




Abstract Presentation

TERMINAL VELOCITY






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INTRODUCTION





INTRODUCTION



- **Relevance of the Domain:** Mastery of Linux commands is crucial for system administration, software development, and automation.
- **Brief Overview of the Application:** "Terminal Velocity" is a web-based platform that teaches users essential Linux commands through interactive tutorials and practical exercises.
- **Need for the Application:**
 - Helps users overcome the intimidation of the Linux command-line interface.
 - Provides a gamified learning experience with level-based progress.
 - Real Linux command execution ensures hands-on practice.
 - Unlock levels and track progress, motivating users to advance from basic commands to advanced system management.



02

DESCRIPTION





DESCRIPTION










- To design and develop a web platform that uses gamified learning to teach and practice essential Linux commands, helping users gain proficiency in system management and automation through interactive challenges.
- **1:**
 - To create an interactive, web-based learning tool for mastering Linux commands, aimed at beginners and intermediate users in the tech field.
- **2:**
 - To develop a gamified platform for teaching Linux system administration, focusing on practical command-line skills through progressive levels and hands-on exercises.



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SCOPE OF THE PROJECT



SCOPE OF THE PROJECT

Within the Scope:

- Interactive tutorials and challenges focused on mastering essential Linux commands.
- Users progress from basic to advanced Linux system administration tasks.
- Immediate feedback and validation of user inputs to reinforce learning.
- Level unlocking system, and badges to motivate users.

Out Of Scope:

- The project will not provide officially recognized certifications for Linux expertise.
- The platform won't support simultaneous collaboration between multiple users in a single session.



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FUNCTIONAL REQUIREMENTS



FUNCTIONAL REQUIREMENTS

- **User Authentication and Profile Management**
 - User Registration: create accounts with unique usernames and passwords.
 - Profile Management: Users can view and update their personal information.
- **Gamified Learning Experience**
 - Level-Based Learning: structured learning path with levels.
 - Interactive Challenges: practical exercises to practice Linux commands.
 - Rewards: Users unlock new levels, and earn badges as they complete tasks and challenges.

FUNCTIONAL REQUIREMENTS

- **Real Command Execution**
 - Command Line Interface (CLI): Execute real Linux commands for hands-on practice.
- **User Progress Tracking**
 - Progress Icon: Display user progress, uniquely demarcated using colors and comments.
- **Help and Support**
 - Help: explanations and tips for commands and tasks.
 - Documentation: detailed documentation for each level, explaining the theoretical concepts behind the tasks.



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SYSTEM FEATURES





SYSTEM FEATURES



- **Structured Learning Experience**
 - Provides tutorials and challenges with progressive difficulty levels, helping users learn Linux commands step-by-step.
- **Real-Time Command Execution**
 - Users can execute real Linux commands within a controlled environment, reinforcing learning with hands-on practice.
- **Level Unlocking System**
 - Users unlock new levels as they complete tasks and challenges, advancing from basic commands to more complex system management operations.



SYSTEM FEATURES



- **Instant Feedback and Validation**
 - Immediate feedback after executing commands, helping users understand mistakes and reinforce correct usage.
- **Progress Tracking**
 - Displays user progress for each level.
- **Rewards**
 - Users earn badges as rewards for completing levels and mastering specific Linux commands, increasing engagement and motivation.



SYSTEM FEATURES




- **Command List**
 - Offers a comprehensive guide to each Linux command, with its explanation and syntax directly within the platform.
- **User Profiles & Customization**
 - Each user has a personal profile, where they can track their learning progress, and customize preferences.
- **Story-Based Learning**
 - Engages users with narrative-driven challenges to contextualize Linux commands in real-world scenarios.



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SOFTWARE REQUIREMENTS



SOFTWARE REQUIREMENTS

- **Frontend:** HTML, CSS, JavaScript
- **Backend:** Python (Django)
- **Database:** Firebase for user data and progress tracking
- **Command Execution:** Javascript
- **Version Control:** Git



CONCLUSION



- "Terminal Velocity" transforms Linux command learning into an engaging, gamified experience.
- Combines real-time command execution with narrative-driven challenges for immersive learning.
- Features level-based progression, interactive scenarios, and rewarding systems to maintain motivation.
- Helps users transition seamlessly from basic command usage to advanced system management tasks.
- Makes the Linux command line accessible, practical, and enjoyable for learners at all levels.



THANK YOU!

