

ISIS

Impact Safety Intelligent System



Safety for Long-Distance Cyclists

Two Part System

Helmet component



Bike component



Helmet Component



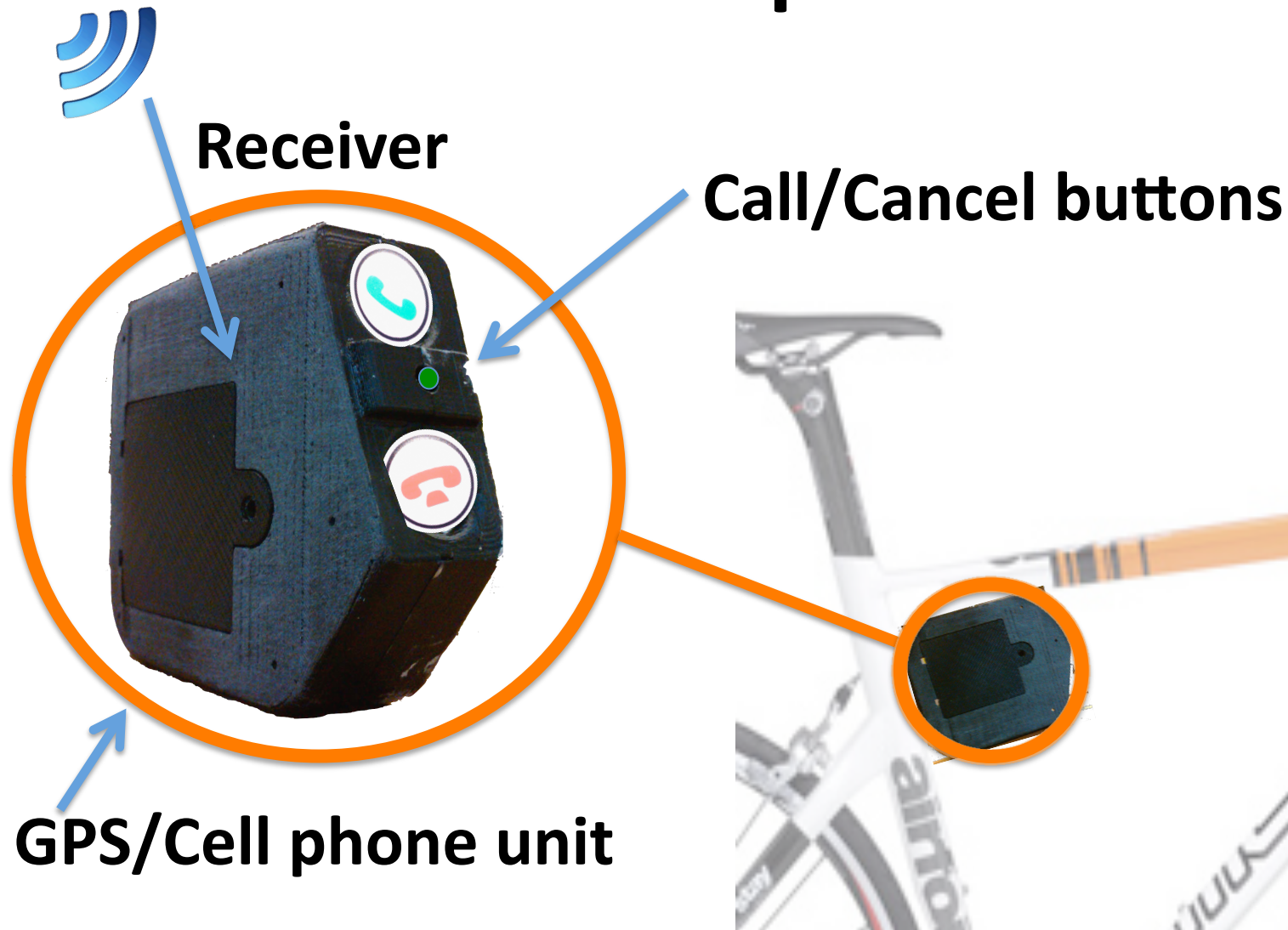
Internal

- 3-axis accelerometers
- Microcontroller
- Transponder



Buckle sensor turns on ISIS

Bike Component



Scenario 1: Crash with Injury



Helmet monitors



CRASH!



Calls 911 with GPS

911 PERSONNEL ANSWERING AND GPS TRACK



Scenario 2: Crash with No Injury



Helmet monitors



CRASH! Press cancel



**Does NOT call
911 with GPS**

Preventing False Positives

Conditions:

1) Helmet buckled



2) 50 foot range between bike & helmet

3) 350 Head Injury Criterion score



User Override: 45 second delay to cancel

Scenario 3: Manual Call



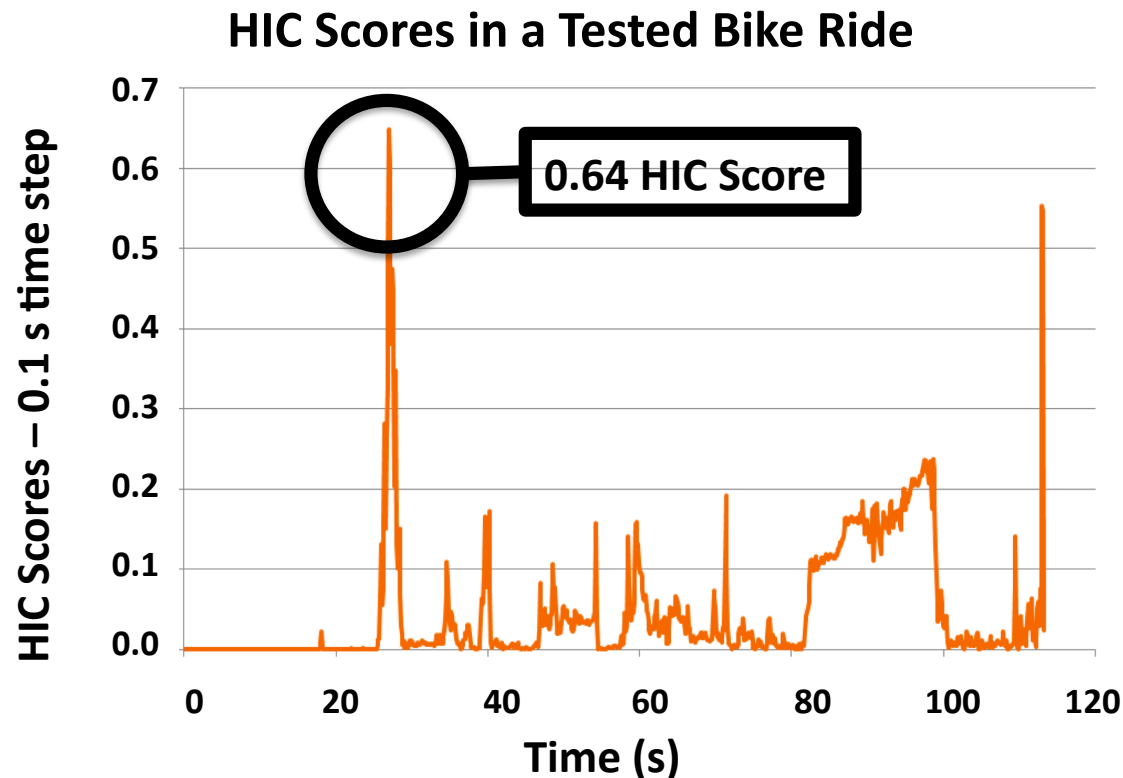
Helmet monitors



Calls 911 with GPS

Testing: Technical Feasibility

- Environmental durability → Potted electronics
- 350 HIC score activates device
 - Normal bike rides <5 HIC score





User Study Responses

Target Market: Adult Solo Bicycle Riders

Function:	Calls 911 for 350-1000 HIC score crash, 45s after crash
Safety:	Complies with SNELL Helmet Safety Standards
Control Buttons:	-Cancel call within 40s of crash -Manually call 911
System Indicators:	-Battery level -Helmet/bike sync
Size:	Bike: 5"x 4.5"x 1", Helmet: 5"x 4"x 0.5"
Weight:	Bike: 250g, Helmet: 100g

Market Opportunity

- License to helmet and bike technology manufacturing companies



- Expand ISIS technology:
 - Calling options
 - Bike product integration
- Expand market
 - Children's helmets & adventure bikers
 - Snow sports

Comparison of Bike Safety Products



	RoadID	Cell phone	ISIS
Automatic Alert	○	◐	●
Safety Enhancing	—	●	●
User Controls	—	●	●
System Indicators	●	◐	◐
Ergonomics	◐	○	●


Note: ● = Fully Satisfied
○ = Not Satisfied

◐ = Partially Satisfied
— = Not Applicable



Business Model

- Licensing Strategy
- Estimate:
 - 5 to 8% licensing fee of delta of wholesale price
 - Standard retail price: *\$125*
 - ISIS embedded retail price: *\$200*
 - 5 million avid bikers
 - 5% initial market penetration
- Estimated Sales: *\$469,000*

IS  S





Thank You to:

- 798 cyclists who responded to our study
- 911 call center
- Dr. Barbara Hughey
- Asada Lab
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- Edgerton Learning Center Staff
- Praveen Subramani
- Justin Burkhart
- Blair Gagnon
- 2.009 Staff

User Study Results

Which of the following do you consider most when buying a helmet?

