

# Grading criteria for the final projects

Each project is graded according to the following criteria:

Overall Product (70%+10%)		Functional qualities (40%)	Required Functions	All required functions are implemented and demoed w/o bugs
		Additional Functions (10%)	Extra Credit	Implemented features that improves the usability and /or safety of the software ( <b>only given when all required functions implemented</b> )
		Non-functional qualities (15%)	Object-oriented programming (2%)	The code is reasonably and appropriately structured with OOP
			Readability of the code (1%)	Proper naming convention and code commenting
			Overall Traceability (7%)	Code structure is the same as the class diagram (4%)
				All required documents are provided with reasonable effort (3%)
			Presentation (5%)	Demonstration of system functions clearly within a short period of time
		Validation (15%)	Testing (8%)	System has been tested with reasonable coverage at various levels
			Model checking (7%)	System checked for safety requirements with reasonable assumptions on the environment
Documentation (30%)	Requirement (10%)	Requirement document (4%)	Completeness (2%)	Should cover all required and implemented system features
			Traceability (2%)	Structure and naming should be consistent
		User manual (3%)	Completeness (2%)	The user can get proper instructions on how to operate the system
			Comprehensiveness (1%)	The document is well organized and easily referenced
		Weekly Meeting Reports (3%)	Completeness (1%)	All reports submitted on time
			Reasonable (2%)	Should contain comprehensive info on progresses of the project
	Development (10%)	Customer Consultations (2%)	Progresses are made gradually	Previously identified problems are fixed in the next iteration
		Specification (8%)	Completeness (3%)	Another developer can implement your system w/o ambiguities
			Traceability (5%)	Consistent with the requirement and code
	Validation (10%)	Validation Report (10%)	Testing (6%)	The testing procedure and results are well documented
			Model Checking (4%)	The models of the system and the environment are explained, and the properties are justified.

The score of each student is calculated as the average of the overall product scores of the three projects plus the scores for each documentation duty assigned in the initial job allocation. The score is then multiplied by the project's percentage in the final score.

Example:

Project 1			Project 2			Project 3		
Overall Product		55	Overall Product		60	Overall Product		65
Documentation	Requirement	8	Documentation	Requirement	5	Documentation	Requirement	6
	Development	7		Development	4		Development	3
	Validation	5		Validation	9		Validation	7

The score for each student is calculated as follow:

	Score
Student 1 (1R2D3V)	$(55+60+65)/3+8+4+7=79\%$
Student 2 (2R3D1V)	$(55+60+65)/3+5+3+5=73\%$
Student 3 (3R1D2V)	$(55+60+65)/3+6+7+9=82\%$