

I. IDENTIFICATION DATA

Thesis title:	"Security system using ESP32"
Author's name:	Garg Ashish
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Dept. of Microelectronics
Thesis reviewer:	Ing. Josef NÁHLIK, CSc
Reviewer's department:	Now: Pensioner; Previously: UCT Prague, Dept. of Solid State Eng.

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment <i>How demanding was the assigned project?</i>	ordinarily challenging
I think the difficulty of the assignment is proportional to the usual requirements for a diploma thesis.	

Fulfilment of assignment <i>How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.</i>	fulfilled
By a detailed comparison of the assignment and the submitted diploma thesis I can state that the author fulfilled the assigned task and in many ways exceeded it. He proactively constructed an original paper model of a secured house, for example.	

Methodology <i>Comment on the correctness of the approach and/or the solution methods.</i>	outstanding
Author's approach to assigned task solution is excellent. I have no principal comments. The author's effort to reach the best possible level is evident.	

Technical level <i>Is the thesis technically sound? How well did the student employ expertise in the field of his/her field of study? Does the student explain clearly what he/she has done?</i>	A - excellent.
The professional level of the submitted diploma thesis is excellent. I have no objections. I was interested in both the breadth of the concept and its depth. The possibilities of using ESP32 for basic security applications are presented in the broad context of other existing possibilities (especially ESP8266). Other necessary components (sensors and actuators) and communication technologies inside and outside the system (the Internet of Things (IoT)) are also properly discussed. The home electronic security system using ESP32 as a main controller was designed in terms of hardware and software, and the functionality of the individual parts within this system was practically demonstrated. The proposed system is comparable to commercial products and, according to the economic analysis, could be cheaper. In practice the submitted diploma thesis can serve as a very useful study material for anyone who would like to design and build home or apartment security system by him/herself.	

Formal and language level, scope of thesis <i>Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?</i>	A - excellent.
The submitted thesis is organized in a logical way. I have no objections. I am only a user, not an English professor. I state that I understand the author's English very well. In my opinion the English is fully satisfactory. The final correction of thesis text was done very carefully. There are no grammar errors in the thesis (I didn't find them). The scope of the submitted work as a whole is reasonable with respect to the breadth and depth of the issues discuss.	

Selection of sources, citation correctness**A - excellent.**

Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?

Number of literature sources is fully sufficient. They are relevant with regard to solved task (see Literature Review (Chapter 4)) . Student's original work is formally distinguished from earlier work quite clearly. All information taken over are consistently cited. The author's own contribution is obvious. Bibliographic citations meet the standards.

Additional commentary and evaluation (optional)

Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.

The rare combination of theoretical, practical and presentational skills of the author is remarkable.

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

The submitted diploma thesis has an excellent professional level. The designed, implemented and tested home security system is comparable with professional systems in parameters. I definitely recommend the thesis for defence.

Question for the diploma thesis defence:

Does the author intend to deal with the issue of individual designs of home security systems professionally after graduation?

The grade that I award for the thesis is:

A - excellent.

Date: **8.6.2020**

Signature: