RoboCup Junior Rescue Rubrics – Draft

Technical Description Paper – Line & Maze

Mechanical design and manufacturing (structural parts)				
Key Elements	0	1-2	3-4	5-6
mechanical design structure and diagrams		Only rudimentary explanation and shows some diagrams to illustrate the mechanical design. Diagrams are hard to follow.	Detailed explanation of the mechanical design with some good diagrams that are fairly easy to follow.	Excellent explanation of the mechanical design. Has clear, quality diagrams that are easy to understand.
sub-module design and workability		Includes some level of how the system is composed of interacting parts (sub-modules) but is confusing.	Give good amount of design proof to provide a view of the entire system and its interacting parts (modules). Describes the paths of interaction between parts, with diagrams.	Clearly identifies the major internal system interfaces and their interacting parts. Describes pathways with diagrams and design illustrations.
Reliability Tests and quality assurance		Show some kind of tests, but only simple ones, and doesn't keep reliability in mind.	Shows more detailed test cases with some quality assurance and reliability tests.	Clearly shows thoughtful tests, quality assurance, and integration plans.

Electronic design and manufacturing (sensors and circuit boards)				
Key Elements	0	1-2	3-4	5-6
Electronic design structure and diagrams		Only rudimentary explanation and some diagrams to illustrate the electronic design. Diagrams are hard to follow.	Detailed explanation of the electronic design with some good diagrams that are fairly easy to follow.	Excellent explanation of the electronic design. Has clear, quality diagrams that are easy to understand.

sub-module design and workability		Includes some level of how the system is composed of interacting parts (sub-modules) but is confusing.	Gives good amount of design proof to provide a view of the entire system and its interacting parts (modules). Describes the paths of interaction between parts, with diagrams.	Clearly identifies the major internal system interfaces and their interacting parts. Describes pathways with diagrams and design illustrations.
Reliability Tests and quality assurance		Show some kind of tests, but only simple ones, and doesn't keep reliability in mind.	Shows more detailed test cases with some quality assurance and reliability tests.	Clearly shows thoughtful tests, quality assurance, and integration plans.

Software				
Key Elements	**0**	**1-2**	**3-4**	**5-6**
Architecture design with diagrams such as flowchart, UML, pseudocode		Only rudimentary explanation and shows some diagrams to visualize the structure and function of the code. Diagrams may be hard to follow.	Detailed explanation of the software design with some good diagrams that are fairly easy to follow.	Excellent explanation of the software architecture. Has clear, quality diagrams that are easy to understand.
Modularization and Integration		Includes some level of explanation on how the software is composed of interacting parts (sub-modules) but is confusing.	Give good amount of design proof to provide the view of the entire software and its interacting parts (modules).	Clearly identifying the major software interfaces with clear diagrams and illustrations.
Reliability Tests and quality assurance		Show some kind of tests, but only simple ones, and doesn't keep reliability in mind.	Shows more detailed test cases with some quality assurance and reliability tests	Clearly shows thoughtful tests, quality assurance, and integration plans

Projects Planning – from Design, to Deployment				
Key Elements	0	1-2	3-4	5-6
Milestones/ Project plan		Little sign of stages of milestones, vague planning. Most tasks are done at the moment of decision.	Show signs of stages with milestones, project planning, has quality assurance in mind, and is used somewhat as a guide for future tasks.	Clear progressive milestones with teams assignment, project planning, incl. testing and quality assurance, and is used as an overarching guide.
Research and Analysis		Little sign of prototyping design ideas. Lack of illustration on systematic data collection methods and analysis.	Good attempt to show prototyping on intended ideas. Attempted to show illustration of systematic data collection methods and analysis.	Clear attempt on prototyping and even tested in multiple conditions/trials before the implementation.
Recognize Constraints		Talk about interesting constraints, but does not show further insight as how that influence your project.	Clearly show how the constraints influence the success or failure of the project	Clearly shows how the constraints influence the success or failure of the project and how to work around the constraints IF resources are available.
Integration Plan/ System Engineering		Little sign of integration plan.	Shows informative and structured integration plan, but not executed well.	Clearly shows well-illustrated integration plan and executed well.

Performance Evaluation				
Key Elements	**0**	**1-2**	**3-4**	**5-6**
Reliability Testing and Quality Assurance		Show some kind of test cases but only simple ones, and lacking keeping reliability in mind. Shows little understanding of what the problem is and how to improve on it.	Shows detailed reliability tests and quality assurance. Includes somewhat insightful evaluation of the problem, but no plans on how to improve on it.	Clearly shows detailed reliability tests and quality assurance. Includes very insightful evaluation of the problem, e.g., which module causes difficulties and shows plans on how to fix it.

Document				
Key Elements	**0**	**1-2**	**3-4**	**5-6**
Contents, Conciseness and Clarity		Documentation does not cover all aspects of the TDP, sometimes lacks clarity, and is too lenghtly in some parts.	Documentation covers most aspects of the TDP, is fairly easy to follow and concise.	Documentation includes all parts of the TDP, has a very clear structure, that is easy to follow and concise.
Formatting		Documentation does not follow the intended formatting and is hard to read.	Documentation is formatted well and is easy to read.	Excels at good formatting, and makes the information more accessible for the reader, e.g. highlighting, labeling, etc.