

# 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.

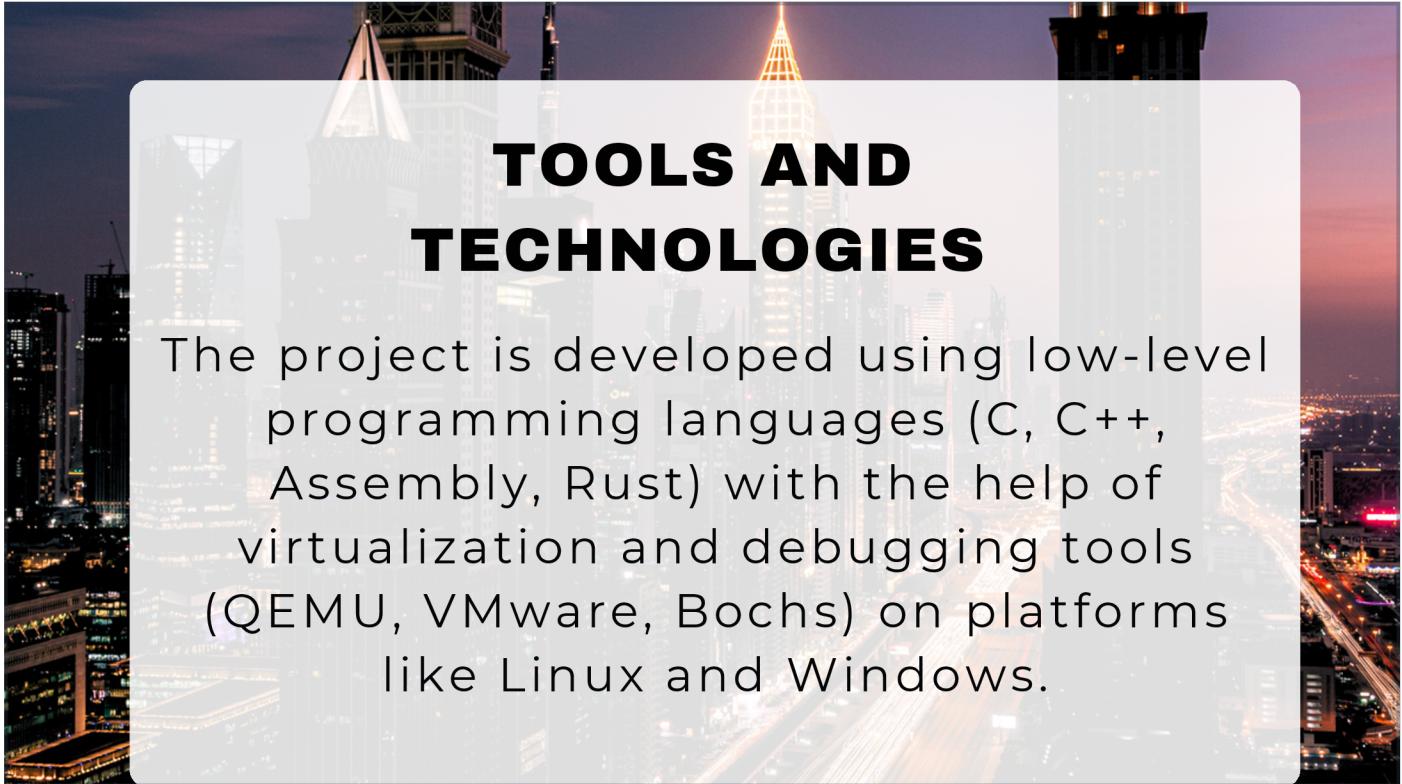
# **PROJECT OVERVIEW**

**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.**

