Mentoring in IT – the Way to Improve the Skills of a Young Specialist

Nazar Franko
ORCID 0000-0002-0604-7155
dept. Design Automation
Kharkiv National University of Radio Electronics
Kharkiv, Ukraine
nazar.franko@nure.ua

Olha Myttseva
ORCID 0000-0002-3398-2982
dept. name of Philosophy
Kharkiv National University of Radio Electronics
Kharkiv, Ukraine
olha.myttseva@nure.ua

Abstract—**Nowadays, young professionals, graduates of technical universities, often face a lack of professional experience when looking for their first job. In this case, IT companies offer them mentors – their employees for training. What are the benefits and impact of this on the future development of the specialist is discussed in detail in the article.**

Keywords—mentor, tutoring, collaboration.

I. INTRODUCTION

During your studies (or after graduation) at the university, the task becomes to find a job in your specialty. A young specialist may be theoretically competent to pass an excellent interview, but lack of practical experience can play a bad role. Companies are understanding of this, and always appoint new employees as mentors.

II. WHO IS A MENTOR AND WHAT IS MENTORING

To begin with, let's define the concept:

- Mentor – a person who shares his knowledge, becomes a mentor;

- Mentee – person who learns from a mentor.

Mentors are usually needed by people who already have experience, but it is not enough to move to a qualitatively new level. A mentor with his experience and advice acts as a catalyst for growth.

A new developer, a graduate of the Technical University, comes to the company. The company supports mentoring, so beginners are assigned a mentor. Together they go through four phases [1-3]:

A. Acquaintance and definition of tasks

The newcomer gets acquainted with the mentor, talks about his experience and a lot of tasks for which he needs help. The format of interaction is discussed – for example, daily hourly meetings. They decide how to measure the results – in a week or a month the ward has to close the bags, initiate rallies and conduct a code-review.

They agree on the boundaries and topics, the discussion of which will remain between them. The purpose of this stage is to discuss and record agreements between the parties.

B. Development and analysis

At this stage, the ward independently draws up a plan for its development. The mentor analyzes the plan, adjusts it, gives advice based on the strengths and weaknesses of the ward.

C. Work and intervention

The ward starts working on the project according to the plan he previously discussed with the mentor. If necessary, seek advice and clarification. The mentor supports the ward, helps him achieve his goal. And that's why he uses different methods: conducts code reviews, gives advice, just listens carefully.

D. Observation

At this stage, the Mentor is less involved and more observant. He sees the results of the work: the ward takes and closes the bags without the help of colleagues; organized the first rally; performed retro and told about the new feature. Mentor and cops move to the end of cooperation, sum up. After this stage, the mentoring cycle can be repeated, but with other tasks.

Phases can change places, merge, disappear depending on the tasks, levels of mentor and ward. The format is determined by the participants. The main thing is that he arranged both a mentor and a mentee.

III. RESPONSIBILITIES OF THE MENTOR AND THE MENTEE

The mentor has responsibilities for the mentee:

- Sets with the ward clear goals and objectives;

- Takes the initiative in the relationship, but allows the ward to take responsibility for his growth, development and career planning;

- Undertakes to develop the relationship over a period of time;

- Undertakes to meet with the ward on a regular basis;

- Actively listens to the ward;

- Provides open, honest and constructive feedback;

- Maintains confidentiality;

- Analyzes the goals and objectives of the ward;

IV International Scientific and Practical Conference
Theoretical and Applied Aspects of Device Development on Microcontrollers and FPGAs

MC&FPGA-2022

- Recognizes conflicts and resolves them with concern, invites to discuss differences with the ward and, if necessary, involves a third party to help;

- Maintains a professional relationship, does not interfere with the personal life of the ward.

In order for mentoring to be beneficial, the mentor creates a safe and respectful environment in which the ward does not hesitate to ask questions.

The mentee also has responsibilities. Without them, there is no point in mentoring.

The responsibilities mentees:

- Defines initial learning goals and success measures together with the mentor;

- Remains open, seeks feedback;

- Takes an active part in their own learning and helps manage the process;

- Plans to communicate with mentors;

- He fulfills his commitments and takes conscious risks, trying new options and patterns of behavior.

The mentor is not responsible for the result. He shares his experience. The last decision is for the ward. He can follow the advice, take it into account, ignore it. But it is always important to explain your decision, because mentoring is a two-way learning process.

IV. HOW TO GET THE MAXIMUM BENEFITS OF WORKING WITH THE MENTOR

In the first week it is recommended to give the student full unlimited questions. It creates a sense of trust and security. Don't be ashamed to ask questions, even if they seem silly. Clarification of details, a request to once again explain the incomprehensible concept – it helps to learn more deeply than listening to the thoughts "I'll figure it out later". After the first week, it is recommended to discuss a time that is convenient for both to ask questions.

The main thing is to perform the duties of a cop before the mentor, which were mentioned above. You need to be prepared for the fact that you have to do homework, meet regularly, talk about successes and failures. It is very good to develop a rule of 15 minutes – if there is a dead end in solving the problem, the cop first tries to solve the problem for 15 minutes, and then goes to the mentor for advice. This adds dynamism and does not get "stuck".

V. WHAT IS THE BENEFIT FOR THE MENTOR

There are also many advantages not only for the mentee, but also for the mentor [2, 4-6].

Contribution to the company. Mentoring is a sign of your interest in long-term cooperation with your company.

Personal development. Mentoring is a personal development, because in the process such skills are practiced and strengthened as:

- Professional competence;

- Communication and empathy skills;

- Ability to clearly present information, highlight the main thing;

- Discipline and organization;

- Patience and courtesy;

- Emotional resilience.

Mentoring allows you to scale the experience. Anton Babenko, BA Director at Anadea Inc [2] notes that this "…allows me to scale the experience I have gained, because when you are a mentor, you delve into completely different domains, projects, problems and tasks. Thus, it is possible to study and apply approaches that cannot be applied in your project".

Mentoring helps keep your brain toned. In working with mentee there is always a chance to discover something new and look at a situation from a new angle [3, 7, 8].

CONCLUSION

Thus, mentoring in IT is an integral part of the training of every young professional today. This approach to learning and sharing experiences has many positive consequences for all parties. Being a mentor, learning from a mentor is an extremely difficult but important job that helps the next generation of developers become better.

REFERENCES

[1] What is mentoring and why is it important for the growth of a programmer [Online]. Available: https://highload.today/mentor/ [Accessed: 19-June-2022].

[2] Mentoring in IT: what to do if you were assigned a junior [Online]. Available: https://dou.ua/lenta/articles/mentoring-in-it/ [Accessed: 19-June-2022].

[3] Mentoring in IT: why it's free and how it can help you reach a new level [Online]. Available: https://www.work.ua/ru/articles/self-development/2260/ [Accessed: 19-June-2022].

[4] V. Korniienko and O. Myttseva, "The Development of Soft Skills for Professional Activity (Trend or Reality)", *2021 III International Scientific and Practical Conference Theoretical and Applied Aspects of Device Development on Microcontrollers and FPGAs*, 2021. doi: 10.35598/mcfpga.2021.008.

[5] V. Semenets, I. Svyd, O. Vorgul, V. Chumak, O. Myttseva and N. Boiko, "Aspects of Quality Assurance of the Educational Process of Higher Technical Education", *2021 III International Scientific and Practical Conference Theoretical and Applied Aspects of Device Development on Microcontrollers and FPGAs*, 2021. doi: 10.35598/mcfpga.2021.017.

[6] І. В. Свид, В. С. Чумак, Н. В. Бойко. "Регіональний центр STEM-освіти технічного розвитку молоді", *Сучасна освіта – доступність, якість, визнання: збірник наукових праць ХІІ міжнародної науково-методичної конференції*, 11–13 листопада 2020 року, м. Краматорськ – Краматорськ : ДДМА. – 2020. – С. 151–152.

[7] О. С. Митцева. "Класифікація типів іміджу", *Науковий часопис Національного педагогічного університету імені М. П. Драгоманова. Серія 5 : Педагогічні науки : реалії та перспективи* : зб. наук. праць. - Київ : Вид-во НПУ ім. М. П. Драгоманова, 2018. - Вип. 63. – С. 121-124.

[8] О. Митцева, "Професійний імідж фахівця: суть, функції, структура", *Zenodo*, 2022. [Online]. Available: http://doi.org/10.5281/zenodo.1227103.

IV International Scientific and Practical Conference
Theoretical and Applied Aspects of Device Development on Microcontrollers and FPGAs

MC&FPGA-2022