ElectroLock
The Rack-Mounted RFID Bike Lock

Problem Space

Bike theft is an issue among college campuses. A study conducted at the University of California, Davis suggests that roughly 3000-3500 bikes of the 13,000 bikes on campus had been stolen. That is about a 27% chance that a student's bike will be stolen during only one year of attendance due to not having access to an adequate bike lock.

Remove Key	Secure Bike	Replace Key	Scan Card

Pictured: System mounted on stand 3D model, background added

Objective

- Increased safety of bicycles on university campuses
- Higher quality bike storage and quality safety for security with RFID
- Reduced carbon footprint by incentivizing cycling
- Convenient and economical

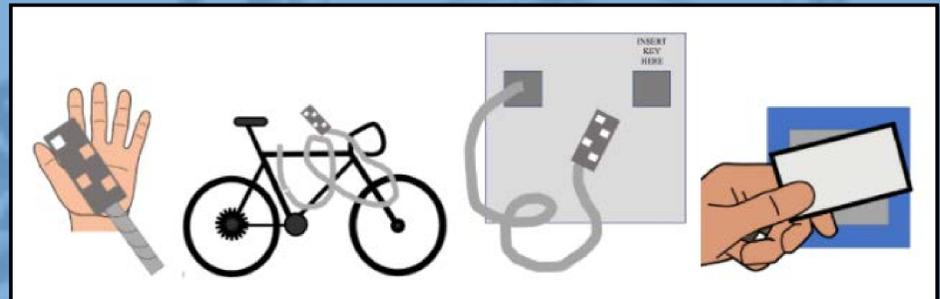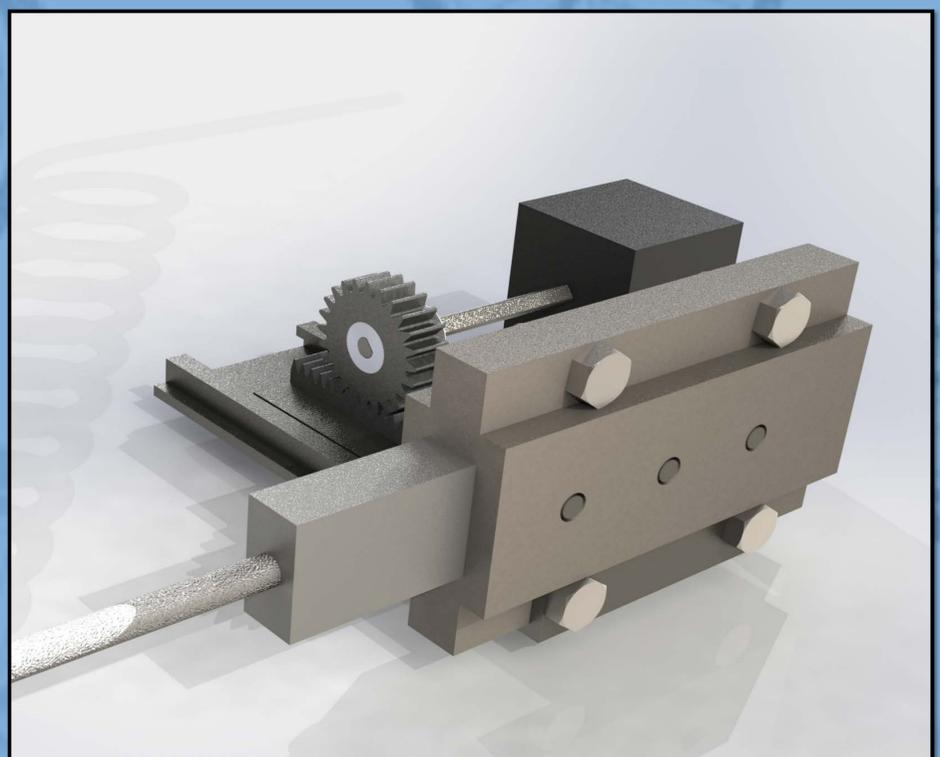Pictured: Isolated lock mechanism 3D model

Functionality

- RFID tag is used as personalized key to lock and unlock the device
- Security alarm designed to trigger upon cutting of the locking cable
- Maintains records of each time the device is used
- Backup battery to support the device for extended period of time when separated from power source

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