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Employment

Systems Engineer II | **Shure Incorporated** | **Dec 2020 - Present**

Musicians and Consumer Audio

- Identified and evaluated the most acceptable technical solutions to handle audio and video recording use cases on the iOS and Android ShurePlus MOTIV Audio and Video mobile applications to support dual Mono BLE lavalier microphones.
- Created system context use case diagrams and use case workflow diagrams for the Mono and Stereo BLE microphones, Charging Case, Hardware Rx, 3rd Party Mobile & Desktop MOTIV Apps, and Mobile & Desktop Non-MOTIV Apps.
- Led the creation and approval process for LED indicators and push button UI/UX solutions for each applicable hardware component and worked alongside firmware and UI/UX teams for additional refinement as the latest user research and field trial feedback data was made available.
- Captured the operating modes and use case workflows supported by each hardware component which led to the creation of the downstream charging requirements and approval from the embedded and firmware teams.
- Defined system data property requirements across digital signal processing, data/control application software, and firmware update device information categories ensuring mobile and desktop applications can interface with BLE and USB microphones.
- Increased visibility of project status and communication of milestones to key stakeholders by updating and maintaining a dashboard within the JAMA requirements database tool organized via the use of custom filters by hardware component, feature, requirement, release schedule and priority.

Software Design Engineer | **Caterpillar Inc.** | **Jul 2019 - Dec 2020**

Onboard Monitoring Software

- Prevented unnecessary messages from being created at startup by storing the latest Product Link Operator ID value to the onboard registry to save the data over power cycles.
- Improved process for onboard deletion of “Speed Limit” and “Height Limit” geofences by modifying Protobuf configuration file validation to only require the Fence ID and a valid Boolean parameter in place of exact GPS coordinates of existing fences.
- Wrote unit tests as well as created and executed verification and validation test plans utilizing various proprietary tools to simulate J1939 and Ethernet data link communications for machines, engines, implements, displays, events and diagnostics.

Telematics Systems Engineer | **Caterpillar Inc.** | **Jul 2017 - Jul 2019**

Onboard Monitoring Systems & Software

- Captured stakeholder system requirements and translated into embedded application software requirements, user stories, and test plans to successfully deliver the “Movement Detection While Engine Off” feature for the latest generation Product Link Cellular/Satellite and Cellular Only radio platforms.
- Collaborated extensively with a machine product group to analyze an international client’s telematics dataset collected from a worksite with poor GPS accuracy and identified opportunities to prevent excessive geofence crossover message creation.
- Increased rate of validation testing for the 2019 GPS Rollover event by modifying a relay control script to remotely control Power, Key and Engine inputs to radios and network managers while a GPS simulator ran through various multi-day use cases.

Automation Engineer Intern | **U.S. Cellular** | **Jun 2016 - Aug 2016**

- Developed and presented a business case for an automation solution to save the organization $68,500 over five years in labor avoided by minimizing or eliminating unplanned network service disruptions due to CDMA radio amplifier failure.
- Created a cost-per-truck-roll modeling approach to achieve a positive Return-On-Investment (ROI) within nine months of implementation.

Skills

Programming Languages	C, C++, Java, Python, HTML, CSS
Development Tools	Eclipse, Git, Linux, Understand for C++, UML, Visual Studio
Requirements Management	Azure DevOps (VSTS), Excel, JAMA Connect (Contour), JIRA, PowerPoint, TargetProcess

Education

B.S. in Electrical Engineering | **University of Illinois at Chicago** | **Graduated 2017**

Certifications

- Business Analytics Foundations: Descriptive, Exploratory, and Explanatory Analytics: No Expiration Date
- Software Development Life Cycle (SDLC): No Expiration Date