Risk Assessment Form

Group Name: Group 12

| Members: |
|---|
| Nikki Metzger |
| Christian Ralph |
| Daniel Lerner |

| Item | User | Task | Cause/Failure Mode | Hazard Category | Hazard |
|---|---|---|---|---|---|
| 1-1 | office workers | Sensor Placement | liquid spill on sensor | Electrical | Electrical shock |
| 1-2 | office workers | Sensor Placement | contact of tape with skin | Biological / Health | Allergic Reaction to tape |
| 1-3 | office workers | Sensor Placement | Application / removal of tape on sensitive skin | Biological / Health | skin irritation |
| 1-4 | office workers | Sensor Placement | Careless handling of device | Biological / Health | cuts due to sharp edges |
| 1-5 | office workers | Sensor Placement | improper positioning of sensors on the body | Ergonomic/Human Factors | Discomfort due to improper positioning |
| 1-6 | office workers | Sensor Placement | Box design does not match body curves | Ergonomic/Human Factors | Discomfort due to shape of box |
| 1-7 | office workers | Sensor Placement | Entanglement of cables and wires | Electrical | Electrical shock |
| 1-8 | office workers | Use throughout day | sensor shortcircuiting | Electrical | Electrical shock |
| 1-9 | office workers | Use throughout day | arduino shortcircuiting | Electrical | Electrical shock |
| 1-10 | office workers | Use throughout day | sensor or arduino shortcircuiting | Electrical | Electrical Burns |
| 1-11 | office workers | Use throughout day | incorrect voltage mismatch *look it up | Electrical | Electrical shock |
| 1-12 | office workers | Sensor Placement | Finger or other small body parts stuck within sensor box | Biological / Health | Pinch Points |
| 1-13 | office workers | Use throughout day | damage to device due to rough handling | Mechanical | Electrical shock or Heat irritation |
| 1-14 | office workers | Use throughout day | Tactile feedback overly functional | Noise/Vibration | Vibrational irritation |
| 1-15 | office workers | Use throughout day | Tactile feedback too loud | Noise/Vibration | Vibrational irritation |
| 1-16 | office workers | Use throughout day | Heat from sensors | Heat/Temperature | Heat irritation |

| Severity | Exposure | Probablity |
|---|---|---|
| Catastrophic | Frequent | Probable |
| Serious | Occasional | Possible |
| Slight | Remote | Unlikely |
| Minimal | None | Negligible |

| Severity | Exposure | Probability | Risk Level | Method of Risk Reduction/Mitigation | Severity | Exposure | Probability | Risk Level | Person Responsible | Date | C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| slight | frequent | possible | medium | create a protective box around sensors | minimal | remote | unlikely | low | Christian Ralph | 4/15 | |
| slight | freqeunt | unlikely | medium | using non-latex tape | slight | frequent | negligible | medium | Christian Ralph | 4/15 | |
| slight | remote | possible | low | use of waterproof foam tape | slight | remote | unlikely | low | Christian Ralph | 4/15 | |
| slight | remote | unlikely | low | creation of new design with smoothened edges | minimal | none | negligible | low | Christian Ralph | 4/18 | |
| slight | occasional | possible | medium | create guide images and video on placement of device | slight | remote | unlikely | low | Christian Ralph | 4/15 | |
| slight | frequent | probable | high | create more ergonomically comfortable device | slight | remote | unlikely | low | Christian Ralph | 4/18 | |
| slight | remote | unlikely | low | soldering as much as possible, switch to bluetooth | slight | remote | negligible | low | Christian Ralph | 4/18 | |
| slight | remote | unlikely | low | create a protective box around sensors | slight | none | negligible | low | Christian Ralph | 4/15 | |
| slight | remote | unlikely | low | create a protective box around sensors | slight | none | negligible | low | Christian Ralph | 4/15 | |
| slight | remote | unlikely | low | create a protective box around sensors | slight | none | negligible | low | Christian Ralph | 4/15 | |
| slight | remote | unlikely | low | create a protective box around sensors | minimal | remote | unlikely | low | Christian Ralph | 4/15 | |
| slight | remote | unlikely | low | design the protective box to limit access to users | slight | none | negligible | low | Christian Ralph | 4/18 | |
| serious | remote | unlikely | medium | create protective padding for product | slight | remote | unlikely | low | Christian Ralph | 4/18 | |
| slight | remote | unlikely | low | Increase impediance / Decrease voltage of motor circuit | minimal | none | negligible | low | Christian Ralph | 4/20 | |
| slight | remote | unlikely | low | Add padding to motor device to reduce noise | minimal | none | negligible | low | Christian Ralph | 4/20 | |
| serious | remote | unlikely | medium | create a protective box around sensors | minimal | none | negligible | low | Christian Ralph | 4/15 | |