Stalkx : Stalk your Stocks

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# Abstract

Due to limited access to real-time tools and risk-free learning platforms, many people in the current digital era—especially students and prospective traders—lack practical exposure to stock market situations. By providing an interactive, web-based stock trading simulator that enables users to practice trading with virtual money and obtain practical experience without taking on financial risk, the Stalkx project fills this need. A real-time dashboard for portfolio and performance tracking, secure login and user profile systems, and features like transaction history, leaderboards, goal-setting for personal development, and often updated financial news to mimic actual market circumstances are all included in the platform. To evaluate long-term success, users can also see their overall profit and loss for the previous six months or a year. To improve accessibility and engagement, the site also offers a live help option that allows users to receive assistance in real time. Stalkx was created with agile approaches and iterative feedback loops, and it has since developed to include server optimizations, dynamic user interface improvements, and GPT-based support. Through the integration of data-driven insights, gamified learning, and financial education, Stalkx enables users to analyze trading activity, cultivate strategic thinking, and establish a solid foundation in market literacy. For students from a variety of backgrounds, this project is a big step toward making financial literacy interesting, approachable, and useful.

Keywords: Stock Trading Simulator, Virtual Money, Financial Literacy, Web Application, User Dashboard, Agile Development, Performance Tracking, Market News, Profit and Loss Analysis, Live Support

# Introduction

Financial literacy has grown in importance in recent years as a necessary ability for people to navigate the contemporary economy. Even while students and wannabe traders are becoming more interested in stock markets, many do not have access to real-time trading settings that provide hands-on learning without the danger of financial loss. The gap between academic knowledge and practical market experience is frequently not filled by traditional educational tools.

The Stalkx project is an interactive, web-based stock trading simulator that is intended to offer a secure and captivating learning environment in order to tackle this challenge. Stalkx, which prioritizes convenience and accessibility, enables users to trade with virtual currency, providing them with firsthand experience with stock market dynamics without the risk of actual financial loss. The platform has a number of features designed to improve the user experience, such as goal-setting tools, leaderboards, transaction history, real-time portfolio dashboards, and the most recent financial news feeds.

Stalkx offers long-term performance tracking in addition to these essential features, including profit and loss summaries for the last six months or a year. Additionally, a live support system is implemented to help users navigate the platform and provide real-time assistance with trading-related inquiries. Agile approaches were used in the platform's development, which included iterative development and ongoing feedback to improve server speed, enhance the user interface, and add smart features like GPT-based support.

Stalkx wants to increase market literacy, make strategic thinking more natural, and make stock trading concepts more understandable by combining aspects of financial education, gamification, and data analytics. The design, development, and effects of the Stalkx platform in fostering accessible financial education and experiential learning are described in this study.

Multiple studies analyze separate factors that drive individuals to succeed through employment and startups. James O Fiet et al. [1] Focuses on experiential activities such as case studies, simulations, and live projects that make students flexible and problem-solvers. Effectuation theory focuses on decision-making in the context of uncertainty, fostering flexibility and resource-based thinking. Constructivist learning facilitates student-led learning through cooperation and realworld focus. Competency-based (skill-specific) vs. Processbased (entrepreneurial mindset) model debate persists. Additionally, technology-based learning—such as AI, gamification, and virtual simulations—revolutionizes entrepreneurship learning by enhancing interactivity and accessibility. Z Fauziah et al. [2] Focuses on leveraging of web-based platforms, e-commerce, and internet marketing to create business opportunities. Market research and trend analysis are used by entrepreneurs to identify profitable niches, and lean startup culture encourages quick testing and the ability to adapt. Search engine optimization, content marketing, and social media marketing are significant customer acquisition strategies. Financial planning and risk management also encourage sustainability, while networking and mentorship facilitate business development. Advanced technologies like AI and blockchain enhance digital business efficiency and make online entrepreneurship feasible for beginners. Identify applicable funding agency here. If none, delete this. AK Misra et al. [3] Plays the cornerstone of lowering unemployment by equating the skill composition of the workforce with market demands. Technical education, vocational training, and re skilling schemes improve employability by filling the industry needs gap and job seeker ability gap. Skill development is carried out by institutions and government to facilitate entrepreneurship and self-employment. Labour markets are influenced by new technology and digital skills, and learning is ongoing. An effective skill development system improves the efficiency of the labour market and minimizes structural unemployment by producing labour force in linewith changing economic demands. AK Singh et al. [4] Serves as an important method in alleviating unemployment through sector-specific skills provision. Vocational training, training, and digital up skilling improve employability and enhance economic growth. Governments and the private sector come together to start programs that fill the skills gap and encourage entrepreneurship. Technology enabled learning, such as AI and digital learning platforms, improves training accessibility, while lifelong learning guarantees adaptability in the changing jobs market. Increased emphasis on skill building builds a strong workforce and reduces unemployment. H Gunasegaran et al. [5] Depends on various determinants such as self-efficacy, entrepreneurial potential, and social support. Capital access, business training, and the internet drive women to entrepreneurialism, while domestic work and conventional roles are hindrances. Public policy and microfinance programs play a crucial role in empowering housewives through training and capital. Technology and electronic commerce give women flexible business models, allowing them to balance work and domestic work. Overcoming social and economic barriers

enhances entrepreneurial participation and women’s economic empowerment. AD Singh et al. [6] plays a crucial role in the development of Micro, Small, and Medium Enterprises (MSMEs) through innovation and economic development. Finance, training, and market access improve their business performance, whereas discrimination, resource constraints, and social restrictions discourage them. Government schemes and microfinance schemes assist women-owned MSMEs with finance, advice, and skill upgrading. Online platforms and e-commerce enable market access, which assists women in overcoming traditional business limitations. Institutional support improvement promotes increased women involvement in business and increased economic empowerment. AC Awogbenle et al. [7] Serves as the interventions utilized to combat youth unemployment via business skills and financial literacy training. The programmes equip young entrepreneurs with training, mentorship, and access to funds, enabling them to set up sustainable businesses. Startups are facilitated by government support and public-private sector partnerships via policy incentives and incubation centers. The constraints are a shortage of capital, access to markets, and business skills. Empowerment of EDPs via digital platforms and industry partnerships enables employability of youth and economic autonomy. B Alareeni et al. [8] Accelerates business innovation and digital transformation in industries. Organizations adopt ecommerce, remote work solutions, and AI-based automation to ensure business continuity. Digital marketing, cloud computing, and fintech solutions enable enhanced customer interactions and financial transactions. Small enterprises use social media and online platforms to become visible in the market, whereas large enterprises invest in new technologies in order to become more efficient. Although security risks like cybersecurity risks and digital skills gaps pose challenges, the pandemic enhances resilience and compels companies to sustainable digitalization. A Carpenter et al. [9] Enhances students’ entrepreneurial orientation by developing essential skills such as innovation, risk-taking, and business planning. Experiential learning methods such as case studies, simulations, and startup incubatorsimprove problem-solving and strengthen entrepreneurial intentions. Multidisciplinary approaches and industry collaborations are utilized by universities to bridge the practice-theory gap. Curriculum flexibility, inadequate funding, and variations in teaching styles affect the success of entrepreneurship programs. Blending education models with technology and mentorship improves student engagement and activates real-world entrepreneurial achievement. NSM Nasira et al. [10] Provides the prospects of economic independence for housewives through e-commerce, social networking, and e-services. Innovative business models create opportunities for women to combine family obligations with running successful businesses. Access to digital resources, money, and training programs facilitates entrepreneurship. Constraints such as technological expertise, access to limited funds, and cultural attitudes limit participation. Government action and microfinance intervention break such limitations, and digital platforms facilitate the growth of firms and economic activity. R Preller et al. [11] Plays as the focal point of defining the direction and success of startups. Founding teams drive innovation, business strategy, and decision-making through their vision combined with market opportunity. Common vision solidifies the commitment, motivation, and unity of teams, while different perspectives enhance creative problem-solving but can be disruptive. Leadership style, industry expertise, and adaptability decide how teams navigate challenges and fuel growth. Clear communication and strategic alignment make entrepreneurial visions a reality in successful

business ventures. V Ratten et al. [12] Equip students with important skills in business strategy, leadership, and innovation. Universities adopt experiential education, case studies, and industry collaborations to bridge the practice-theory gap. Entrepreneurial education focuses on risk management, financial planning, and problem-solving to build business knowledge. Rigid curriculum and lack of adequate practical exposure influence learning efficiency. Technology- based education, mentorship, and startup incubation develop entrepreneurial skills and prepare students for adaptive business environments. P van der Sijde et al. [13] Extends beyond business schools to equip non-business students with innovation, problemsolving, and critical thinking skills. Universities integrate multidisciplinary approaches, entwining entrepreneurship with engineering, arts, and sciences to stimulate creativity and adaptability. Experiential learning processes, such as startup incubators and project-based courses, optimize real-world application. Effectiveness is hampered by challenges such as curriculum integration, entrepreneurial mindset deficiencies, and material limitations. Fostering mentorship programs and industry collaborations encourages non-business students to seek entrepreneurial opportunities and generate value for diversified industries. Tariq Ahmed et al. [14] Play a central role in cultivating new venture development through the offer of business information, innovation potential, and risk management skills. These programs employ experiential learning, mentoring, and start-up incubation to foster theory-practice relationships. Entrepreneurial success is supported through hands-on training in business planning, financial strategies, and market research. Venture viability, on the other hand, is hampered by issues of limited access to finances, lack of mentorship, and curriculum inadequacies. Increased industry partnerships and e-learning platforms increase program effectiveness and propels successful start-ups. J Holman et al. [15] Helps individuals to make informed decisions by aligning their interests, skills, and goals with appropriate career options. Organized guidance programs provide access to career tests, counseling, and industry information to make informed decisions. Career counseling, internships, and vocational skill training are incorporated in schools and universities to equip students for the market. Inadequate resources, lack of one-to-one counseling, and evolving job market trends weaken the efficacy of guidance. Enhancing career support systems through technological interventions and expert mentoring enhances career outcomes and reduces employment mismatches. BL Montgomery et al. [16] Promotes career advancement through guidance, skill mastery, and networking. Effective mentorship programs link mentees to seasoned professionals who offer career advice, industry information, and strategic guidance. Building a support network promotes career development through collaboration, knowledge sharing, and exposure to opportunities. Limits like constrained access to mentors, absence of formal programs, and evolving career environments influence mentoring effectiveness. Synchronizing mentorship programs with online environments and professional networks promotes career development and sustains long-term success. Yew Kee WONG Eric et al. [17] Transforms career development through skill mapping, gap detection, and matching individuals with appropriate job vacancies. AI-based skills mapping evaluates skills through data analysis, allowing for customized career advice. Machine learning algorithms monitor industry trends, forecast future job requirements, and recommend specialized upskilling courses. AI-based career platforms improve job matching, mentorship, and ongoing learning. Limitations like data privacy issues, algorithmic bias, and accessibility hinder performance.

Greater AI integration with human expertise enhances career planning and facilitates long-term professional development. BI Shapiro et al. [18] Aims at enhancing the productivity, economic returns, and food safety of livestock. It addresses the enhancement of animal health, breeding, and feed to enhance dairy, meat, and poultry production. National agricultural policy targets are in synchronization with the master plan to overcome poverty and stimulate rural income levels. Stakeholder government linkages ensure infrastructure upgrade, access to markets, and veterinary care. Disease outbreaks, climate variability, and scarcity constraints slow progress. Increased policy compliance and technology inputs ensure long-term livestock sector improvement. Malicious website detection has been an increasing field of interest in cybersecurity. Manjeri et al.

[19] have suggested a machine learning-based detection technique using URL features, focusing on the utilization of classification algorithms like Decision Trees, in addition to feature extraction methods. Their work compares Apriori and FP-Growth algorithms for blacklisting and predicting malicious URLs. To enhance the credibility evaluation of websites, Subbulakshmi et al. [20] proposed a ranking system based on trustworthiness, timeliness, and reliability using a credibility- focused web crawler. Their approach involves the application of Hidden Markov Models and the Q-factor for rank enhancement. In product recommendation, Kiran et al. [21] proposed a sentiment analysis-driven system that utilizes Natural Language Processing (NLP) methods for processing user reviews. Their model generates user-specific product recommendations by mining opinions and extracting relevant features from text data. Vaisakh et al. [22] introduced SkillCrest, a skill assessment framework that combines Deep Knowledge Tracing (DKT) and sentiment analysis of user feedback. Utilizing LSTM and GRU-based RNNs, their model assesses user learning patterns and sentiments to improve adaptive learning systems. Subramanian et al. [23] emphasized enhancing search result relevance using user-oriented features like ratings, likes, and dislikes. Their Search Listing Prioritization approach ranks search listings according to user interaction metrics, thus making the search experience personalized based on user satisfaction.

All elements in this extensive landscape currently lack integration into one simplified system suitable for marginalized and directionless people. The current approaches focus on individual aspects like training or funding or job counseling without delivering an integrated solution which addresses complete needs regarding personal interests and community prospects together with affordable funding options. Our problem necessitates creating a single operational solution which serves as a combined resource for career-launching and entrepreneurial growth. The system needs to unite educational pathways with funding assistance features and multilingual resources where AI produces personalized suggestions because this setup will guide users into building independence and achieving extended professional development.

# Methodology

The development of the *Stalkx* platform followed an agile methodology to ensure continuous iteration, rapid prototyping, and frequent user feedback incorporation. This section outlines the step-by-step approach taken in the design, development, and deployment phases of the project.

### **A. Requirements Gathering and Analysis**

The project began with comprehensive research into existing trading simulators and the identification of gaps in financial education tools. Surveys and interviews were conducted with target users—primarily students and aspiring traders—to understand their expectations, usability preferences, and learning goals.

### **B. System Design**

The architecture was designed to be modular and scalable. The system consists of three main components:

* **Frontend**: Built using modern web technologies like React.js to ensure a responsive, user-friendly interface.
* **Backend**: Developed using Node.js and Express.js for handling API requests, authentication, and database interactions.
* **Database**: A NoSQL database (MongoDB) was used to store user data, transaction history, and portfolio information securely.

### **C. Core Features Implementation**

Key features were implemented in iterative sprints:

* **Virtual Trading Engine**: Enabled users to buy and sell stocks using virtual currency with real-time price updates via financial APIs.
* **User Dashboard**: Displayed portfolio value, asset allocation, recent transactions, and profit/loss analytics.
* **News Integration**: Incorporated a live news feed related to financial markets for informed decision-making.
* **Performance Tracking**: Calculated total profit or loss over 6 months or 1 year to help users assess their strategies.
* **Live Support**: Integrated a live chat feature for real-time user assistance and troubleshooting.
* **Leaderboards and Goals**: Encouraged user engagement through competitive ranking and customizable trading goals.

### **D. GPT and UI Enhancements**

Advanced features such as GPT-powered query assistance and dynamic UI components were integrated based on user feedback. This allowed users to receive contextual help while trading and improved overall navigation.

### **E. Testing and Optimization**

The platform underwent multiple rounds of unit testing, integration testing, and user acceptance testing. Performance optimizations were made at both the frontend (lazy loading, caching) and backend (database indexing, request throttling) levels to ensure smooth, real-time performance.

### **F. Deployment and Feedback Loop**

The application was deployed on a cloud platform (e.g., AWS or Heroku) with CI/CD pipelines for efficient updates. A feedback mechanism was embedded within the platform to collect suggestions and issues from users, which informed future development sprints.

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