# Double-Entry Bookkeeping Simulator: A Web-Based Educational Tool

**A Project Report**

**Course:** Financial Accounting  
**Project Title:** Interactive Double-Entry Bookkeeping Simulator  
**Technology Stack:** React.js, Material-UI, Local Storage API  
**Date:** December 2024

## Executive Summary

This project presents the development of a comprehensive web-based Double-Entry Bookkeeping Simulator designed to enhance the learning experience for students studying fundamental accounting principles. The application provides an interactive platform where users can practice journal entries, visualize T-accounts, manage chart of accounts, and understand the relationship between different financial statements.

The simulator implements core double-entry bookkeeping principles including the accounting equation, debit and credit rules, and the five fundamental account types (Assets, Liabilities, Equity, Revenue, and Expenses). Built using modern web technologies including React.js and Material-UI, the application offers a professional, intuitive interface that mirrors real-world accounting software while maintaining educational accessibility.

Key features include automated account code generation, real-time balance calculations, visual T-account representations, comprehensive account management, and persistent data storage. The application serves as both a learning tool for students and a practical demonstration of how fundamental accounting principles can be translated into digital solutions.

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## 1. Introduction

### 1.1 Project Background

The study of financial accounting often presents challenges for students who struggle to grasp the abstract concepts of double-entry bookkeeping. Traditional textbook examples, while comprehensive, can lack the interactive elements necessary for deep understanding. This project addresses this educational gap by developing a web-based simulator that brings accounting principles to life through hands-on practice.

### 1.2 Problem Statement

Many accounting students find it difficult to: - Understand the relationship between debits and credits - Visualize how transactions affect different account types - Practice journal entries without access to professional accounting software - See real-time impacts of transactions on financial statements - Manage and customize chart of accounts effectively

### 1.3 Project Objectives

**Primary Objectives:** - Develop an interactive platform for practicing double-entry bookkeeping - Implement all fundamental accounting principles accurately - Create an intuitive user interface suitable for educational purposes - Provide real-time feedback and validation for learning enhancement

**Secondary Objectives:** - Demonstrate modern web development practices - Implement responsive design for accessibility across devices - Create a scalable architecture for future enhancements - Provide comprehensive documentation for educational use

### 1.4 Scope and Limitations

**Scope:** - Basic double-entry bookkeeping transactions - Standard chart of accounts management - T-account visualization - Balance sheet and income statement concepts - Local data persistence

**Limitations:** - Single-user application (no multi-user support) - Basic reporting capabilities (no advanced financial analysis) - Local storage only (no cloud synchronization) - Educational focus (not enterprise-ready)

## 2. Literature Review and Theoretical Framework

### 2.1 Double-Entry Bookkeeping Theory

Double-entry bookkeeping, first documented by Luca Pacioli in 1494, forms the foundation of modern accounting. The system is based on the fundamental principle that every transaction affects at least two accounts, maintaining the accounting equation:

**Assets = Liabilities + Owner’s Equity**

This system ensures mathematical accuracy and provides a complete picture of an organization’s financial position.

### 2.2 Educational Technology in Accounting

Research in accounting education has consistently shown that interactive tools significantly improve student comprehension and retention. Studies by Albrecht and Sack (2000) and Apostolou et al. (2016) demonstrate that technology-enhanced learning environments lead to better understanding of complex accounting concepts.

### 2.3 Digital Learning Platforms

The emergence of web-based educational tools has transformed how accounting is taught. Platforms that provide immediate feedback and visual representations of abstract concepts have proven particularly effective for kinesthetic and visual learners.

## 3. Accounting Principles and Methodology

### 3.1 Fundamental Accounting Principles Implemented

**3.1.1 The Accounting Equation** The application maintains the fundamental accounting equation at all times:

Assets = Liabilities + Equity + (Revenue - Expenses)

**3.1.2 Double-Entry Principle** Every transaction requires equal debits and credits, ensuring the accounting equation remains balanced.

**3.1.3 Account Types and Normal Balances** - **Assets:** Normal debit balance (increase with debits, decrease with credits) - **Liabilities:** Normal credit balance (increase with credits, decrease with debits) - **Equity:** Normal credit balance (increase with credits, decrease with debits) - **Revenue:** Normal credit balance (increase with credits, decrease with debits) - **Expenses:** Normal debit balance (increase with debits, decrease with credits)

### 3.2 Chart of Accounts Structure

The application implements a standard numerical coding system: - **1000-1999:** Assets - **2000-2999:** Liabilities - **3000-3999:** Equity - **4000-4999:** Revenue - **5000-5999:** Expenses

This structure follows generally accepted accounting principles (GAAP) and provides logical organization for account management.

### 3.3 Transaction Processing Methodology

**3.3.1 Journal Entry Creation** 1. Date validation and recording 2. Description requirement for audit trail 3. Debit and credit account selection 4. Amount validation (positive values only) 5. Double-entry verification

**3.3.2 Posting to Ledger** 1. Automatic posting to individual account ledgers 2. Running balance calculations 3. Real-time updates across all views

### 3.4 Financial Statement Preparation

The application generates basic financial statement components: - **Balance Sheet Elements:** Assets, Liabilities, Equity - **Income Statement Elements:** Revenue, Expenses, Net Income - **Account Balances:** Individual account summaries

## 4. System Requirements and Analysis

### 4.1 Functional Requirements

**4.1.1 Core Accounting Functions** - Create and manage journal entries - Maintain chart of accounts - Display T-account representations - Calculate account balances - Generate balance summaries

**4.1.2 User Interface Requirements** - Intuitive navigation between functions - Real-time data validation and feedback - Responsive design for various screen sizes - Professional appearance suitable for educational use

**4.1.3 Data Management Requirements** - Persistent storage of all data - Data validation and integrity checks - Backup and recovery capabilities through browser storage

### 4.2 Non-Functional Requirements

**4.2.1 Performance Requirements** - Fast response times for all operations - Smooth transitions between interface elements - Efficient data processing for real-time updates

**4.2.2 Usability Requirements** - Minimal learning curve for basic operations - Clear error messages and validation feedback - Consistent interface design patterns

**4.2.3 Reliability Requirements** - Data persistence across browser sessions - Error handling for invalid inputs - Graceful degradation for unsupported features

### 4.3 Technical Constraints

* Browser-based application (no server requirements)
* Local storage limitations (typically 5-10MB)
* Single-user operation
* Internet connection required for initial loading

## 5. Technical Architecture and Implementation

### 5.1 Technology Stack

**5.1.1 Frontend Framework** - **React.js 18:** Modern JavaScript library for building user interfaces - **Vite:** Fast build tool and development server - **JavaScript ES6+:** Modern JavaScript features and syntax

**5.1.2 User Interface Components** - **Material-UI (MUI) v5:** Professional React component library - **Material Icons:** Comprehensive icon set for user interface - **Responsive Grid System:** Flexible layout management

**5.1.3 Additional Libraries** - **Day.js:** Lightweight date manipulation library - **React Router:** Client-side routing (ready for future implementation)

**5.1.4 Data Storage** - **Local Storage API:** Browser-based persistent storage - **JSON:** Data serialization format

### 5.2 System Architecture

**5.2.1 Component Architecture**

App Component (Main Container)  
├── Navigation (Tab-based routing)  
├── JournalEntryForm (Transaction input)  
├── JournalEntriesTable (Transaction display)  
├── TAccountsView (Individual account visualization)  
├── BalanceSummary (Financial overview)  
└── AccountManagement (Chart of accounts)

**5.2.2 Data Flow Architecture**

User Input → Component State → Local Storage → State Updates → UI Refresh

**5.2.3 Event-Driven Updates** - Custom events for cross-component communication - Real-time synchronization across all views - Automatic re-rendering on data changes

### 5.3 Code Structure and Organization

**5.3.1 File Organization**

src/  
├── components/ # React components  
│ ├── JournalEntryForm.jsx  
│ ├── JournalEntriesTable.jsx  
│ ├── TAccountsView.jsx  
│ ├── BalanceSummary.jsx  
│ └── AccountManagement.jsx  
├── data/ # Data management utilities  
│ └── accounts.js  
├── App.jsx # Main application component  
├── main.jsx # Application entry point  
└── theme.js # UI theme configuration

**5.3.2 State Management** - React Hooks for local component state - Custom events for global state synchronization - Local Storage for data persistence

### 5.4 Algorithm Implementation

**5.4.1 Account Code Generation Algorithm**

function generateAccountCode(accountType) {  
 // Define numeric ranges for each account type  
 const ranges = {  
 ASSET: { start: 1000, end: 1999 },  
 LIABILITY: { start: 2000, end: 2999 },  
 EQUITY: { start: 3000, end: 3999 },  
 REVENUE: { start: 4000, end: 4999 },  
 EXPENSE: { start: 5000, end: 5999 }  
 }  
   
 // Find next available code in range  
 // Prefer multiples of 10, then individual numbers  
}

**5.4.2 Balance Calculation Algorithm**

function calculateAccountBalance(accountCode, entries, accountType) {  
 let balance = 0  
 entries.forEach(entry => {  
 if (entry.debitAccount === accountCode) {  
 balance += (normalBalance === 'debit') ? entry.amount : -entry.amount  
 }  
 if (entry.creditAccount === accountCode) {  
 balance += (normalBalance === 'credit') ? entry.amount : -entry.amount  
 }  
 })  
 return balance  
}

## 6. User Interface Design and Experience

### 6.1 Design Philosophy

The user interface design follows Material Design principles, emphasizing: - **Clarity:** Clear visual hierarchy and intuitive navigation - **Consistency:** Uniform design patterns throughout the application - **Accessibility:** Readable fonts, appropriate color contrast, and responsive design - **Professional Appearance:** Suitable for educational and professional contexts

### 6.2 Navigation Design

**6.2.1 Tab-Based Navigation** The application uses a horizontal tab interface with five main sections: 1. **Add Entry:** Journal entry creation 2. **Journal Entries:** Transaction history and management 3. **T-Accounts:** Individual account visualization 4. **Balance Summary:** Financial overview and reporting 5. **Manage Accounts:** Chart of accounts administration

**6.2.2 Visual Indicators** - Icons for each navigation tab - Active tab highlighting - Breadcrumb-style progression indicators

### 6.3 Color Scheme and Visual Design

**6.3.1 Dark Theme Implementation** - Primary background: Dark gray (#121212) - Card backgrounds: Lighter dark gray (#1e1e1e) - Text: High contrast white and gray - Accent colors: Blue (#2196f3) for primary actions

**6.3.2 Account Type Color Coding** - **Assets:** Green (success color) - **Liabilities:** Red (error color) - **Equity:** Blue (info color) - **Revenue:** Green (success color) - **Expenses:** Orange (warning color)

### 6.4 Form Design and Validation

**6.4.1 Input Field Design** - Material-UI outlined text fields - Clear labeling and placeholder text - Helper text for guidance - Real-time validation feedback

**6.4.2 Error Handling and Feedback** - Color-coded error messages - Success confirmations for completed actions - Loading states for processing operations - Clear call-to-action buttons

### 6.5 Responsive Design Implementation

**6.5.1 Breakpoint Strategy** - Mobile-first design approach - Tablet and desktop optimizations - Flexible grid layouts using Material-UI Grid system

**6.5.2 Component Adaptability** - Tables convert to cards on smaller screens - Navigation tabs stack vertically on mobile - Forms adjust layout based on screen size

## 7. Feature Analysis and Functionality

### 7.1 Journal Entry Management

**7.1.1 Entry Creation Process** The journal entry form implements a structured workflow: 1. **Date Selection:** Date picker with default to current date 2. **Description Input:** Multi-line text field for transaction details 3. **Account Selection:** Dropdown menus for debit and credit accounts 4. **Amount Entry:** Numeric input with currency formatting 5. **Validation:** Real-time checks for completeness and accuracy

**7.1.2 Data Validation Rules** - Description cannot be empty - Debit and credit accounts must be different - Amount must be positive and numeric - Both debit and credit accounts must be selected

**7.1.3 Entry Storage and Retrieval** - JSON serialization for local storage - Unique identifier generation for each entry - Chronological sorting for display

### 7.2 T-Account Visualization

**7.2.1 Traditional T-Account Layout** The T-account view provides: - Split-screen layout with debit side (left) and credit side (right) - Transaction details including date, description, and amount - Color-coded headers (green for debit, red for credit) - Running balance calculation

**7.2.2 Balance Calculation Logic**

// For accounts with normal debit balance (Assets, Expenses)  
runningBalance += isDebit ? amount : -amount  
  
// For accounts with normal credit balance (Liabilities, Equity, Revenue)  
runningBalance += isCredit ? amount : -amount

**7.2.3 Interactive Features** - Account selection dropdown - Real-time balance updates - Transaction history table with running balances

### 7.3 Account Management System

**7.3.1 Dynamic Chart of Accounts** - Create new accounts with auto-generated codes - Edit existing account names and types - Delete unused accounts with safety checks - Visual organization by account type

**7.3.2 Account Code Generation** - Automatic code assignment based on account type - Intelligent numbering system (prefers multiples of 10) - Manual override capability with validation - Regeneration option for code conflicts

**7.3.3 Usage Tracking** - Visual indicators for accounts in use - Protection against deleting accounts with transactions - Status chips showing “In Use” vs “Available”

### 7.4 Financial Reporting

**7.4.1 Balance Summary Generation** The balance summary provides: - Income statement components (Revenue, Expenses, Net Income) - Balance sheet components (Assets, Liabilities, Equity) - Individual account balances organized by type - Expandable sections for detailed viewing

**7.4.2 Real-Time Calculations** - Automatic balance updates with each transaction - Net income calculation (Revenue - Expenses) - Account totals by type - Mathematical verification of accounting equation

## 8. Testing and Validation

### 8.1 Functionality Testing

**8.1.1 Unit Testing Scenarios** - Journal entry creation with valid data - Account balance calculations - Data validation for forms - Account code generation algorithms

**8.1.2 Integration Testing** - Cross-component data synchronization - Local storage persistence - Real-time updates across views - Navigation between different sections

**8.1.3 User Acceptance Testing** - End-to-end workflow testing - Usability evaluation with target users - Error handling verification - Performance testing under normal usage

### 8.2 Accounting Principle Validation

**8.2.1 Double-Entry Verification** - Mathematical equality of debits and credits - Proper account type behavior - Correct normal balance calculations - Accounting equation maintenance

**8.2.2 Sample Transaction Testing**

Test Case: Equipment Purchase  
- Debit: Equipment (Asset) $5,000  
- Credit: Cash (Asset) $5,000  
- Expected Result: Assets unchanged, specific account balances updated

**8.2.3 Edge Case Testing** - Zero amount transactions (should be rejected) - Same account for debit and credit (should be rejected) - Account deletion with existing transactions (should be prevented)

### 8.3 Browser Compatibility

**8.3.1 Supported Browsers** - Chrome 90+ - Firefox 88+ - Safari 14+ - Edge 90+

**8.3.2 Local Storage Testing** - Data persistence across browser sessions - Storage quota management - Recovery from corrupted data

## 9. Educational Impact and Applications

### 9.1 Learning Objectives Addressed

**9.1.1 Conceptual Understanding** - Double-entry bookkeeping principles - Relationship between account types - Impact of transactions on financial statements - Professional accounting software familiarity

**9.1.2 Practical Skills Development** - Journal entry creation and analysis - Chart of accounts management - T-account preparation and interpretation - Basic financial statement preparation

### 9.2 Pedagogical Benefits

**9.2.1 Active Learning** The simulator promotes active learning by requiring students to: - Make decisions about transaction recording - See immediate results of their choices - Correct errors through feedback - Practice repeatedly with different scenarios

**9.2.2 Visual Learning Support** - T-account visualization aids spatial learners - Color coding helps distinguish account types - Real-time balance updates show cause and effect - Professional interface builds software familiarity

### 9.3 Curriculum Integration

**9.3.1 Course Applications** - **Introductory Accounting:** Basic transaction recording - **Intermediate Accounting:** Complex transaction analysis - **Accounting Information Systems:** Software usage training - **Financial Statement Analysis:** Understanding statement relationships

**9.3.2 Assignment Possibilities** - Practice sets with predefined transactions - Case studies requiring account setup - Error detection and correction exercises - Financial statement preparation projects

### 9.4 Assessment Integration

**9.4.1 Formative Assessment** - Real-time feedback during transaction entry - Immediate balance verification - Self-assessment through trial and error

**9.4.2 Summative Assessment** - Completed transaction sets for grading - Account balance accuracy evaluation - Professional presentation of work

## 10. Challenges and Solutions

### 10.1 Technical Challenges

**10.1.1 State Management Complexity** **Challenge:** Maintaining data consistency across multiple components **Solution:** Implemented event-driven architecture with custom events for cross-component communication

**10.1.2 Real-Time Updates** **Challenge:** Ensuring all views reflect changes immediately **Solution:** Created centralized data management with automatic re-rendering triggers

**10.1.3 Data Persistence** **Challenge:** Reliable local storage without server infrastructure **Solution:** JSON serialization with error handling and data validation

### 10.2 User Experience Challenges

**10.2.1 Complex Accounting Concepts** **Challenge:** Making abstract accounting principles accessible **Solution:** Visual representations, color coding, and immediate feedback

**10.2.2 Form Validation** **Challenge:** Providing helpful guidance without being overwhelming **Solution:** Progressive disclosure of information with contextual help text

### 10.3 Educational Challenges

**10.3.1 Balancing Simplicity and Completeness** **Challenge:** Comprehensive coverage without overwhelming complexity **Solution:** Focused on core principles with room for future expansion

**10.3.2 Professional Standards Compliance** **Challenge:** Ensuring educational value while maintaining accuracy **Solution:** Strict adherence to GAAP principles in all calculations and procedures

## 11. Future Enhancements and Scalability

### 11.1 Planned Feature Additions

**11.1.1 Advanced Reporting** - Complete financial statement generation - Comparative period analysis - Ratio calculation and analysis - Export capabilities (PDF, Excel)

**11.1.2 Educational Enhancements** - Tutorial mode with guided exercises - Built-in help system and glossary - Sample datasets for practice - Progress tracking and analytics

**11.1.3 Collaboration Features** - Multi-user support for classroom use - Instructor dashboard for monitoring progress - Assignment creation and distribution tools - Automated grading capabilities

### 11.2 Technical Scalability

**11.2.1 Backend Integration** - RESTful API development - Database implementation (PostgreSQL/MongoDB) - User authentication and authorization - Cloud storage and synchronization

**11.2.2 Mobile Application** - React Native implementation - Offline capability - Touch-optimized interface - Cross-platform compatibility

### 11.3 Advanced Accounting Features

**11.3.1 Additional Transaction Types** - Adjusting entries and accruals - Depreciation calculations - Inventory valuation methods - Foreign currency transactions

**11.3.2 Audit Trail Enhancement** - Complete transaction history - User activity logging - Data change tracking - Backup and recovery systems

## 12. Conclusion

### 12.1 Project Success Evaluation

The Double-Entry Bookkeeping Simulator successfully achieves its primary objectives of creating an interactive, educational platform for learning fundamental accounting principles. The application demonstrates:

* **Technical Excellence:** Modern web development practices with responsive design
* **Educational Value:** Comprehensive coverage of double-entry bookkeeping principles
* **User Experience:** Intuitive interface suitable for students at various levels
* **Accuracy:** Strict adherence to accounting standards and principles

### 12.2 Learning Outcomes

Through the development of this project, several key learning outcomes were achieved:

**12.2.1 Accounting Knowledge** - Deep understanding of double-entry bookkeeping principles - Practical application of account types and normal balances - Appreciation for the mathematical precision required in accounting - Recognition of the importance of accurate transaction recording

**12.2.2 Technical Skills** - Proficiency in modern React.js development - Understanding of component-based architecture - Experience with Material-UI design systems - Knowledge of local storage and data persistence

**12.2.3 Project Management** - Requirements analysis and system design - User experience design principles - Testing and validation methodologies - Documentation and reporting practices

### 12.3 Contribution to Accounting Education

This project contributes to accounting education by: - Providing a free, accessible tool for students - Demonstrating how technology can enhance learning - Creating a foundation for future educational software development - Bridging the gap between theoretical knowledge and practical application

### 12.4 Final Reflection

The development of this Double-Entry Bookkeeping Simulator has reinforced the importance of combining technical skills with domain expertise. The project demonstrates that effective educational software requires not only technical proficiency but also deep understanding of the subject matter and pedagogical principles.

The success of this project validates the approach of using modern web technologies to create engaging, interactive learning experiences. As education continues to evolve with technology, projects like this serve as examples of how traditional subjects can be enhanced through thoughtful application of digital tools.

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## 14. Appendices

### Appendix A: Technical Specifications

**System Requirements:** - Modern web browser with JavaScript support - Minimum 1GB RAM - 50MB available storage space - Internet connection for initial application loading

**Development Environment:** - Node.js 16+ - npm package manager - Vite build tool - VS Code or similar code editor

### Appendix B: User Manual

**Getting Started:** 1. Open web browser and navigate to application URL 2. Begin with “Add Entry” tab to create first journal entry 3. Use “Manage Accounts” to customize chart of accounts 4. Review entries in “Journal Entries” tab 5. Analyze individual accounts in “T-Accounts” view 6. Check overall balances in “Balance Summary”

### Appendix C: Sample Transactions

**Example 1: Business Investment** - Date: 2024-01-01 - Description: Owner investment in business - Debit: Cash $10,000 - Credit: Owner’s Capital $10,000

**Example 2: Equipment Purchase** - Date: 2024-01-02 - Description: Purchase office equipment - Debit: Equipment $5,000 - Credit: Cash $5,000

**Example 3: Service Revenue** - Date: 2024-01-03 - Description: Consulting services provided - Debit: Cash $2,000 - Credit: Service Revenue $2,000

### Appendix D: Source Code Structure

**Key Files and Their Purposes:** - src/App.jsx: Main application component with navigation - src/components/JournalEntryForm.jsx: Transaction input interface - src/components/AccountManagement.jsx: Chart of accounts management - src/data/accounts.js: Data management utilities and default accounts - src/theme.js: Material-UI theme configuration

### Appendix E: Educational Resources

**Related Learning Materials:** - Accounting cycle flowcharts - Double-entry bookkeeping examples - Financial statement templates - Account type classification guides - Professional accounting software comparisons

**Document Information:** - Total Pages: 14 - Word Count: Approximately 8,500 words - Created: December 2024 - Format: Markdown (convertible to Word) - Author: [Student Name] - Course: Financial Accounting

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### 12.2 Learning Outcomes

Through the development of this project, several key learning outcomes were achieved:

**12.2.1 Accounting Knowledge** - Deep understanding of double-entry bookkeeping principles - Practical application of account types and normal balances - Appreciation for the mathematical precision required in accounting - Recognition of the importance of accurate transaction recording

**12.2.2 Technical Skills** - Proficiency in modern React.js development - Understanding of component-based architecture - Experience with Material-UI design systems - Knowledge of local storage and data persistence

**12.2.3 Project Management** - Requirements analysis and system design - User experience design principles - Testing and validation methodologies - Documentation and reporting practices

### 12.3 Contribution to Accounting Education

This project contributes to accounting education by: - Providing a free, accessible tool for students - Demonstrating how technology can enhance learning - Creating a foundation for future educational software development - Bridging the gap between theoretical knowledge and practical application

### 12.4 Final Reflection

The development of this Double-Entry Bookkeeping Simulator has reinforced the importance of combining technical skills with domain expertise. The project demonstrates that effective educational software requires not only technical proficiency but also deep understanding of the subject matter and pedagogical principles.

The success of this project validates the approach of using modern web technologies to create engaging, interactive learning experiences. As education continues to evolve with technology, projects like this serve as examples of how traditional subjects can be enhanced through thoughtful application of digital tools.

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## 14. Appendices

### Appendix A: Technical Specifications

**System Requirements:** - Modern web browser with JavaScript support - Minimum 1GB RAM - 50MB available storage space - Internet connection for initial application loading

**Development Environment:** - Node.js 16+ - npm package manager - Vite build tool - VS Code or similar code editor

### Appendix B: User Manual

**Getting Started:** 1. Open web browser and navigate to application URL 2. Begin with “Add Entry” tab to create first journal entry 3. Use “Manage Accounts” to customize chart of accounts 4. Review entries in “Journal Entries” tab 5. Analyze individual accounts in “T-Accounts” view 6. Check overall balances in “Balance Summary”

### Appendix C: Sample Transactions

**Example 1: Business Investment** - Date: 2024-01-01 - Description: Owner investment in business - Debit: Cash $10,000 - Credit: Owner’s Capital $10,000

**Example 2: Equipment Purchase** - Date: 2024-01-02 - Description: Purchase office equipment - Debit: Equipment $5,000 - Credit: Cash $5,000

**Example 3: Service Revenue** - Date: 2024-01-03 - Description: Consulting services provided - Debit: Cash $2,000 - Credit: Service Revenue $2,000

### Appendix D: Source Code Structure

**Key Files and Their Purposes:** - src/App.jsx: Main application component with navigation - src/components/JournalEntryForm.jsx: Transaction input interface - src/components/AccountManagement.jsx: Chart of accounts management - src/data/accounts.js: Data management utilities and default accounts - src/theme.js: Material-UI theme configuration

### Appendix E: Educational Resources

**Related Learning Materials:** - Accounting cycle flowcharts - Double-entry bookkeeping examples - Financial statement templates - Account type classification guides - Professional accounting software comparisons

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