

# Leadership for a mixed team of junior and senior developers

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**Abstract**—This paper describes the issues which arise from building a team of developers with highly different experience level. The leader has to address the challenge by using the appropriate mix of knowledge, processes and tools. Considering the multitude of existent variables, the leader should prioritize the organization vision and connect it to the creative, innovative and often diverging energies of the team members. The emphasis of this paper is on the prevalence of human relations over tools and processes. The negative effects of experience imbalance on the team behaviour can be reduced or redirected to a positive result, primarily relying on effective communication and motivators. Leadership is done by humans, not tools.

## I. TASK DESCRIPTION

*Imagine yourself as a project manager of a group of eight developers. From these eight, four developers are experienced and mature, while four are young university graduates who have been just recruited.*

*Describe the effects of imbalance in the experience on the dynamics of team behaviour, and your role as the leader in addressing this challenge.*

## II. INTRODUCTION

A leader's activity is based on uncertainty. One person, on a given time and situation, cannot be aware of all the factors, thus creating the incentive for a less than rational behaviour, which is hard to predict. On the other hand, a leader who has experience and a multitude of tools, processes and insights into behavioural options that followers can choose from, will exhibit a higher rate of success.

In the situation presented, the antagonism between experience and maturity versus the inexperience and youth will cause a disruption in how the two different groups perceive themselves and the environment. As a consequence, the expected actions in the same situation will differ. The role of the leader is to find solutions of combining the different reactions in a productive and less conflict prone way. The leadership process should prove itself successful on the long-term, rather than on the short-term.

Whilst the material resources are of relatively low importance, as those can be easily created and substituted, the human resources are paramount for an organization, taking years to train, form or replace.

## III. FACTORS AND ACTORS

David W. Galenson, in his work *“Old Masters and Young Geniuses: The Two Life Cycles of Artistic Creativity”*, although he refers to plastic artists, I strongly believe that similar ideas can be applied to programming and software engineering. Consequently, software products can be considered as the unique result of an art form. The team members' creativity and past knowledge can balance each other. This will happen if the development process is managed properly, with the leader acting as a middleman between the two molding forces - innovation and reuse.

The ability to achieve a goal, to finish successfully a task can be native or hard-earned. One may innovate successfully at the conceptual level, but it requires a long time of trial-and-error or learning for experimental and solid innovation. The ability to radically innovate can decrease with age, as a person is inclined to self-establish a set of rigid methods and conventions. [2]

*“When a situation requires a new way of looking at things, the acquisition of new techniques, or even new vocabularies, the old seem stereotyped and rigid...But when a situation requires a store of past knowledge then the old find their advantage over the young.”*

— Harvey Lehman, 1953

For a leader, the most important assets are the members of the group. A thorough understanding of the humans is of crucial importance, as all the predictions should have a solid starting ground. To accomplish the first desiderate, depending on the situations that may occur, there are specific methods that can be used to gather information about the members. First of all, the data can be collected using non-interactive methods like analyzing the history in the company, previous results, references, Curriculum Vitae, social and cultural activity.

Secondly, a more indepth analysis can be done using active methods, such as an interview, informal discussions. The profiling should be a continuous process, as people change over time. According to the iceberg theory of Sigmund Freud [3], the largest part of our mind is concealed and very hard to analyze on normal circumstances. The knowledge of the unconscious mind is a great asset, as it significantly influences behaviour. If the process is successful, the current and future actions of the team will be easier to understand and predict.

Other important factors are the organization's culture, demographics, vision and current political, geographical and social environment. The multitude of factors should be properly addressed and understood by the leader, so that the future decisions will be in full concordance with them.

#### IV. TECHNIQUES USED

Use the initial momentum and excitement to push the envelope. Use the given ability of mentorship to motivate the seniors. Use agile methodologies, because are focused on communication and collaboration, which should easily level up the distance and knowledge between the team components.

Organize trainings held by both of the two parts - the young will give a training on a newly appeared technology and the seniors on existing technologies that they master perfectly

Organize a teambuilding once 6 sprints, considering a sprint of 2 weeks, so that people get to a better understanding of also the social, moral values of the other team members.

##### Shadowing

Associate a younger developer a senior developer as a supervisor and pillar of knowledge. When the junior is in need of help, the senior will be the first stop when seeking help.

Allocate to the junior developers 20% percent of the time spent at work to learn new things, without any pressure from the leader or management side.

Involve employees to set their own goals, as a team.

Security as a need - always have a peer on whom he can count on, a junior can feel more secure. It will achieve predictability by delegation. Although the peer may not be in the position to always solve the junior's problem or to direct it in a right direction, it will suffice by giving more confidence.(page 43)

Acknowledge and address the danger - unwanted behavior, of undesired unofficial groups being created or alliances between the team members of same age. In the same time, people are social and gregarious beings, so group formation must not be interdicted or suppressed, only controlled and directed to organization's and project goals.

Competence - break things and then try to put the things together again. It will inspire the juniors and they will believe more in their capabilities and power. Achievement oriented developers. Being a producer doesn't mean you are a good manager, as people are not always full-time producers. (page 50)

People can respond in responsible and productive ways to a work environment in which they are given an opportunity to grow and mature. People begin to satisfy their esteem and self-actualization needs by participating in the planning, organizing, motivating and controlling of their own tasks.(page 72)

Problems: the juniors may not have so many personal constraints like children, marriage, long-time relationships in private life. Seniors may be reluctant and not so willing to spend their entire creative energy on job-related issues. The

family may be, for them, on the first plan, unlike the juniors, who may put it first.

#### V. JUNIORS

#### VI. SENIORS

## VII. CONCLUSION

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