Fault Tolerance of Real-time Operating Systems

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With society’s ever-growing dependence on technology, it is critical that current technologies are highly dependable and essentially error-proof in some cases. This is especially true in Real-time Operating Systems which are used in nuclear reactors and medical technology. QNX Neutrino is currently the industry leader in real-time healthcare operating systems. Because of the obvious importance of medical devices being fail-safe, QNX had to develop and maintain an extremely fault-tolerant kernel architecture.

Our goal is to show how tamper resistance, fail-safe defaults, separation of privileges, resource management, and process scheduling in conjunction enables the QNX Real-time Operating System to become fail-safe from user or system failures. We aim to discuss how certain techniques and algorithms are used in the QNX microkernel that make it superior to other systems in terms of fault tolerance.

Timeline:

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| Time | Description |
| 1-2 weeks | Search for more articles(have 5 currently) think of paper flow |
| 1 week | Create an outline |
| 3weeks | Start writing the body and abstract/intro |
| 2weeks | Edits/write conclusion |
| 1 week | Construct final draft with formatting |
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