

# Assessment Form for a Research Project, Thesis Project or Internship

## *Graduate School of Natural Sciences*

Use of this form is mandatory for all large research projects, notably final thesis work (“afstuderen”). It must be filled out by the project supervisor and sent to the student desk (OSZ), Buys Ballot Building room 184b.

Student	
First and last name	Joao Paulo Pizani Flor
Student number	3860418
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Name of master's programme	Informatica - COSC
Research Project	
Project title	Pi-Ware Π-Ware: An Embedded Hardware Description Language using Dependent Types
Number of ECTS	40
Grades	
Grade for final presentation	8.5
Grade for written thesis	8.5
Final grade (this grade will be recorded in OSIRIS and included in the student's grade list)	8.5
Examiner signatures	

<b>Project supervisor / first examiner name (must be a Utrecht University staff member), signature, and date</b>	
<b>Second examiner name (must be a Utrecht University staff member), signature, and date</b>	A second examiner is only mandatory for research projects of 30 ECTS or more. For smaller research projects or internships, the second examiner can be replaced by an internal or external expert.
<b>Experts</b> If internal or external experts have been consulted, please note them here	
<b>Name and title</b>	
<b>Affiliation</b>	
<b>Email address</b>	
<b>Name and title</b>	
<b>Affiliation</b>	
<b>Email address</b>	

Assessment	Motivation
<p><b>Scientific quality : 8.5</b></p> <p>≤ 5    6    7    8    ≥ 9</p>	<p>Joao has written an excellent thesis, combining his expertise about dependent types and hardware design. With some further work, is ready for publication. With a bit more time, it would have been nice to finish several missing example proofs using his Pi-Ware system — but the design and associated implementation are novel and exciting</p>
<p><b>Process : (0..10) 8.5</b></p> <p>≤ 5    6    7    8    ≥ 9</p>	<p>Joao is capable of independently executing the proposed research. When he ran into problems, he could communicate them clearly with me, so that we could find a suitable solution together.</p>
<p><b>Creativity : (0..10) 8.5</b></p> <p>≤ 5    6    7    8    ≥ 9</p>	<p>Initially, Joao started executing a (part of a) research proposal on this topic. As time wore on, however, Joao became increasingly involved in suggesting further or alternative directions for research, such as the generation of structured VHDL or the generalisation over which Atomic values Pi-Ware supports.</p>

**Structure and relation: (0..10) 8.5**

≤ 5      6      7      8      ≥ 9

Joao has demonstrated to be extremely knowledgeable in the area of functional programming and hardware design. He has ready numerous paper independently and can convincingly relate his own contributions to the wider field.

**Language and writing: (0..10) 8.5**

≤ 5      6      7      8      ≥ 9

Joao has written a clearly structured, carefully presented thesis. The drafts he submitted required very little editing or feedback.

*Other remarks*

### Publication

All theses must be uploaded to and stored in the IGITUR archive by the student. By default, theses are made available online to the general public. In exceptional cases, theses can be (1) published under embargo, i.e. become public only after a certain date, or (2) non-open access, i.e. not accessible to the general public anytime. Please use the options below only when absolutely necessary!

- The thesis is withheld from publication (embargo) until ..... (date), because ...
- The thesis will not be published (no open access), because ...

## Appendix: assessment criteria

The following assessment criteria are taken from *the Docentenhandleiding informatica en informatiekunde versie 5.1*. See: <http://www.cs.uu.nl/education/handleiding/Docentenhandleiding.pdf>

There are five of them:

**1. Scientific quality**

This concerns the level and importance of the student's results. Are the result publishable as a scientific paper? The difficulty of the problem that the student aims to solve plays an important role, as well as the amount/extent of the work she carries out. These are aspects that are important: the effectiveness of the chosen approach, completeness and preciseness of the literature study, arguments for the choices made, insight in the limitations of the chosen approach, proper interpretation of the results achieved, level of abstraction, convincing argument, proofs or statistical analysis.

**2. Process**

This concerns the student's ability to work independently, to take initiative, to position her work in a broader context, to adapt to new requirements and developments, and to finish the thesis on time.

**3. Creativity.**

This concerns the student's own contribution and the originality of her ideas.

**4. Structure and relation**

This concerns the ability to clearly formulate problems, to summarize the results, to compare them with related scientific work elsewhere, and to suggest future research lines.

**5. Language and writing**

This concerns clear, consistent, and unambiguous use of language in the thesis. The text should give the readers confidence in that the author understands the chronology, structure, and logical entities in her own text; and thus knows what she writes.

Here are some guidelines to determine the grade related to the above criteria:

**5 or less.**

**1. Scientific quality**

None of the original steps in the plan has been carried out. The steps that have been carried out are questionable, incomprehensible, or yield results that are already known in the literature.

**2. Process**

The student needs the supervisors to help her with all steps she takes. She does not know how to collect literature and other research material. She is unable to apply standard techniques in her discipline (e.g. summarizing scientific literature, programming, modeling, working out statistical data, using interview techniques). She does not understand her own planning. She regularly loses relevant materials. The external supervisors are unsatisfied with her effort and work attitude.

**3. Creativity**

The student is only able to reproduce what others come up with.

**4. Structure and relation**

The student is unable to take new steps in her research, or to formulate conclusions. She gets drowned in her own work, and is unable to decide on anything from which a final thesis can be written.

**5. Language and writing**

The thesis contains many language mistakes and unnatural sentences. The text reads as if it has been generated by a computer.

**Grade 6**

**6. Scientific quality**

The work is useful, and the quality acceptable. The original targets have been achieved, but only by consciously simplifying the problems.

**7. Process**

The student performs the work well, but depends on the supervisors for plans and directions. The student has many ideas, but no notion of the time and effort needed to realize them, and hence the supervisors need to regularly help her. Communication with the external supervisors does not proceed well.

**8. Creativity**

By following directions given by the supervisors, the student is able to solve problems.

**9. Structure and relation**

The student regularly needs prodding to come to a next mental step or conclusion.

**10. Language and writing**

The readability of the thesis suffers from annoying and distracting language mistakes.

### Grade 7

**1. Scientific quality**

The project is of an appropriate level and has been carried out completely.

**2. Process**

The student successfully completes the project within the planned schedule; she is able to manage the project and follow her own plans.

**3. Creativity**

The student can follow up suggested approaches with many contributions of her own. The student shows social skills in contacts with external supervisors, and she has a constructive and analytical attitude.

**4. Structure and relation**

The student is able to independently setup certain steps in her research, to summarize important parts of her results, and indicate their limitations.

**5. Language and writing**

The research is reported in a clearly formulated text.

### Grade 8

**1. Scientific quality**

The results partly exceed expectations, and can be reworked into a publishable paper.

**2. Process**

The techniques used are fine. The external supervisors are enthusiast about the student's effort and work attitude.

**3. Creativity**

The student is able to come up with interesting topics within her research area, or else she has handled a suggested topic in a way that is unexpected by the supervisors.

**4. Structure and relation**

The student is able to independently plan and carry out the research, and to position her results within the state of the art of her research area.

**5. Language and writing**

The research is described in a clearly formulated and almost flawless text.

### Grade 9 or 10

**1. Scientific quality**

The work is of an exceptional level, which perhaps only appears once every few years. If we would have the financial means, we would like to employ the student as a researcher.

**2. Process**

The student is able to carry out research independently.

**3. Creativity**

The research questions as well as the approach and solutions are completely the work of the student.

**4. Structure and relation**

The student is able to identify shortcomings in the state of the art of her research area, and to sketch directions for new research.

**5. Language and writing**

The thesis stands out with excellent use of language and convincing arguments.