PRODUCT REQUIREMENTS DOCUMENT

Momento

Experience Breakthrough

Non-toxic goal tracking with adaptive baselines and breakthrough visualization

Version	1.0
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Status	Initial Specification

Executive Summary

Momento is a goal-tracking application that makes moving the goalpost non-toxic by reframing goal adjustment as evidence of growth rather than failure. Inspired by the

"moving baseline" concept from Rihlah, Momento combines adaptive three-tier goal systems, weighted moving averages, breakthrough tracking, and rich visualizations to help users build sustainable progress without the demotivation of traditional pass/fail goal systems.

Problem Statement

Core Problem

People abandon goals entirely when they miss them, but adjusting goals feels like giving up or lowering standards. This creates a toxic cycle where users either:
- Stick with unrealistic goals and feel like failures
- Lower their goals and feel unmotivated
- Give up entirely when they miss targets

Why Current Solutions Fail

- **Binary Pass/Fail:** Most apps show ✅ or ❌, creating guilt and shame
- **Static Goals:** No adaptation to actual capacity or life circumstances
- **Manual Adjustment Shame:** Lowering a goal feels like admitting defeat
- **No Growth Evidence:** Users can't see that they consistently underestimate themselves

Solution Overview

Momento uses three core mechanics to make goal adjustment healthy:

1. Three-Tier Adaptive System

Instead of one pass/fail goal, users set three tiers that automatically adapt:
- **Baseline:** Minimum to stay in the game (auto-calibrates to 70% of moving average)
- **Momentum:** Building progress (auto-calibrates to 100% of weighted moving average)
- **Stretch:** Ambitious target (stays fixed as aspiration)

2. Breakthrough Tracking

Each time a user exceeds their current target in a session:
- The target auto-increments by a custom amount (e.g., +2, +5, +10)
- A "breakthrough" is recorded
- End-of-session summary shows how many times they exceeded their original goal

*This reframes "moving the goalpost" as **proof of underestimating yourself**, not weakness.*

3. Heavy Visualizations

Rich charts and graphs make progress tangible:
- Performance history bar charts with tier color-coding
- Moving average trend lines (actual vs. smoothed)
- Sparklines showing recent performance at a glance
- Real-time session progress bars with breakthrough animations
- Trend indicators (up/down arrows with percentages)

Core Features

Goal Creation & Management

Feature	Description
Goal Types	Habit 🎯 , Fitness 💪 , Project 📊 (each with custom icon and color theme)
Three-Tier Setup	User sets Baseline, Momentum (optional), and Stretch goals. Momentum auto-calculates if not provided.
Custom Increments	User configures how much to auto-increment per breakthrough (e.g., push-ups +2, reading pages +10)
Moving Avg Window	Choose how many sessions to average (3, 5, 10, 30) for adaptive calibration
Custom Units	Flexible units (reps, minutes, pages, miles, etc.)

Active Session Experience

- **Visual Tier Progress Bar:** Four-zone gradient (baseline/momentum/stretch/beyond) with live position marker
- **Breakthrough Animation:** Full-screen celebration with spinning sparkles when user exceeds target
- **Breakthrough Journey:** Visual timeline showing each hit value with tier badges
- **Real-time Tier Badge:** Dynamic badge showing current performance tier with motivational text
- **Next Target Preview:** Shows what the next target will be after increment
- **Session Stats:** Live display of breakthroughs, last completed, growth vs. start

Analytics & Visualizations

- **Performance History Chart:** 20-session bar chart with tier color-coding and reference lines for current baseline/momentum/stretch
- **Moving Average Trend:** Dual-line SVG chart showing actual (dotted) vs. weighted moving average (solid)
- **Sparklines:** Mini inline charts on goal cards showing last 10 sessions
- **Trend Indicators:** Up/down/neutral arrows with percentage change comparing recent vs. older performance

- **Session Tier Breakdown:** Visual distribution showing % of sessions in each tier
- **Total Breakthroughs Counter:** Aggregate count of all times user exceeded limits

Streak & Motivation Features

- **Streak Tracking:** Current streak and longest streak with flame icons
- **Rest Days:** Mark rest days without breaking streak (prevents burnout guilt)
- **Bank Progress:** Save "checkpoint" snapshots when life happens (injury, travel, etc.) - shows as chapter break not failure
- **Completed Today Badge:** Visual confirmation with award icon
- **Breakthrough Milestones:** Special messaging at 3+ breakthroughs in a session

Technical Architecture

Moving Average Algorithm

Weighted Moving Average Implementation:
1. Fetch last N sessions (where N = moving average window)
2. Assign weights: most recent session gets highest weight, decreasing linearly
3. Calculate weighted sum: Σ (session_value × weight)
4. Divide by total weight to get weighted average
5. Round to nearest integer

Example: With window=5, weights are [5,4,3,2,1]. If sessions are [20,18,22,19,21], weighted avg = (20×5 + 18×4 + 22×3 + 19×2 + 21×1) ÷ (5+4+3+2+1) = 19.7 ≈ 20

Auto-Calibration Logic

After each session completion:
- Calculate new weighted moving average
- Set Momentum = moving average
- Set Baseline = 70% of moving average
- Stretch remains unchanged (user aspiration)
- Minimum 3 sessions required before auto-calibration activates

Data Model

Entity	Key Fields
Goal	id, name, type, baseline, momentum, stretch, adaptiveBaseline, adaptiveMomentum, increment, unit, movingAverageWindow, currentStreak, longestStreak, totalSessions, lastCompletedDate, bankedProgress[]
Session	goalId, originalGoal, finalCount, breakthroughs, tier, startTime, endTime, hitHistory[]
Hit	value, timestamp, tier

BankedProgress	date, streak, sessions, momentum, baseline

User Experience Flow

First-Time User Journey

6. **Welcome Screen:** "Momento: Experience Breakthrough" tagline with brief explanation
7. **Create First Goal:** Guided setup explaining three-tier system
8. **Configure Settings:** Choose increment, unit, moving average window
9. **Start Session:** Visual tour of progress bar and tier system
10. **First Breakthrough:** Full celebration animation with explanation
11. **Session Complete:** Summary showing growth metrics and breakthrough count

Returning User Journey

12. **Home Dashboard:** Quick stats (active goals, best streak, total breakthroughs)
13. **Goal Cards:** Each shows adaptive tiers, sparkline, trend indicator, streak status
14. **Quick Actions:** Start session, log rest day, view analytics
15. **Notice Adaptation:** User sees baseline/momentum have adjusted based on recent performance
16. **Check Analytics:** Deep dive into charts showing moving average trend and performance distribution

Success Metrics

Metric	Target
Goal Abandonment Rate	< 20% (vs. 60%+ for traditional apps)
Average Session Completion Rate	> 70% of sessions hit at least baseline tier
Average Breakthroughs per Session	> 2 breakthroughs (proves underestimation)
30-Day Retention	> 60% of users still active
User Sentiment (re: goal adjustment)	> 80% report it feels "empowering" not "giving up"

Design Principles

- **Always Show Progress:** Even hitting baseline is a win. Visualize the gradient, not binary pass/fail.

- **Make Adaptation Visible:** Users should see and understand why baseline/momentum changed. Show the moving average, not just the result.
- **Celebrate Underestimation:** Breakthroughs are proof you're stronger than you think. Make this explicit.
- **Preserve Aspiration:** Stretch goal never auto-lowers. It's your north star.
- **Data-Driven, Not Punitive:** Moving averages are objective. Remove guilt from the equation.
- **Visual First:** Charts beat numbers. Show trends, sparklines, and progress bars everywhere.

Future Enhancements

Phase 2 Features

- **Social Sharing:** Share breakthrough moments or charts (not comparison, just celebration)
- **Export Data:** CSV/PDF reports for personal tracking or sharing with coaches
- **Multiple Sessions per Day:** Currently limited to one session per goal per day
- **Goal Templates:** Pre-configured goals for common use cases (Couch to 5K, reading habits, etc.)

Phase 3 Features

- **AI Insights:** "You tend to perform better on Tuesdays" or "Rest days every 5 sessions optimize your performance"
- **Goal Dependencies:** Link goals (e.g., "meditation supports workout performance")
- **Seasonal Adjustment:** Auto-detect and suggest adjustments for life changes (travel, illness, etc.)
- **Collaborative Goals:** Team/family goals with shared breakthroughs

Appendix: Inspiration & Prior Art

Rihlah: Moving Baseline Concept

Momento is inspired by the "moving baseline" implementation in Rihlah, which used moving averages to automatically adjust goal baselines based on actual performance. This prevented the toxic cycle of static goals that become demotivating over time.

Key Differentiators

While many goal apps exist, Momento uniquely combines:
- Mathematical rigor (weighted moving averages) with emotional intelligence (non-toxic framing)
- Three-tier system that preserves aspiration while crediting progress
- Heavy visualization that makes abstract concepts (moving averages) concrete and motivating

- Breakthrough celebration that reframes goal adjustment as growth evidence

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