Team Orange Product Contract Specifications and Notes for Helmet 911

Product Description	Attachable device that senses the impact of a bike crash and calls 911 with user's location
Intended Customer	Long distance road bikers
Market	Bike accessories

Helmet Add-On Product Contract				
Product Attribute	**Metric**	**Unit**	**Value**	**Notes**
Affordable Product	Manufacturing Price	Dollars	<$50 (<$100**)	Bike helmets range from $10-$200. Dividing by 4 to get manufacturing price = 2.50-50
Comfort	Overall Weight	Grams	<=100	Most helmets weigh 100g - 300g
Calls only during true emergency	False Positives Threshold	G's	25-425	Soccer players sometimes get concussions from 22g "headers." Helmets designed to withstand up to 425gs
Vibration Resistance	Add-on stays on helmet through bike ride down cobblestone road	Meters	400	***user studies will be performed to understand rockiest conditions*
Safety	Complies with US Consumer Product Safety Comission's Requirements for Bike Helmets	Binary	Yes	This includes weather/rain durability, temperature resistance, vibration resistance, and impact resistance
Calls 911 in appropriate time range	Call Time	Seconds	55-90	***user studies will be performed to verify optimal timing; benchmark: competitor's product stated 60s*
Self-Diagnostic	Indicates low battery level, poor coverage, when broken, and when call pending (between 25-60s of crash)	Binary	Yes	user studies expressed many "what if" concerns
Quick button location for 911 calling or cancelling	Button locating time	Seconds	<10	***user studies will be performed to verify necessary time*
Product is durable	Product Lifetime	Years	>3	Helmet lifetime is 3 years

Bike Add-On Product Contract				
Product Attribute	**Metric**	**Unit**	**Value**	**Notes**
Affordable Product	Manufacturing Price	Dollars	<50	Users consider this an accessory like a bike helmet; bike helmets range from $10-$200. Dividing by 4 to get manufacturing price = 2.50-50
Comfortability	Add-on weight	Grams	<800	Bikers have water bottles on their bikes weighing up to 2 lbs without concerns
Calling during Emergency	False Positives Threshold	G's	25-425	***extrapolated from helmet research, further studies will research variance in impact*
Weather Durability	Time under heavy rain or sauna	Minutes	60	on average a long bike ride is 1 hour
Temperature Durability	Temperatures product is operable under	Degrees C	-18-45	point at which humans at risk for frostbite; point at which humans at risk for heatstroke
Calls 911 in appropriate time range	Call Time	Seconds	55-90	***user studies will be performed to verify optimal timing; benchmark: competitor's product stated 60s*
Self-Diagnostic	Indicates low battery level, poor coverage, when broken, and when call pending (between 25-60s of crash)	Binary	Yes	user studies expressed many "what if" concerns
Quick button location for 911 calling or cancelling	Button locating time	Seconds	<10	***user studies will be performed to verify necessary time*
Product is durable	Product Lifetime	Years	>3	***user studies will be performed to narrow down intended consumer's bike lifespan*
Batteries changeable	Time to change batteries	Minutes	<5	Includes taking product apart