# DrFirst Business Case Generator - PDF Export Feature

Case ID: test-case-pdf-export-123

**Status: APPROVED** 

Created: June 04, 2025 at 06:33 AM

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#### **Problem Statement**

The DrFirst Business Case Generator needs a comprehensive PDF export functionality to enable stakeholders to share, review, and archive business cases in a professional, standardized format. Currently, business cases exist only within the web application, limiting accessibility for offline review, executive presentations, and document retention requirements. This feature will provide automated PDF generation with professional formatting, comprehensive content inclusion, and secure access control.

## **PRelevant Links**

- DrFirst Business Case Generator PRD
- System Architecture Documentation
- Project Jira Epic

## Product Requirements Document (v2.0)

#### **Product Requirements Document: PDF Export Feature**

#### **Overview**

This PRD defines the requirements for implementing PDF export functionality in the DrFirst Business Case Generator, enabling stakeholders to generate professional, comprehensive PDF documents of business cases.

#### **Business Objectives**

- Accessibility: Enable offline review and sharing of business cases
- Professional Presentation: Provide executive-ready documentation
- Compliance: Support document retention and audit requirements
- Efficiency: Automate document generation to reduce manual effort

#### **User Stories**

#### **Primary User Stories**

- 1. As a business case initiator, I want to export my completed business case as a PDF so I can share it with stakeholders who don't have system access
- 2. As an executive approver, I want to receive business cases in PDF format for offline review and decision-making
- 3. As a compliance officer, I want to archive approved business cases in PDF format for audit trail requirements

#### **Secondary User Stories**

- 1. As a project manager, I want to include business case PDFs in project documentation packages
- 2. As a sales representative, I want to share value projections with customers in professional PDF format

#### **Functional Requirements**

#### **PDF Content Structure**

- Header Section: Case metadata (ID, status, dates, stakeholder information)
- Problem Statement: Complete problem description with formatting preservation
- Relevant Links: Clickable links to supporting documentation
- PRD Content: Full Product Requirements Document with markdown rendering
- System Design: Technical architecture and implementation details
- Financial Analysis: Comprehensive financial data with professional tables

#### **Technical Requirements**

- Format: Professional PDF with consistent branding and layout
- Security: Role-based access control (case owner, admin, final approver)
- Performance: PDF generation within 10 seconds for typical business cases
- Compatibility: Cross-platform PDF compatibility (Windows, Mac, mobile)

#### **Success Metrics**

- PDF generation success rate > 99.5%
- User satisfaction rating > 4.5/5 for PDF quality
- Reduced time for business case sharing by 75%
- 100% compliance with document retention requirements

## System Design (v2.0)

Generated by: ArchitectAgent

#### **System Design: PDF Export Feature**

#### **Architecture Overview**

The PDF export feature is implemented as a backend service that generates professional PDF documents from business case data stored in Firestore.

#### Components

- 1. PDF Generator Service (app/utils/pdf\_generator.py)
  - Purpose: Core PDF generation logic using WeasyPrint
  - Responsibilities:
  - · Template rendering with business case data
  - CSS styling for professional layout
  - · Markdown to HTML conversion
  - Error handling and logging
- 2. API Endpoint (/api/v1/cases/{case\_id}/export-pdf)
  - · Method: GET
  - Authentication: Firebase ID token required
  - Authorization: Case owner, admin, or final approver
  - Response: PDF file as streaming download

#### 3. Frontend Integration

- Service Layer: AgentService.exportCaseToPdf()
- UI Component: PDF export button in BusinessCaseDetailPage
- User Experience: Click-to-download with progress indication

#### **Data Flow**

- 1. User clicks "Export to PDF" button
- 2. Frontend calls API endpoint with case ID
- 3. Backend validates user permissions
- 4. System fetches business case data from Firestore
- 5. PDF generator creates HTML template with data
- 6. WeasyPrint converts HTML/CSS to PDF

- 7. PDF returned as streaming response
- 8. Browser triggers automatic download

#### **Security Considerations**

- Authentication: Firebase ID token validation
- · Authorization: Role-based access control
- Data Privacy: Only authorized users can export cases
- Audit Trail: PDF generation events logged

#### **Performance Optimization**

- Async Processing: Non-blocking PDF generation
- Template Caching: Reusable HTML/CSS templates
- Memory Management: Streaming response for large PDFs
- Error Recovery: Graceful fallback for generation failures

#### **Technology Stack**

- PDF Engine: WeasyPrint (HTML/CSS to PDF)
- Templating: Python string formatting with HTML templates
- Styling: Professional CSS with responsive design
- Backend: FastAPI with async/await patterns

## III Financial Analysis



TOTAL HOURS

220

DURATION

3 weeks

Complexity: Medium-High

#### **Role Breakdown:**

Role	Hours
Senior Full-Stack Developer	120
Product Manager	24
QA Engineer	40
DevOps Engineer	16
UI/UX Designer	20

### **©** Cost Estimate

TOTAL COST

\$27,500.00 USD

RATE CARD

**Default Development Rates V1** 

#### **Cost Breakdown:**

Role	Hours	Rate	Cost
Senior Full-Stack Developer	120	\$150.00	\$18,000.00
Product Manager	24	\$125.00	\$3,000.00
QA Engineer	40	\$100.00	\$4,000.00
DevOps Engineer	16	\$125.00	\$2,000.00

UI/UX Designer	20	\$125.00	\$2,500.00



## ✓ Value Projection

Methodology: ROI calculation based on time savings, compliance value, and stakeholder efficiency

#### **Value Scenarios:**

Scenario	Value	Description
Conservative	\$50,000.00	Reduced manual document creation time, basic compliance benefits
Base	\$125,000.00	Significant efficiency gains, improved stakeholder engagement, compliance value
Optimistic	\$200,000.00	Major productivity improvements, enhanced decision-making, full compliance automation

## **III** Financial Summary

TOTAL INVESTMENT PRIMARY NET VALUE \$27,500.00 USD \$97,500.00

PRIMARY ROI PAYBACK PERIOD 354.5 0.22

\$125,000.00

Net: \$97,500.00

#### **Value Scenarios:**

CONSERVATIVE SCENARIO BASE SCENARIO

\$50,000.00 Net: \$22,500.00

OPTIMISTIC SCENARIO

\$200,000.00 Net: \$172,500.00

## Approval History

Date	Source	Туре	Content
June 04, 2025 at 06:33 AM	USER	CASE_CREATED	PDF Export feature business case initiated
June 04, 2025 at 06:33 AM	AGENT	PRD_GENERATED	Product Requirements Document generated by ProductManagerAgent
June 04, 2025 at 06:33 AM	AGENT	SYSTEM_DESIGN_GENERATED	System design generated by ArchitectAgent with comprehensive technical specifications
June 04, 2025 at 06:33 AM	AGENT	EFFORT_ESTIMATED	Effort estimation completed: 220 hours across 5 roles over 3 weeks
June 04, 2025 at 06:33 AM	AGENT	COST_CALCULATED	Cost estimation completed: \$27,500 using Default Development Rates V1
June 04, 2025 at 06:33 AM	AGENT	VALUE_PROJECTED	Value projection completed: \$50K-\$200K ROI with 354% base case ROI
June 04, 2025 at 06:33 AM	AGENT	FINANCIAL_MODEL_GENERATED	Financial model completed: Strong ROI with 3-month payback period
June 04, 2025 at 06:33 AM	USER	FINAL_APPROVAL	Business case approved for implementation

Generated on June 04, 2025 at 06:33 AM by DrFirst Business Case Generator