I. IDENTIFICATION DATA

Thesis title:	**Robust Robot Path Planning in Known Map**
Author's name:	**Otgonsuren Rico David**
Type of thesis :	Bachelor
Faculty/Institute:	Faculty of Electrical Engineering
Department:	Department of Cybernetics
Thesis reviewer:	Ing. Karel Košnar PhD.
Reviewer's department:	CIIRC

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment   Select: challenging

How demanding was the assigned project?

I see the assignment as too time consuming e.g. point 3 *"Implement a method for automated creation, maintenance and refinement of topological maps"* is redundant as the topic is planning in **known** map.

Fulfilment of assignment   Select: unfulfilled

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.

The point 3 is not addressed in the thesis at all. As I see this point as excessive and redundant, I can accept that this point is skipped. Main deficiency of the thesis is missing evaluation of the system and comparison with ROS Navigation stack as requested in point 6.

Methodology   **Grade: F**

Comment on the correctness of the approach and/or the solution methods.

The choice of the particular method is not supported by any evidence. Why is the A* used? Why not a Dijkstra or D* (which is in recommended sources) or BFS?. The choice of the method is not even discussed. Also choice of implementation all as "action server" is not justified. I see a "service" as more appropriate in many cases.

Technical level   **Grade: E**

Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?

From reading the thesis it looks like the student work is to compute intersection of two lines (in 2D) which is described on two pages and implementation of A*. Of course, there is some implementation work to integrate it into the ROS. Even peeking into the source code doesn't convince me that the amount of work is big. I don't think that this is enough for a bachelor thesis.

Formal level and language level, scope of thesis   **Grade: E**

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?

Structure of the thesis is poor. The system description is mixed with implementation details. State of the art is mixed with used tools. The state of the art is a random set of student's knowledge not organized in any recognizable manner. The text itself is often organized in a strange logic order. E.g. the first paragraph of the thesis starts with the statement "we use only odometry" which is changed at the end of the same paragraph to "we use a camera as well".

Selection of sources, citation correctness   **Grade: C**

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?

Formal work with the sources is good. But the section state of the art shows that students actually only support his statements with citations and doesn't follow the source further. Any interconnections are not discovered.

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 evaluation of the work is missing at all. The text describes mostly the testing of the implementation. Also supporting video can be seen as a proof that the implementation is working, but there is no real evaluation. The comparison with the navigation stack (or any other method) is missing completely.

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

The thesis doesn't fulfill the assignment and mainly is missing any evaluation of the proposed solution. The thesis is missing a proper State of the Art section, where I expect some overview of possible planning algorithms and I get only random fragments of student's knowledge often presented in misleading manner. From the text itself it is not really clear what is the contribution of the student. It seems as a "yet another" implementation of A* and interconnection with BearNav package.

The grade that I award for the thesis is **F.**

Date: 1.6. 2021   Name and signature: Karel Košnar