

2017 Software Design Score Sheet

Purpose: To describe the software design process, methods, and techniques used during development of the robot.

Scoring Sections	Possible Points	Points Awarded
<i>Software Development Process</i>		
Evidence that team implemented custom software design/programming vs. using default robot program.	30	
Multiple process steps are clearly identified. At least the following process steps are discussed: requirements planning, design, code, test, and release.	50	
Development Process Total	80	
Comments:		
<i>Requirements Planning</i>		
The text clearly states how the software requirements were identified/derived and how they meet the team/customer's expectations.	20	
Software-controlled Robot operations are identified (e.g., locomotion/drive, chassis rotate, arm lift/bend/rotate/extend, claw rotate/open, autonomous/decisions, ...).	20	
The described software functionality clearly maps to the desired game strategies and the defined tasks for the robot.	20	
Requirements Planning Total	60	
Comments:		
<i>Design & Coding</i>		
The design methods used are evident and clear (e.g., pseudo-code, IPO (input-process-output) charts, data flow diagrams (flow-charting steps/sequences), etc.	15	
The use of sensors (micro-switches, magnetic switches, potentiometer) was creative and appropriate to the task, or the lack of sensors used in this design was appropriate to the tasks.	5	
Human factors were considered when designing a user-interface (e.g., how the robot will be controlled)	8	

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There is evidence that good software design practices were considered (e.g., documenting, commenting, naming conventions, code simplicity, modularity, error conditions/handling)	12		
Code portability and maintainability was clearly considered (e.g., use of variables vs. hardcoding values; use of classes, functions, tasks, procedures, blocks, subsystems, etc.)	10		
Design & Coding Total	50		
Comments:			
<i>Test and Debug</i>			
Test and verification planning is evident. (how correct operation of the robot program will be verified/tested)	10		
Software operation was validated/tested through computer simulation. (e.g., Simulink, Virtual World, software-in-the-loop)	10		
Software operation was validated using the robot. (e.g., download, test, verify, repeat).	5		
The team demonstrated iterative software design and testing within this rapid development environment.	15		
Test and Debug Total	40		
Comments:			
<i>Code Release</i>			
A release schedule was employed (daily, weekly, periodically, etc.)	10		
Version tracking of developed modules is clearly documented.	10		
Code Release Total	20		
Comments:			
Additional Comments:	Total	250	
		÷10	÷10
	FINAL SCORE	25	

Judge name/number (print): _____

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