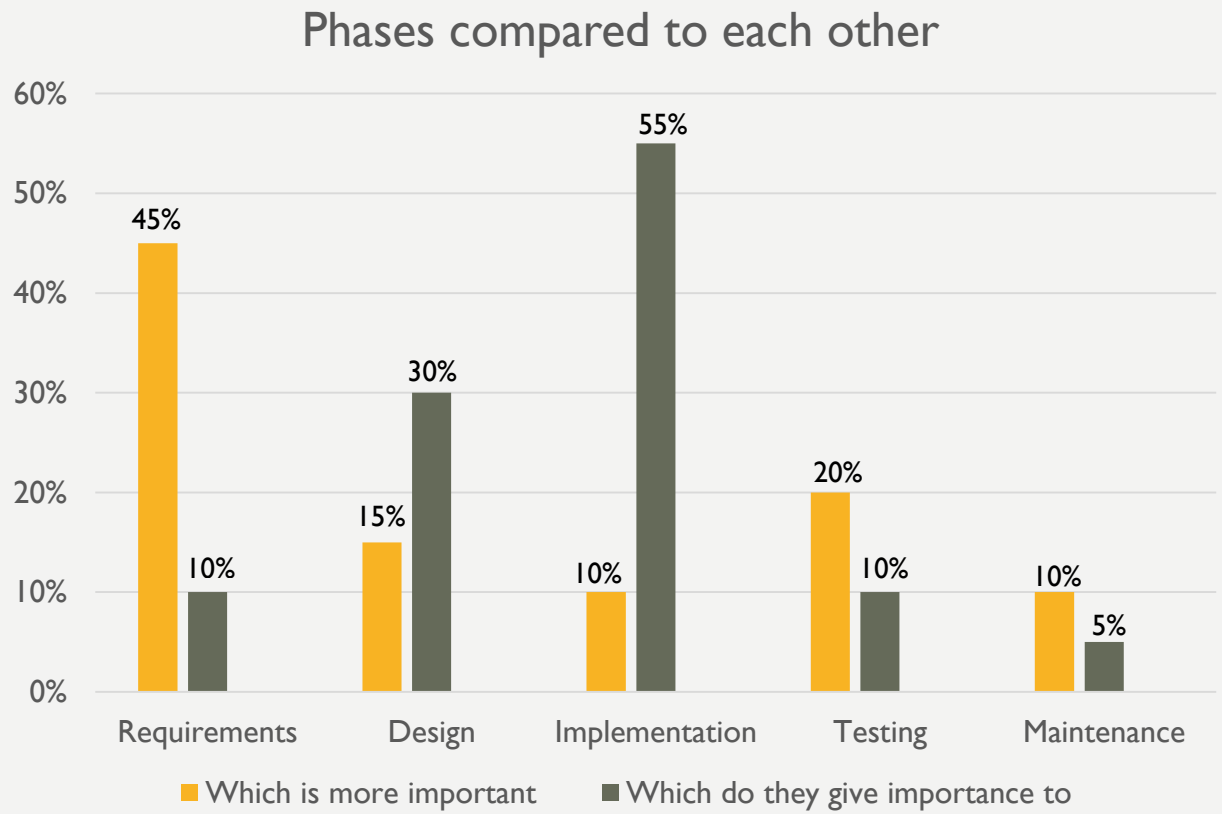


MOST OF THE STUDENTS DON'T EVEN HAVE A PLANNING METHOD TO WORK WITH THEIR PROJECTS. THAT'S CONCERNING CONSIDERING THAT WE ARE GRADUATING MASTERS AND WE MUST ALL HAVE A SIMPLE WAY OF DEALING WITH DIFFERENT PHASES OF GIVEN WORK.

HOWEVER, OF THOSE WHO DO FOLLOW A WELL KNOWN DEVELOPMENT LIFE-CYCLE, WE SEE THAT THE DIVERSITY IS LACKING, EMPHASIZING THAT THOSE TWO 10%-S FOLLOWING V-MODEL AND INCREMENTAL FUNDING USE IT BECAUSE OF THEIR WORK PLACE NOT BECAUSE OF THEIR SCHOOL WORK.



WHICH ONE DO THEY THINK IT'S THE MOST IMPORTANT PHASE AND WHICH ONE DO THEY REALLY GIVE IMPORTANCE TO IN THEIR PROJECTS AND GRADUATION THESIS



TESTING

- We should all agree that testing is a very important step to take and most of the students did say they tested their software before ending up with a final product, but why is it that it is so important?
- From the little research done we did end up with some satisfying responses, giving worthy explanations as to how testing makes work go smooth and without problem.
- It is of course not such a big deal working with school projects as they are not of big importance but the graduation thesis for example is quiet difficult to work with and it does require some sort of special attention when it comes to planning it and overall work.

TESTING AND DEALING WITH ERRORS

- Give importance to requirements specification
- Fix on the fly – Testing and Bug fixing merged together
- Debugging
- Trace the problem and find out what causes it
- Use of editors such as "Smart"
- Turn back and make necessary improvements
- Exception handling

WHAT HAPPENS WITH THE FINAL PRODUCT IF PHASES ARE TAKEN IN CONSIDERATION?

- OBSTACLES IN THE WAY ARE EASIER DEALT WITH
- EASIER TO REACH THE GOAL
- EASIER ERROR HANDLING
- LESS CHANCE OF HAVING ERRORS
- CLEAR ROLES
- SUSTAINABLE RESULT
- EASIER MAINTENANCE
- BETTER ESTIMATION OF TIME AND BUDGET NEEDED
- FLEXIBLE SOFTWARE

CONCLUSIONS

- It is safe to say that students are lazy most of the time and don't give importance as much as they should to specific work
- But that's also because school work is not that much what is expected from us in reality, at least not all of it
- We realize that most of the students should invest in their work etiquette in order to be able to adapt in real world software developing matters
- Everyone of them understands the importance of software engineering all in all and they are working their way through becoming more aware of its benefits

PROPOSED IDEAS

- Giving smaller projects and accurate time to finish them (including 1 or 2 in-between checkups to evaluate how everything is coming together) so that each individual project is meeting the standards beautifully
- Emphasizing how to deal with each phase and their specific importance to the project
- Working in teams
- Separation of tasks
- Students should be more driven towards research and self-learning
- Organization of simple workshops inside the faculty throughout school years

THANK YOU!