Runtime Adaptive Risk Assessment and Automated Mitigation

**Title:** Runtime Adaptive Risk Assessment and Automated Mitigation

**Invention:** This technology is a multi-modal software security framework for life-critical and safety-critical devices, specifically medical Internet of Things (IoT) devices. This software assesses risks, vulnerabilities and threats and implements automated mitigation techniques when necessary.

**Background:** With the rise of internet transactions and systems, cybersecurity is needed to prevent hacking or malware. There is currently a need for a technology that automatically disables systems that are affected by cyber attacks, like those used in healthcare and healthcare-related devices, in order to automatically prevent risk. The security of life-critical and nonlife-critical devices has become of increased importance to insure the safety of both a patient and their medical information. As more life-critical, medical and IoT devices become available, attacks on pacemakers, insulin pumps and neurological implants need to be mitigated.

**Applications:**
- Risk management
- Systems security
- Threat detection
- Medical systems

**Advantages:**
- Adaptable
- Versatile
- Increases safety
- Lowers risk

Contact
Robert Sleeper
Licensing Manager
roberts@tla.arizona.edu
(520) 626-4604

The University of Arizona, Tucson, Arizona
Licensing Manager:
Bob Sleeper
RobertS@tl.arizona.edu
(520) 626-4604

**Inventors**

Roman Lysecky  
Associate Professor, Electrical and Computer Engr

Jerzy Rozenblit  
University Distinguished Professor, Electrical & Computer Engineering

Johannes Sametinger  
Associate Professor, Department of Information Systems – Software Engineering

Aakarsh Rao  
Graduate Student, Electrical and Computer Engr

Nadir Carreon Rascon  
Graduate Student, Electrical & Computer Engr