

DIGITAL PORTFOLIO

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project Title

**os
developer....**





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problem statement



Existing operating systems have limitations in performance, flexibility, or security.

Need for an efficient OS that supports multitasking, memory management, and device handling.



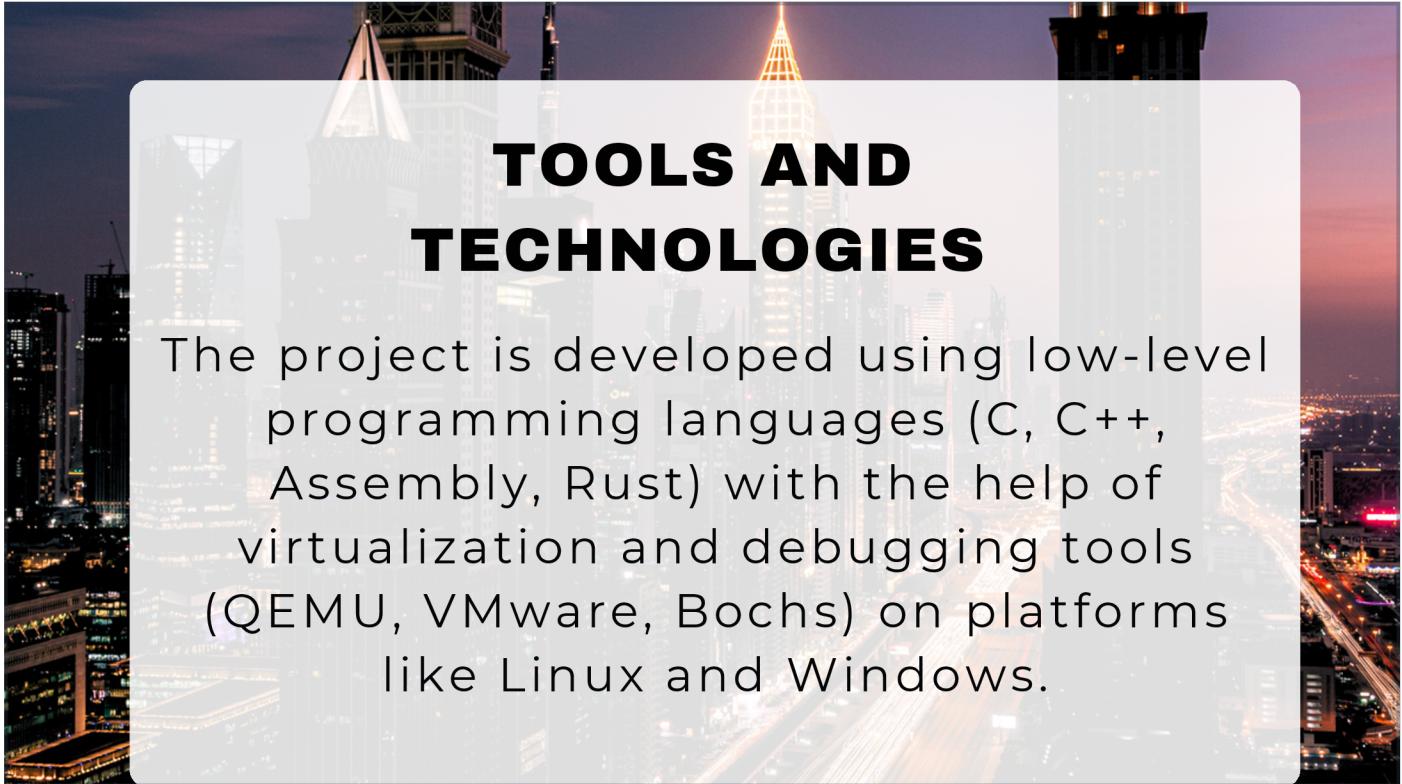
PROJECT OVERVIEW

The objective of this project is to design and develop a basic Operating System that demonstrates the core principles of OS development.



END USER

- 01** Computer Users – Individuals who require a stable and efficient operating system for performing day-to-day tasks.
- 02** Developers & Programmers – For testing, learning, and building applications that rely on OS features.
- 03** Industries & Embedded System Designers – Organizations that need customized operating systems for devices, servers, and real-time applications.



TOOLS AND TECHNOLOGIES

The project is developed using low-level programming languages (C, C++, Assembly, Rust) with the help of virtualization and debugging tools (QEMU, VMware, Bochs) on platforms like Linux and Windows.



PORTFOLIO DESIGN AND LAYOUT

1. Homepage & About Section – A clean introduction with personal details, career goals, and a professional summary.
2. Skills & Projects Showcase – Highlighting technical skills, academic works, and project details with visuals/screenshots.
3. Contact & Resume Section – Easy navigation to contact information, social media links, and downloadable resume.

FEATURES AND FUNCTIONALITY

Process and Memory Management – Efficient handling of multiple processes, scheduling, and memory allocation using virtual memory.



File System Support – Organizing, storing, and retrieving data through a structured file system.



Security and Device Handling – Providing user protection, access control, and smooth interaction with hardware devices through drivers.



CONCLUSION

- 1. The project provided a clear understanding of core operating system concepts such as kernel, memory, and process management.**
- 2. It enhanced practical knowledge and technical skills in low-level programming, debugging, and system design.**
- 3. The work can be further extended to build advanced, secure, and real-time operating systems for future applications.**

