BrakeSafe

Sketch Model Review

Pink B
Problem

• Bikers going over handle bars

• >500,000 injuries requiring hospital emergency department in 2013
  • >55% from falls from bike and flipping over handlebars
Solution: BrakeSafe
Video/ Animation
Sketch Model

• Lessons
  • Input force from rear wheel must be high
  • Friction will cause problems
  • Brake wires cannot turn sharply

• Areas of exploration
  • Test variations to front and rear mechanisms to scale
  • Hybrid mechanical and electrical system
Current Technologies

• Sure Stop
  • One brake lever controls braking on both wheels

• Anti-Lock Braking Systems
  • Vibrations prevent brakes from locking
  • Expensive electrical system
Market Opportunity

• ~80 million bike riders
• Mountain bike sales
  • ~25% of all US sales accounted by mountain bikes
  • >35% of projected future sales
• >$45 billion global bike market
  • Growing steadily at ~5% per year