There were 677 cyclist fatalities in the US in 2011. Despite the dramatic decrease of cyclists at night, 27% of cyclist fatalities occurred during the evening hours in the US. Cyclist injuries and fatalities can be prevented by increasing bicycle visibility at night using active lighting.

**OBJECTIVES**
- Lightweight frame
- Self-generated illumination of frame
- Suitable for use in a range of weather
- Low-cost

**ENERGY GENERATION**
The bicycle prototype will use a hub generator to capture the mechanical energy generated by the rotation of the wheels to apply a current to the EL frame.

**FORMS OF “EL”**
- Tape
- Wire
- Panel
- Paint
- Ink

**“EL” MATERIALS**
The most common electroluminescent (EL) devices are composed of either powder (primarily used in lighting applications) or thin films.
- Powdered zinc sulfide doped with copper or silver
- Thin-film zinc sulfide doped with manganese
- Naturally blue diamond, which includes a trace of boron that acts as a dopant
- Indium phosphide (InP), gallium arsenide (GaAs), and gallium nitride (GaN)
- Inorganic semiconductors

**TIMELINE**
- Aug ’13
- Sept ’13
- Oct ’13
- Nov ’13
- Dec ’13
- Jan ’14
- Feb ’14
- Mar ’14
- Apr ’14
- May ’14

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