Janus Version Control

A Self Hosted Distributed Version Control System

Student

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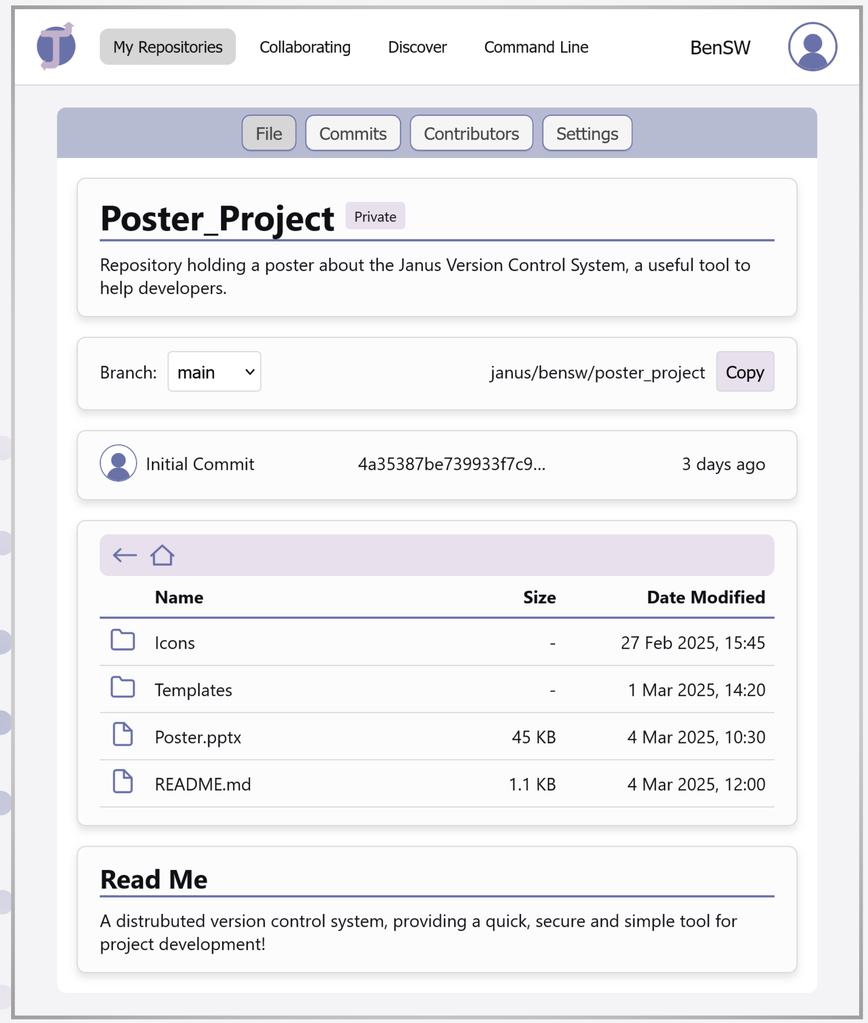
Course: BSc (Hons) Computer Science

- Objective -

Janus is a secure distributed version control system (DVCS) tailored for enterprises to manage their codebases internally. It eliminates reliance on external cloud services, ensuring that sensitive data remains under strict organisational control.



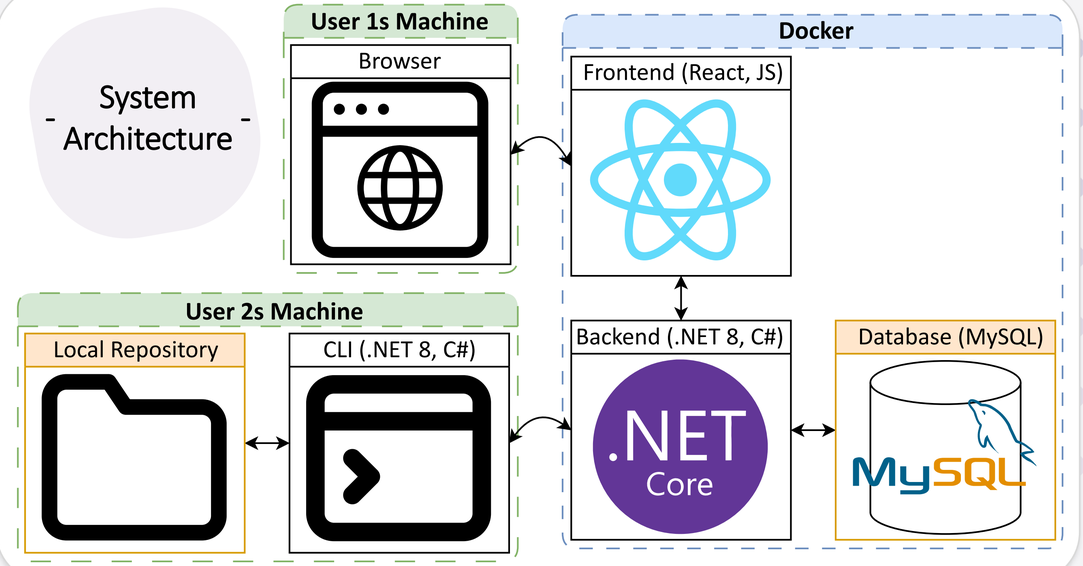
- Background -

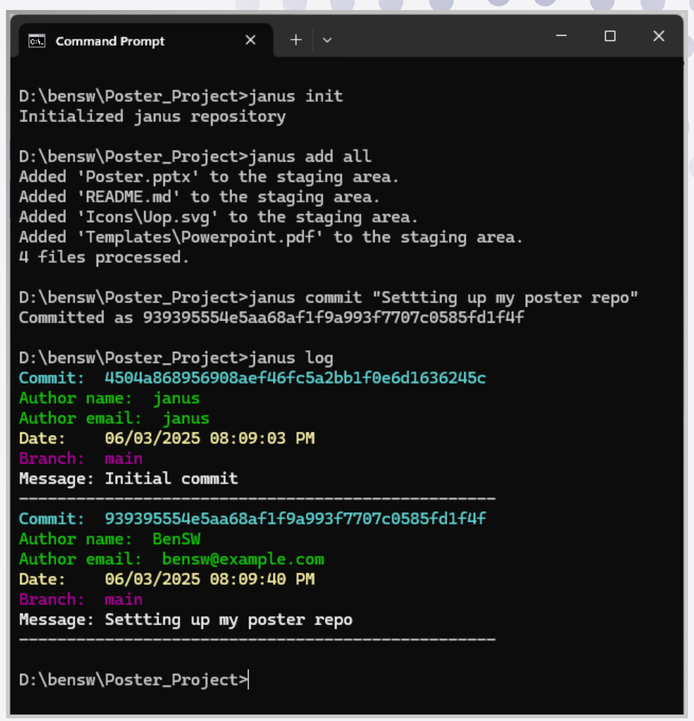
Version control systems are crucial in managing code and facilitating effective collaboration.

Early centralised systems offered a simple solution but required constant network access and were inflexible. In contrast, public distributed systems cater to general use.

However, this one-size-fits-all approach frequently falls short of addressing modern organisations' stringent requirements regarding data sovereignty, internal compliance, and legal obligations.

- System Architecture -





- Features -

- Local Version Control: *With binary file support*
- Standalone Command Line Interface (CLI)
- Cross Platform Compatibility: *Operates seamlessly on MacOS, Linux & Windows*
- Plugin Architecture: *Extendable CLI functionality through custom plugins*
- Web Interface: *A React web app for remote repository management*
- Granular Access Control: *Per repository permissions for collaborative projects*
- Data Fortress: *Operates entirely within internal networks, with no external exposure*
- Activity Logging: *Track all operations to the remote repository*

- Future -

- Plugin Marketplace: *Create space for plugins to be shared within the community*
- Advanced Encryption: *Integrate encryption protocols for data in transit and at rest*
- Pilot Testing: *Collaborate with DevOps teams to collect real world usage data for improvements to the system*
- Scalability: *Incorporate Kubernetes for scaling and load balancing*