SUMMARY

The development of the failure notification system was initiated by the Reliability Engineering team of ABB Drives factory located in Jüri, Estonia. This system aims to cut the reaction time in case of failure of the test systems and to increase the productivity of the team. Requirements set to work were following: presenting the idea of the system its design, which will comply with international standards and with preferences of the team regarding the system, proving the possibility of implementation by building a prototype which will show abilities of the system for future evaluation by the team.

Work was started by getting an overview of the environment, in which the notification system will be used and from an understanding of how this system can be implemented. That was described in Chapter 1.

The second step, described in Chapter 2.2 was to find similar or possible solutions to the problem. Ideas of all solutions found were similar, however, functionalities were designed for specific usage, which meant that the system, which can satisfy the needs of the Reliability team should be developed based on available resources.

The next step was the development of the idea, which began with the development of the hardware part: choosing components, searching for a suitable and cost-effective solution. At the step of making choices about used components were discussed and reviewed several products, which could be implemented in this specific system. The result of these findings can be observed in Chapters 2.5 and 3.2 of this work.

Following stage, after choice regarding components was made, was a development of the system's logic. This step required a deep understanding of users' needs and discussions with "client". Interviews were held and questioners composed for an understanding of all pitfalls of the system.

After creating a theoretical solution to the problem, in the scope of this work, was developed the prototype of the system, which presented principles of the system, gave users an understanding of the product which they may receive in the future and the possibility to evaluate it and give their opinion. Test runs of the prototype showed good results and points of the system like the quality of the code and quality of the wiring, which should be improved in the further development process.

The author decided to continue with the development of the personal idea of the system, based on the research and the fact, that systems presented on the market were not able to satisfy the needs of the potential users and requirements of standards, described in Chapter 1.2.

The last stage was an analysis of the work done based on the theoretical solution, prototype, and feedback from the potential users. Financial analysis showed good results and satisfying prognoses. The total cost of the system can be reduced by

implementing alternative components, these measures are described in Chapter 3.2 and Chapter 4.

The final interview with the team members showed that users are satisfied by the work done, see the system as a real possible solution of the problem and the main point, which is the most important for the team leader and the author, is that system will be considered as the real product and will need future development and proving that this system will be the best solution for the team.

This work was done based on knowledge gathered through studying and processes and, personally for the author, the possibility of implementation of knowledge into the practice.

Another author's aim was to proceed with this research as the real work project, which can prove the idea, realize the idea and "sell" this idea as a solution to get an experience for future work and career-related projects. This aim has been reached.

Problems occurred in this work. The main problem was the spread of the Coronavirus at the time of the proceeding of this work, which caused limitations in costs, increased waiting time, and limitations in communication. The second problem was incorrect time management due to the lack of experience. However, the work is done and all problems were managed.

The author's self-evaluation regarding whole process of this work is positive, points for personal future improvements in time management and general "project management" were found and the new experience of writing research works and building real valued system, which is always a good possibility, were found.