52 Pitch Flow Assessment — PDF Report Template

Date: November 26, 2025
Version: 1.0
Status: ✅ Ready for Implementation

Purpose

This document provides the complete template structure for generating PDF reports from 52 Pitch Flow Assessments. Use this with React-PDF, PDFKit, Gamma, or any PDF generation engine.

Use this when:
- ✅ You need to generate printable/shareable assessment reports
- ✅ You want to export assessment data to PDF format
- ✅ You need to provide formal documentation for players/parents
- ✅ You want to create archivable assessment records

Template Variables

Use these tokens in your PDF engine. Format: `{{variable.path}}`

Player Info

- `{{player.firstName}}` - Player first name
- `{{player.lastName}}` - Player last name
- `{{player.age}}` - Player age
- `{{player.level}}` - Player level (Youth, HS, College, Pro)
- `{{player.bats}}` - Batting side (R, L, S)
- `{{player.throws}}` - Throwing side (R, L)

Session Info

- `{{sessionId}}` - Unique session identifier
- `{{startedAt}}` - Start timestamp (formatted)
- `{{endedAt}}` - End timestamp (formatted)
- `{{coach.name}}` - Coach name
- `{{assessment.swingsCompleted}}` - Number of swings completed

Summary Scores

- `{{summary.momentumTransferScore}}` - Overall score (0-100)
- `{{summary.groundFlowScore}}` - Ground Flow score (0-100)
- `{{summary.powerFlowScore}}` - Power Flow score (0-100)
- `{{summary.barrelFlowScore}}` - Barrel Flow score (0-100)
- `{{summary.consistencyScore}}` - Consistency score (0-100)

- `{{summary.movementQualityScore}}` - Movement quality score (0-100)
- `{{summary.neuralScore}}` - Neural score (0-100, optional)
- `{{summary.ballContactScore}}` - Ball contact score (0-100, optional)
- `{{summary.band}}` - Band number (-3 to +3)
- `{{summary.bandLabel}}` - Band label (e.g., "Above Average")

Devices Used
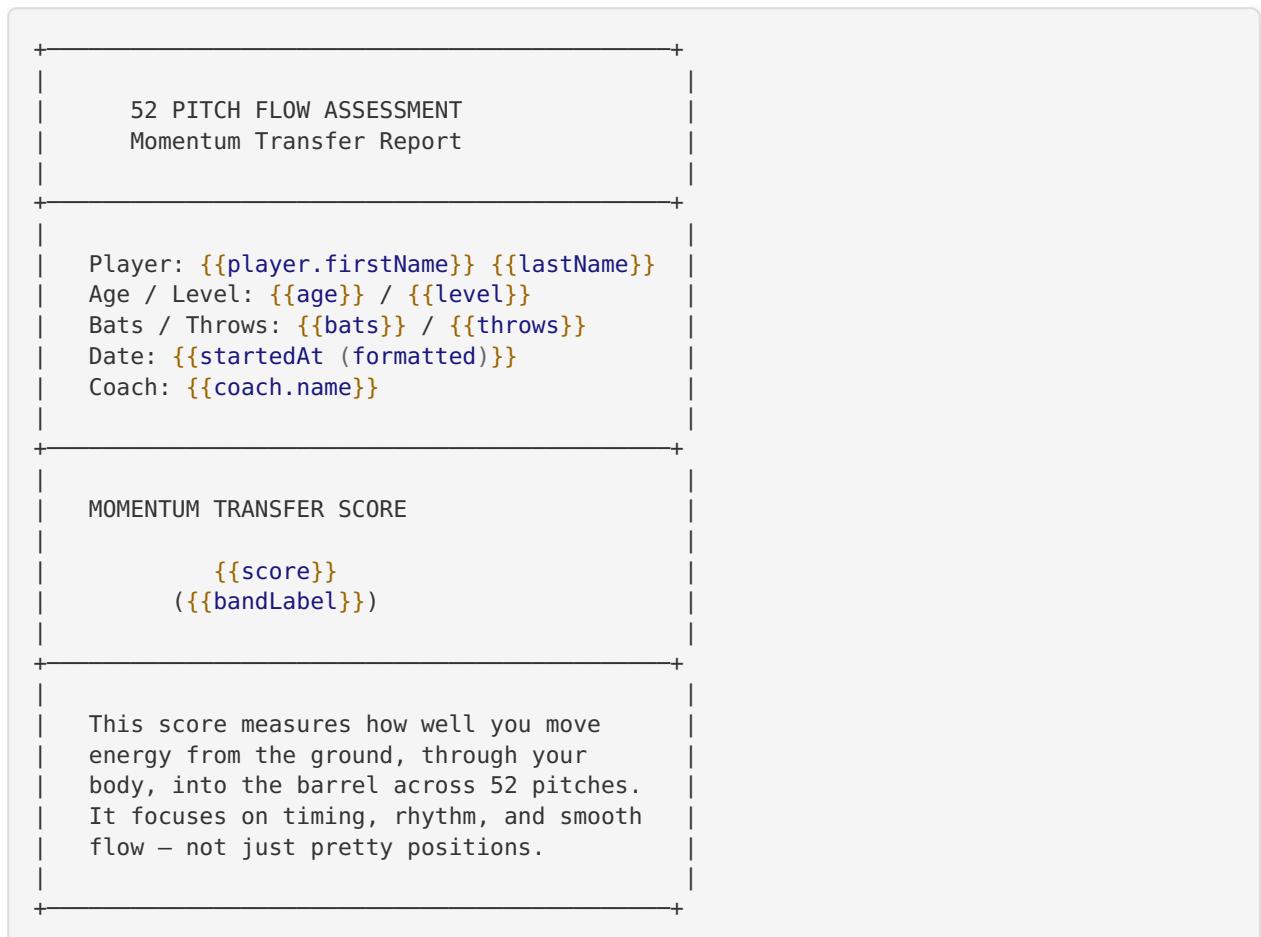
- `{{devices.useKinetrax}}` - Boolean
- `{{devices.useHitTrax}}` - Boolean
- `{{devices.useSensor}}` - Boolean
- `{{devices.useNeuralTest}}` - Boolean

Coach Notes

- `{{notesFromCoach}}` - Coach's additional notes
- `{{contextTags}}` - Array of context tags

PAGE 1: Cover & Snapshot

Layout Structure

```
+------------------------------------+
|                                    |
|     52 PITCH FLOW ASSESSMENT        |
|     Momentum Transfer Report        |
|                                    |
+------------------------------------+
|                                    |
|   Player: {{player.firstName}} {{lastName}}  |
|   Age / Level: {{age}} / {{level}}  |
|   Bats / Throws: {{bats}} / {{throws}}  |
|   Date: {{startedAt (formatted)}}   |
|   Coach: {{coach.name}}             |
|                                    |
+------------------------------------+
|                                    |
|   MOMENTUM TRANSFER SCORE           |
|                                    |
|         {{score}}                   |
|       ({{bandLabel}})               |
|                                    |
+------------------------------------+
|                                    |
|   This score measures how well you move  |
|   energy from the ground, through your  |
|   body, into the barrel across 52 pitches.  |
|   It focuses on timing, rhythm, and smooth  |
|   flow — not just pretty positions.  |
|                                    |
+------------------------------------+
```

Content Elements

Header Section:

- Title: "52 PITCH FLOW ASSESSMENT"
- Subtitle: "Momentum Transfer Report"
- Use BARRELS gold color (#E8B14E) for branding

Player Block:

- Name in bold
- Age / Level on one line
- Bats / Throws on one line
- Date formatted (e.g., "February 1, 2025")
- Coach name

Big Score Display:
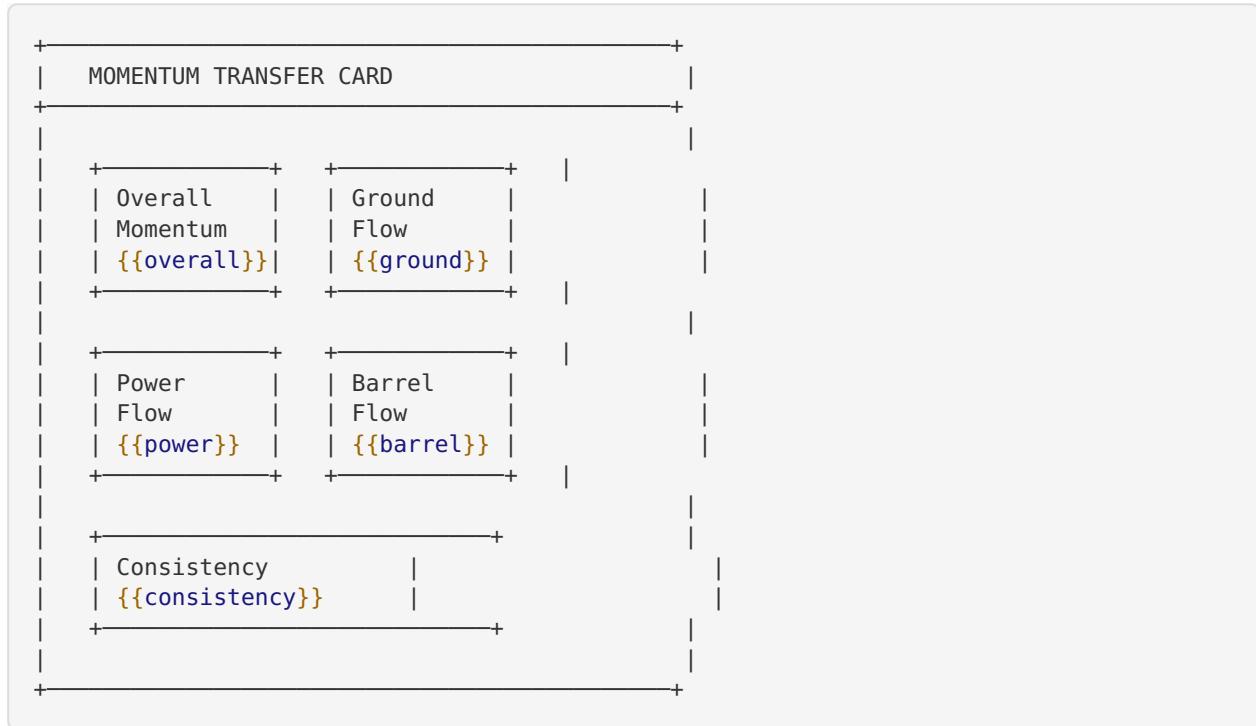
- Large font (72pt+) for score number
- Band label underneath in parentheses
- Use color coding:
- Elite (90-100): Gold gradient
- Advanced (80-89): Gold
- Above Average (70-79): Light gold
- Average (60-69): Neutral
- Below Average (50-59): Orange
- Poor (40-49): Red
- Very Poor (0-39): Dark red

Explanation Paragraph:

- Standard explanation text
- Left-aligned, readable font size (12pt)

PAGE 2: Momentum Transfer Card

Layout Structure

```
+-----------------------------------------------+
|    MOMENTUM TRANSFER CARD                      |
+-----------------------------------------------+
|                                               |
|   +---------------+   +---------------+   |    |
|   | Overall       |   | Ground        |   |    |
|   | Momentum      |   | Flow          |   |    |
|   | {{overall}}|      | {{ground}} |      |    |
|   +---------------+   +---------------+   |    |
|                                          |     |
|   +---------------+   +---------------+   |    |
|   | Power         |   | Barrel        |   |    |
|   | Flow          |   | Flow          |   |    |
|   | {{power}}     |   | {{barrel}} |      |    |
|   +---------------+   +---------------+   |    |
|                                          |     |
|   +-------------------------------+      |     |
|   | Consistency                   |      |     |
|   | {{consistency}}               |      |     |
|   +-------------------------------+      |     |
|                                          |     |
+-----------------------------------------------+
```

Content Elements

Score Tiles (2x2 + 1):
- Overall Momentum Transfer (prominent, larger)
- Ground Flow
- Power Flow
- Barrel Flow
- Consistency (full width)

Score Legend:

```
0-59:   Needs Work
60-74:  Solid Base
75-84:  Strong
85-100: Elite
```

Description Text:
Brief explanation of what each flow lane means:
- **Ground Flow:** How you start from the ground
- **Power Flow:** How energy moves through your body
- **Barrel Flow:** How cleanly it gets to the bat
- **Consistency:** How repeatable the pattern is

PAGE 3: Flow Breakdown

Layout Structure

```
+------------------------------------------------+
|    FLOW BREAKDOWN                              |
|    Ground / Power / Barrel                     |
+------------------------------------------------+
|                                               |
|    GROUND FLOW                                |
|    • Weight transfer: {{metric}}%         |
|    • Head movement: {{metric}} cm          |
|                                               |
|    {{AI-generated paragraph}}                 |
|                                               |
+------------------------------------------------+
|                                               |
|    POWER FLOW                                 |
|    • Sequence timing: {{metric}} ms        |
|    • AB ratio: {{metric}}                   |
|                                               |
|    {{AI-generated paragraph}}                 |
|                                               |
+------------------------------------------------+
|                                               |
|    BARREL FLOW                                |
|    • On-plane efficiency: {{metric}}%      |
|    • Vertical bat angle: {{metric}}°        |
|                                               |
|    {{AI-generated paragraph}}                 |
|                                               |
+------------------------------------------------+
```

Content Elements

Ground Flow Section:

- Weight transfer quality (average)
- Head displacement (average)
- Coach Rick AI paragraph explaining the pattern

Power Flow Section:
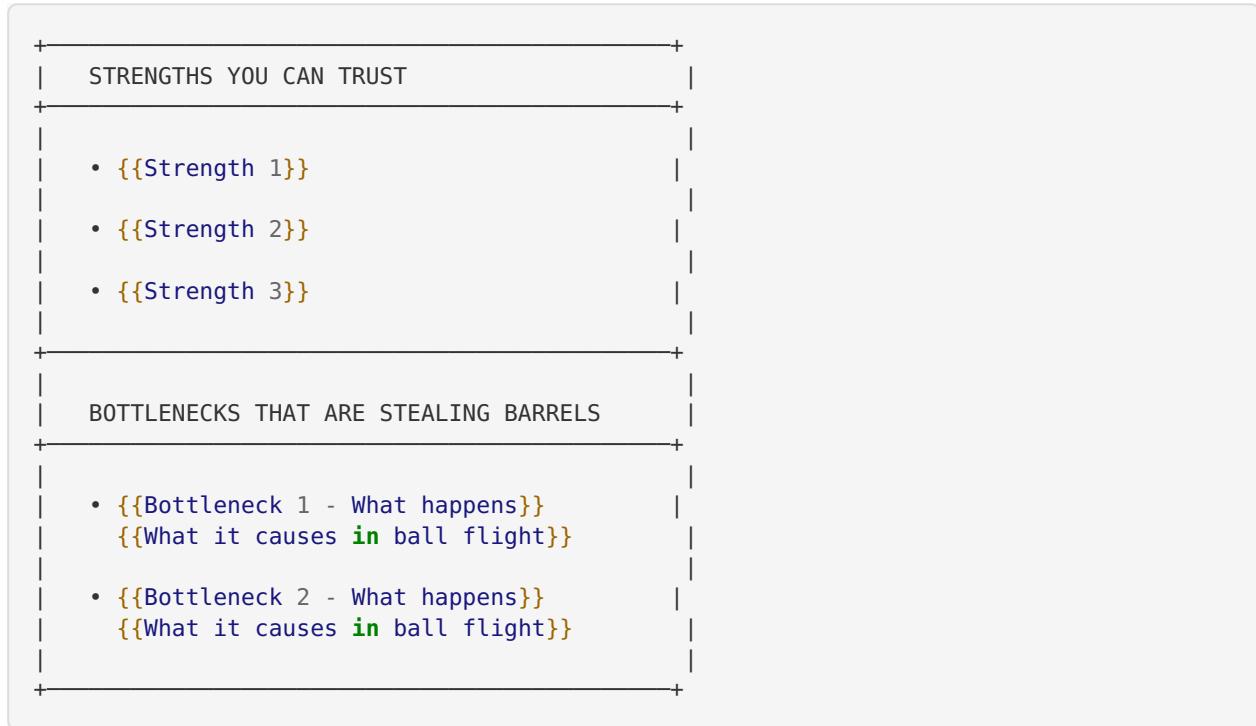
- Sequence timing gaps (average)
- AB ratio (load:swing)
- Coach Rick AI paragraph explaining the pattern

Barrel Flow Section:

- On-plane efficiency (average)
- Vertical bat angle pattern (average)
- Contact quality metrics
- Coach Rick AI paragraph explaining the pattern

PAGE 4: Strengths & Bottlenecks

Layout Structure

```
+---------------------------------------------+
|    STRENGTHS YOU CAN TRUST                   |
+---------------------------------------------+
|                                             |
|   • {{Strength 1}}                           |
|                                             |
|   • {{Strength 2}}                           |
|                                             |
|   • {{Strength 3}}                           |
|                                             |
+---------------------------------------------+
|                                             |
|   BOTTLENECKS THAT ARE STEALING BARRELS      |
+---------------------------------------------+
|                                             |
|   • {{Bottleneck 1 - What happens}}          |
|     {{What it causes in ball flight}}        |
|                                             |
|   • {{Bottleneck 2 - What happens}}          |
|     {{What it causes in ball flight}}        |
|                                             |
+---------------------------------------------+
```

Content Elements

Strengths (2-4 bullets):
- Specific, data-backed strengths
- Tied to game confidence
- Encouraging language

Example:

> "You do a great job getting the barrel through the zone with speed. When you start on time, your exit velo and launch angle look like a real hitter."

Bottlenecks (2-3 bullets):
- Main issues only (not 10 little things)
- Cause → effect format
- Clear, actionable language

Example:

> "When your head drifts forward and your ground flow gets jumpy, your barrel has to rush. That's when we see more top-spin ground balls and foul balls pulled off the line."

PAGE 5: Coaching Plan

Layout Structure

```
+==============================+      +
|    2-3 WEEK COACHING PLAN    |      |
+==============================+      +
|                              |      |
|   MAIN THEME                 |      |
|   Our focus: {{coaching theme}} |   |
|                              |      |
+==============================+      +
|                              |      |
|   1. FOCUS CUE (What to Think) |    |
|   {{1-2 simple cues}}        |      |
|                              |      |
+==============================+      +
|                              |      |
|   2. CORE DRILL BLOCK (What to Do) | |
|                              |      |
|   Block 1 - Flow & Ground:   |      |
|   • {{Drill description}}     |      |
|   • {{Drill description}}     |      |
|                              |      |
|   Block 2 - Middle & Barrel: |      |
|   • {{Drill description}}     |      |
|                              |      |
|   Block 3 - Decision:        |      |
|   • {{Drill description}}     |      |
|                              |      |
+==============================+      +
|                              |      |
|   3. SMALL GOALS (How We Measure It) | |
|   • Raise Momentum Transfer from {{old}} | |
|     to {{new}}               |      |
|   • Improve weakest flow lane by 1 tier | |
|   • {{Specific metric improvement}} |  |
|                              |      |
+==============================+      +
```

Content Elements

Main Theme:
- 1 clear focus for the player
- Examples: "Clean up ground flow", "Organize the middle", "Smooth out barrel flow"

Focus Cue:
- 1-2 simple cues the player can think about
- Action-oriented, not positions

Core Drill Block:
- 3 blocks (Flow & Ground, Middle & Barrel, Decision)
- 2-3 drills per block
- Generic drill types (no brand names)
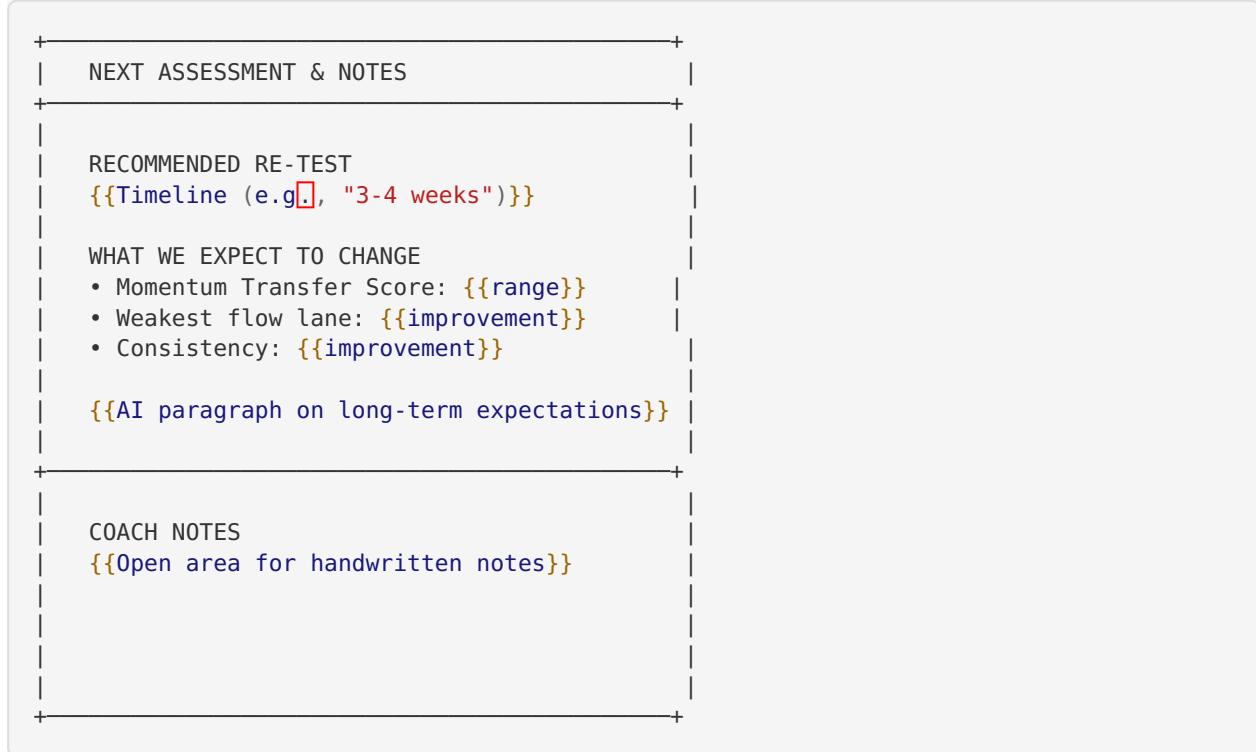
Small Goals:
- 2-3 measurable targets

- Specific numbers where possible
- Realistic for 2-3 weeks

PAGE 6: Next Test & Notes

Layout Structure

```
+-------------------------------------------+
|   NEXT ASSESSMENT & NOTES               |
+-------------------------------------------+
|                                         |
|                                         |
|   RECOMMENDED RE-TEST                    |
|   {{Timeline (e.g., "3-4 weeks")}}       |
|                                         |
|   WHAT WE EXPECT TO CHANGE               |
|   • Momentum Transfer Score: {{range}}   |
|   • Weakest flow lane: {{improvement}}   |
|   • Consistency: {{improvement}}         |
|                                         |
|   {{AI paragraph on long-term expectations}} |
|                                         |
+-------------------------------------------+
|                                         |
|                                         |
|   COACH NOTES                            |
|   {{Open area for handwritten notes}}    |
|                                         |
|                                         |
|                                         |
|                                         |
+-------------------------------------------+
```

Content Elements

Re-Test Timeline:
- Recommended timeframe (typically 3-4 weeks)
- Conditional on training frequency

Expected Changes:
- Momentum Transfer Score target range
- Weakest flow lane improvement
- Consistency improvement
- Other relevant metrics

Long-Term Expectations:
- AI-generated paragraph on what smooth progress looks like
- Emphasis on pattern quality, not just numbers

Coach Notes Area:
- Blank space for handwritten notes if printed
- Coach can add session-specific observations

Design Guidelines

Typography

Headers:
- Page titles: 24pt bold
- Section titles: 18pt semi-bold
- Subsection titles: 14pt semi-bold

Body Text:
- Regular text: 11pt
- Small text: 9pt
- Score numbers: 36-48pt bold

Fonts:
- Headings: Inter, SF Pro, or system-ui
- Body: Inter, system-ui, or Arial
- Scores: Tabular nums for alignment

Colors

BARRELS Brand Colors:
- Primary Gold: `#E8B14E` (Electric Gold)
- Light Gold: `#F5D07A` (Highlights)
- Black: `#000000` (Backgrounds, headers)
- Dark Gray: `#2A2A2A` (Cards, sections)
- Light Gray: `#E5E5E5` (Text, borders)

Score Color Coding:
- Elite (90-100): Gold gradient
- Advanced (80-89): Gold
- Above Average (70-79): Light gold
- Average (60-69): Neutral gray
- Below Average (50-59): Orange
- Poor (40-49): Light red
- Very Poor (0-39): Dark red

Spacing

Margins:
- Page margins: 0.75" (1.9cm)
- Section spacing: 0.5" (1.3cm)
- Paragraph spacing: 0.25" (0.6cm)

Padding:
- Card padding: 0.5" (1.3cm)
- Section padding: 0.25" (0.6cm)

Implementation Examples

React-PDF Example

```javascript
import { Document, Page, Text, View, StyleSheet } from '@react-pdf/renderer';

const styles = StyleSheet.create({
  page: {
    padding: 40,
    backgroundColor: '#FFFFFF',
  },
  header: {
    fontSize: 24,
    fontWeight: 'bold',
    color: '#E8B14E',
    marginBottom: 20,
  },
  scoreCard: {
    backgroundColor: '#2A2A2A',
    padding: 20,
    borderRadius: 12,
    marginBottom: 20,
  },
  scoreNumber: {
    fontSize: 48,
    fontWeight: 'bold',
    color: '#E8B14E',
  },
});

const AssessmentPDF = ({ data }) => (
  <Document>
    <Page style={styles.page}>
      <Text style={styles.header}>52 PITCH FLOW ASSESSMENT</Text>
      <Text>Momentum Transfer Report</Text>

      <View style={styles.scoreCard}>
        <Text style={styles.scoreNumber}>{data.summary.momentumTransferScore}</Text>
        <Text>({data.summary.bandLabel})</Text>
      </View>

      {/* Add more sections */}
    </Page>
  </Document>
);
```

PDFKit Example

```javascript
import PDFDocument from 'pdfkit';

function generateAssessmentPDF(data, outputPath) {
  const doc = new PDFDocument({ size: 'LETTER', margins: { top: 50, bottom: 50, left: 50, right: 50 } });
  const stream = fs.createWriteStream(outputPath);
  doc.pipe(stream);

  // Page 1: Cover
  doc.fontSize(24).fillColor('#E8B14E').text('52 PITCH FLOW ASSESSMENT', { align: 'center' });
  doc.fontSize(14).fillColor('#000000').text('Momentum Transfer Report', { align: 'center' });
  doc.moveDown(2);

  // Player info
  doc.fontSize(12);
  doc.text(`Player: ${data.player.firstName} ${data.player.lastName}`);
  doc.text(`Age / Level: ${data.player.age} / ${data.player.level}`);
  doc.moveDown(2);

  // Score
  doc.fontSize(48).fillColor('#E8B14E').text(data.summary.momentumTransferScore.toString(), { align: 'center' });
  doc.fontSize(14).fillColor('#000000').text(`(${data.summary.bandLabel})`, { align: 'center' });

  // Add more pages...

  doc.end();
}
```

Testing Checklist

Before Production

- [ ] All template variables render correctly
- [ ] Score color coding matches band labels
- [ ] Typography is readable and consistent
- [ ] Page breaks occur at logical points
- [ ] Images/logos display correctly
- [ ] QR codes (if any) are scannable
- [ ] Print quality is acceptable (300 DPI)
- [ ] File size is reasonable (<5MB)

Quality Checks

- [ ] Player name is prominent and correct
- [ ] Scores are accurate and properly formatted
- [ ] AI-generated text is coherent and coach-like
- [ ] Drill descriptions are specific but generic (no brands)
- [ ] Goals are measurable and realistic

- [ ] Re-test timeline is appropriate
- [ ] No technical jargon or JSON references
- [ ] Language is kid-friendly and encouraging

Summary

This PDF template provides:
- ✅ **Complete 6-page structure** for assessment reports
- ✅ **Template variables** for easy data binding
- ✅ **Design guidelines** for consistent branding
- ✅ **Color coding** for score bands
- ✅ **Layout examples** for each page
- ✅ **Implementation examples** for React-PDF and PDFKit
- ✅ **Kid-friendly language** throughout
- ✅ **Printable format** with handwritten notes area

Use this template to generate professional, shareable assessment reports from 52 Pitch Flow Assessment data.

Status: ✅ Ready for Implementation
Last Updated: November 26, 2025
Version: 1.0