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colspan	Morphological chart for pipe climbing robot project AGH2021

index	problem	solution 1	solution 2	solution 3	solution 4	solution 5	legend
mechanics							
	tightening method	caterpillar	scissor	guided rail	ring	2 hands	solution
		high	low	average	high	average	price
		average	simple	average	complex	complex	complexity
1		average	low	high	average	low	quality
	number of segments	1	2	3	4	>4	solution
		low	low	average	high	high	price
		simple	simple	average	complex	complex	complexity
2		low	average	high	average	inadequate	quality
	construction	LEGO	3D printed	CNC machined	Softbody	plywood	solution
		average	low	high	low	low	price
		average	average	average	high	low	complexity
3		average	average	high	low	low	quality
electronics							
	processor	PC	Raspberry PI	LEGO MINDSTORMS	Phone	hydraulic	solution
		free* (user provided)	low	high	free* (user provided)	high	price
		high		average	high	high	complexity
1		average	high	high	average	low	quality
	connection	cable	bluetooth	wifi	cellular	IR	solution
		low	average	average	high	average	price
		low	average	average	high	low	complexity
2		low	high	high	low	low	quality
	space awareness	none	ultrasonic	set boundaries	bumpers	lidar	solution
		free	average	free	low	high	price
		low	average	high	average	high	complexity
3		low	high	low	average	high	quality
software							
	OS	Windows	Raspberry OS	RTOS	Debian	MacOS	solution
		average	free	free	free	high	price
		easy	average	hard	easy	easy	ease of use
1		high	high	average	high	high	quality
	code language	Python	C++	C	ASSEMBLER	Swift	solution
		easy	average	easy	hard	average	ease of use
		complex	complex	average	simple	complex	complexity
2		high	high	high	low	average	accessibility
	movement mode	user controlled	looped tasks	space aware	adge to edge	hydraulic	solution
		easy	average	high	average	high	price
		simple	simple	complex	average	complex	complexity
3		average	low	high	average	inadequate	quality