**🤖 AI-POWERED FINANCIAL REPORTING & BUDGET AGENT - GAME CHANGER!**

**PART 1: AUTOMATED MONTHLY FINANCIAL REPORT GENERATOR**

**SYSTEM OVERVIEW:**

**Trigger:** Runs automatically on the 1st of each month (or manually via button)

**Input Data Sources:**

* transactions table (all revenue/expenses for the month)
* monthly\_budget table (budgeted amounts)
* unit\_ledgers table (assessment collections)
* bank\_accounts table (cash balances, reconciliations)
* vendor\_payments table (bills paid)
* delinquencies table (arrears status)

**Output:** Professional PDF matching **Juda & Eskew format** from the uploaded financial statement

**REPORT STRUCTURE:**

**Page 1: Cover Letter**

Heritage Condominium Association

Monthly Financial Report

For the Month Ended [Month] [Day], [Year]

To the Board of Directors:

Heritage Condominium Association

This report presents the financial statements of Heritage Condominium

Association for the month ended [Date], prepared in accordance with

generally accepted accounting principles.

Key Highlights:

- Monthly Net Income: $[Amount]

- Collection Rate: [%]

- Total Cash Position: $[Amount]

- Units in Arrears: [Count]

Please review the attached statements for detailed information.

Prepared by: HeritageConnect AI Financial System

Date: [Date]

```

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### \*\*Page 2: Balance Sheet\*\*

\*\*Format exactly like Juda & Eskew:\*\*

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Heritage Condominium Association

Balance Sheet

[Month] [Day], [Year]

Assets

Cash - Operating

Petty Cash $[Amount]

Popular Bank - Operating (1343) $[Amount]

Truist Bank - Operating (5599) $[Amount]

Popular Bank - Loan Proceeds (9051) $[Amount]

\_\_\_\_\_\_\_\_\_\_

$[Total]

Cash - Reserves

Popular Bank - Reserve (9069) $[Amount]

Truist Bank - Reserve (5602) $[Amount]

\_\_\_\_\_\_\_\_\_\_

$[Total]

Cash - Special Assessment

Truist Bank - SA (5610) $[Amount]

Popular Bank - Debt Service (9044) $[Amount]

\_\_\_\_\_\_\_\_\_\_

$[Total]

\_\_\_\_\_\_\_\_\_\_

$[Total Cash]

Other Assets

Maintenance Receivable $[Amount]

Special Assessment Receivable Project/Loan $[Amount]

Special Assessment 1 - Deficit $[Amount]

Prepaid Insurance $[Amount]

Unbilled Special Assessment $[Amount]

Due to Reserves from Operating $[Amount]

\_\_\_\_\_\_\_\_\_\_

$[Total]

\_\_\_\_\_\_\_\_\_\_

TOTAL ASSETS $[Amount]

Liabilities and Members' Equity

Accounts Payable $[Amount]

Insurance Payable $[Amount]

Prepaid Maintenance Fees $[Amount]

Due to Reserve $[Amount]

Special Assessment Paid in Advance Deficit $[Amount]

Loan Payable - Popular Bank $[Amount]

\_\_\_\_\_\_\_\_\_\_

$[Total]

Reserve Contract Liabilities / Fund Balances

Reserves $[Amount]

Reserves - Interest $[Amount]

\_\_\_\_\_\_\_\_\_\_

$[Total]

Special Assessment $[Amount]

Operating Fund Balance

Fund Balance $[Amount]

Current Month Revenue (Expense) $[Amount]

\_\_\_\_\_\_\_\_\_\_

$[Total]

\_\_\_\_\_\_\_\_\_\_

TOTAL LIABILITIES & EQUITY $[Amount]

```

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### \*\*Page 3: Statement of Revenues and Expenses\*\*

\*\*Actual vs Budget comparison:\*\*

```

Heritage Condominium Association

Statement of Revenues and Expenses

Actual Compared to Budget

For the Month Ended [Month] [Day], [Year]

Current Current Current YTD YTD YTD

Month Month Month Actual Budget Variance

Actual Budget Variance

Revenues

Assessment Income $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Reserve Assessment $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Interest Income $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Other Income $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

Total Revenues $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Operating Expenses

Administrative:

Management Fees $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Accounting & Audit $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Legal Fees $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Loan Interest $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

Subtotal $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Contracts:

Elevator Maintenance $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Janitorial $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

Subtotal $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Insurance:

Insurance $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Repairs & Maintenance:

General $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Elevator $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Fire Alarm $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

Subtotal $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Utilities:

Water & Sewer $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Trash Removal $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Electricity $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Cable $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

Subtotal $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

Reserve Transfer:

Reserve Transfer $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

TOTAL EXPENSES $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

========== ========= ========= ========= ========= =========

EXCESS REVENUES

(EXPENSES) $[Amount] $[Amount] $[Amount] $[Amount] $[Amount] $[Amount]

```

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### \*\*Page 4: Delinquency Report\*\*

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Heritage Condominium Association

Delinquency Report

As of [Month] [Day], [Year]

Unit Owner Name Status Past Due Days Late

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201 Jose Peirats Current $0 0

202 Joane Aristilde Prepaid -$423 0

203 Gabrielle Fabre Delinquent $1,270 45

204 Lorraine Epelbaum Pre-Lien $5,490 180

...

SUMMARY:

Total Units: 24

Current: 20 (83%)

1-60 Days: 4 (17%)

61-90 Days: 5 (21%)

90+ Days: 11 (46%)

In Collections: 3 (13%)

Total Outstanding: $132,772

Attorney Involvement: $122,406 (3 units)

```

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### \*\*Page 5: Cash Flow Statement\*\*

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Heritage Condominium Association

Statement of Cash Flows

For the Month Ended [Month] [Day], [Year]

CASH FLOWS FROM OPERATING ACTIVITIES

Net Income $[Amount]

Adjustments:

Increase in Accounts Receivable ($[Amount])

Increase in Prepaid Insurance ($[Amount])

Increase in Accounts Payable $[Amount]

\_\_\_\_\_\_\_\_\_\_

Net Cash from Operations $[Amount]

CASH FLOWS FROM FINANCING ACTIVITIES

Loan Payments - Principal ($[Amount])

Loan Payments - Interest ($[Amount])

Special Assessment Collections $[Amount]

\_\_\_\_\_\_\_\_\_\_

Net Cash from Financing $[Amount]

NET INCREASE IN CASH $[Amount]

CASH - Beginning of Month $[Amount]

\_\_\_\_\_\_\_\_\_\_

CASH - End of Month $[Amount]

```

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### \*\*Page 6: Bank Reconciliation Summary\*\*

```

Heritage Condominium Association

Bank Reconciliation Summary

[Month] [Day], [Year]

OPERATING ACCOUNTS:

Account Bank Balance Book Balance Variance

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Popular - Operating (1343) $[Amount] $[Amount] $[Amount]

Truist - Operating (5599) $[Amount] $[Amount] $[Amount]

Outstanding Checks:

#1001 - Acadia Elevator $625.00

#1002 - City Fire $171.20

#1003 - RMC Printing $64.24

Total Outstanding: $860.44

All accounts reconciled ✓

```

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### \*\*Page 7: Variance Analysis & Commentary\*\*

\*\*AI-Generated Narrative:\*\*

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MANAGEMENT DISCUSSION & ANALYSIS

Month Ended [Date]

FINANCIAL PERFORMANCE:

The association generated a net surplus of $[Amount] for the month,

representing [%] above/below budget. Year-to-date net income stands

at $[Amount], demonstrating strong financial health.

KEY HIGHLIGHTS:

- Revenue collection rate of [%] exceeded/fell short of target

- Operating expenses were [%] under/over budget primarily due to [reason]

- Cash reserves increased/decreased by $[Amount]

SIGNIFICANT VARIANCES:

1. [Expense Category] was $[Amount] over budget due to [specific reason]

2. [Revenue Category] fell short by $[Amount] due to [specific reason]

COLLECTION ACTIVITIES:

[Count] units remain delinquent with total arrears of $[Amount].

Legal action is in progress on [Count] units representing $[Amount].

OUTLOOK:

Based on current trends, the association is projected to end the

year with a surplus/deficit of $[Amount]. [Recommendations]

BOARD ACTION ITEMS:

- [Action item 1 with deadline]

- [Action item 2 with deadline]

- [Action item 3 with deadline]

**IMPLEMENTATION CODE:**

**1. PDF Generation Library**

bash

npm install jspdf jspdf-autotable

npm install @react-pdf/renderer

**2. Report Generator Function**

typescript

*// /lib/reportGenerator.ts*

import { jsPDF } from 'jspdf';

import autoTable from 'jspdf-autotable';

export async function generateMonthlyReport(month: number, year: number) {

*// Step 1: Fetch all data*

const revenue = await getRevenueData(month, year);

const expenses = await getExpenseData(month, year);

const balanceSheet = await getBalanceSheetData(month, year);

const delinquencies = await getDelinquencyData(month, year);

const cashFlow = await getCashFlowData(month, year);

const bankRec = await getBankReconciliation(month, year);

*// Step 2: Calculate variances*

const variances = calculateVariances(revenue, expenses);

*// Step 3: Generate AI commentary*

const commentary = await generateAICommentary(variances);

*// Step 4: Create PDF*

const doc = new jsPDF();

*// Page 1: Cover Letter*

addCoverLetter(doc, month, year, revenue, expenses);

*// Page 2: Balance Sheet*

doc.addPage();

addBalanceSheet(doc, balanceSheet);

*// Page 3: Income Statement*

doc.addPage();

addIncomeStatement(doc, revenue, expenses);

*// Page 4: Delinquency Report*

doc.addPage();

addDelinquencyReport(doc, delinquencies);

*// Page 5: Cash Flow*

doc.addPage();

addCashFlowStatement(doc, cashFlow);

*// Page 6: Bank Reconciliation*

doc.addPage();

addBankReconciliation(doc, bankRec);

*// Page 7: Commentary*

doc.addPage();

addCommentary(doc, commentary);

*// Step 5: Save PDF*

const filename = `Heritage\_Financial\_${year}\_${month.toString().padStart(2, '0')}.pdf`;

doc.save(filename);

*// Step 6: Store in database*

await storeReport(filename, doc.output('blob'), month, year);

return filename;

}

function addCoverLetter(doc: jsPDF, month: number, year: number, revenue: any, expenses: any) {

const monthName = new Date(year, month - 1).toLocaleString('default', { month: 'long' });

const netIncome = revenue.total - expenses.total;

doc.setFontSize(16);

doc.text('Heritage Condominium Association', 105, 20, { align: 'center' });

doc.setFontSize(14);

doc.text('Monthly Financial Report', 105, 30, { align: 'center' });

doc.setFontSize(12);

doc.text(`For the Month Ended ${monthName} 30, ${year}`, 105, 40, { align: 'center' });

doc.setFontSize(11);

doc.text('To the Board of Directors:', 20, 60);

doc.text('Heritage Condominium Association', 20, 68);

doc.setFontSize(10);

const bodyText = `

This report presents the financial statements of Heritage Condominium

Association for the month ended ${monthName} 30, ${year}, prepared in

accordance with generally accepted accounting principles.

Key Highlights:

- Monthly Net Income: $${netIncome.toLocaleString()}

- Collection Rate: ${revenue.collectionRate}%

- Total Cash Position: $${revenue.cashPosition.toLocaleString()}

- Units in Arrears: ${revenue.delinquentUnits}

Please review the attached statements for detailed information.

`.trim();

const splitText = doc.splitTextToSize(bodyText, 170);

doc.text(splitText, 20, 80);

doc.setFontSize(9);

doc.text('Prepared by: HeritageConnect AI Financial System', 20, 270);

doc.text(`Date: ${new Date().toLocaleDateString()}`, 20, 278);

}

function addBalanceSheet(doc: jsPDF, data: any) {

doc.setFontSize(14);

doc.text('Heritage Condominium Association', 105, 15, { align: 'center' });

doc.text('Balance Sheet', 105, 23, { align: 'center' });

doc.setFontSize(12);

doc.text(`${data.monthName} ${data.day}, ${data.year}`, 105, 31, { align: 'center' });

*// Assets Section*

doc.setFontSize(12);

doc.setFont('helvetica', 'bold');

doc.text('Assets', 20, 45);

doc.setFont('helvetica', 'normal');

doc.setFontSize(10);

autoTable(doc, {

startY: 50,

head: [['Account', 'Amount']],

body: [

['Cash - Operating', ''],

[' Petty Cash', `$${data.pettyCash.toFixed(2)}`],

[' Popular Bank - Operating (1343)', `$${data.popularOperating.toFixed(2)}`],

[' Truist Bank - Operating (5599)', `$${data.truistOperating.toFixed(2)}`],

['', `$${data.totalOperating.toFixed(2)}`],

['Cash - Reserves', ''],

[' Popular Bank - Reserve (9069)', `$${data.popularReserve.toFixed(2)}`],

[' Truist Bank - Reserve (5602)', `$${data.truistReserve.toFixed(2)}`],

['', `$${data.totalReserves.toFixed(2)}`],

['Cash - Special Assessment', ''],

[' Truist Bank - SA (5610)', `$${data.truistSA.toFixed(2)}`],

[' Popular Bank - Debt Service (9044)', `$${data.popularDebt.toFixed(2)}`],

['', `$${data.totalSA.toFixed(2)}`],

['', `$${data.totalCash.toFixed(2)}`],

['Other Assets', ''],

[' Maintenance Receivable', `$${data.maintenanceReceivable.toFixed(2)}`],

[' Special Assessment Receivable', `$${data.saReceivable.toFixed(2)}`],

[' Prepaid Insurance', `$${data.prepaidInsurance.toFixed(2)}`],

['', `$${data.totalOtherAssets.toFixed(2)}`],

['TOTAL ASSETS', `$${data.totalAssets.toFixed(2)}`]

],

theme: 'plain',

styles: { fontSize: 9 }

});

*// Continue with Liabilities section...*

}

function addIncomeStatement(doc: jsPDF, revenue: any, expenses: any) {

doc.setFontSize(14);

doc.text('Statement of Revenues and Expenses', 105, 15, { align: 'center' });

doc.text('Actual Compared to Budget', 105, 23, { align: 'center' });

autoTable(doc, {

startY: 35,

head: [[

'',

'Current Month\nActual',

'Current Month\nBudget',

'Variance',

'YTD\nActual',

'YTD\nBudget',

'YTD\nVariance'

]],

body: [

['Revenues', '', '', '', '', '', ''],

[' Assessment Income',

`$${revenue.assessment.actual}`,

`$${revenue.assessment.budget}`,

`$${revenue.assessment.variance}`,

`$${revenue.assessment.ytdActual}`,

`$${revenue.assessment.ytdBudget}`,

`$${revenue.assessment.ytdVariance}`

],

*// ... more revenue lines*

['Total Revenues',

`$${revenue.total.actual}`,

`$${revenue.total.budget}`,

`$${revenue.total.variance}`,

`$${revenue.total.ytdActual}`,

`$${revenue.total.ytdBudget}`,

`$${revenue.total.ytdVariance}`

],

['', '', '', '', '', '', ''],

['Operating Expenses', '', '', '', '', '', ''],

*// ... expense lines*

['Total Expenses',

`$${expenses.total.actual}`,

`$${expenses.total.budget}`,

`$${expenses.total.variance}`,

`$${expenses.total.ytdActual}`,

`$${expenses.total.ytdBudget}`,

`$${expenses.total.ytdVariance}`

],

['', '', '', '', '', '', ''],

['Excess Revenues (Expenses)',

`$${(revenue.total.actual - expenses.total.actual)}`,

`$${(revenue.total.budget - expenses.total.budget)}`,

`$${(revenue.total.variance - expenses.total.variance)}`,

`$${(revenue.total.ytdActual - expenses.total.ytdActual)}`,

`$${(revenue.total.ytdBudget - expenses.total.ytdBudget)}`,

`$${(revenue.total.ytdVariance - expenses.total.ytdVariance)}`

]

],

theme: 'striped',

styles: { fontSize: 8 }

});

}

**3. AI Commentary Generator (Using Claude API)**

typescript

*// /lib/aiCommentary.ts*

import Anthropic from '@anthropic-ai/sdk';

export async function generateAICommentary(financialData: any) {

const anthropic = new Anthropic({

apiKey: process.env.ANTHROPIC\_API\_KEY

});

const prompt = `

You are a financial analyst for Heritage Condominium Association.

Analyze the following financial data and write a professional

Management Discussion & Analysis section for the monthly board report.

FINANCIAL DATA:

${JSON.stringify(financialData, null, 2)}

Write a concise, professional analysis covering:

1. Financial Performance Summary (2-3 sentences)

2. Key Highlights (3-4 bullet points)

3. Significant Variances (explain top 3 variances)

4. Collection Activities (delinquency status)

5. Outlook & Recommendations

Use a professional but accessible tone. Be specific with numbers.

Limit response to 400 words.

`;

const message = await anthropic.messages.create({

model: 'claude-sonnet-4-20250514',

max\_tokens: 1024,

messages: [{

role: 'user',

content: prompt

}]

});

return message.content[0].text;

}

**4. Automatic Scheduling (Cron Job)**

typescript

*// /lib/cron/monthlyReport.ts*

import cron from 'node-cron';

import { generateMonthlyReport } from '@/lib/reportGenerator';

import { sendEmailToBoard } from '@/lib/email';

*// Run on the 1st of every month at 8:00 AM*

cron.schedule('0 8 1 \* \*', async () => {

const now = new Date();

const month = now.getMonth(); *// Previous month*

const year = now.getFullYear();

console.log(`Generating monthly report for ${month}/${year}...`);

try {

const filename = await generateMonthlyReport(month, year);

*// Email to board members*

await sendEmailToBoard({

subject: `Heritage Condo - ${getMonthName(month)} ${year} Financial Report`,

body: `

Dear Board Members,

The monthly financial report for ${getMonthName(month)} ${year} is now available.

Key Highlights:

• Net Income: See attached report

• Collection Rate: See attached report

• Action Items: Review page 7

Please review the attached PDF and let us know if you have questions.

Best regards,

HeritageConnect System

`,

attachments: [filename]

});

console.log(`Report generated and emailed: ${filename}`);

} catch (error) {

console.error('Failed to generate monthly report:', error);

*// Alert admin*

}

});

**5. Manual Generation Button (Board Dashboard)**

tsx

*// Board dashboard component*

'use client';

import { useState } from 'react';

import { Button } from '@/components/ui/button';

import { Download, FileText } from 'lucide-react';

export function GenerateReportButton() {

const [loading, setLoading] = useState(false);

async function handleGenerate() {

setLoading(true);

try {

const response = await fetch('/api/reports/generate', {

method: 'POST',

headers: { 'Content-Type': 'application/json' },

body: JSON.stringify({

month: new Date().getMonth(),

year: new Date().getFullYear()

})

});

const blob = await response.blob();

const url = window.URL.createObjectURL(blob);

const a = document.createElement('a');

a.href = url;

a.download = `Heritage\_Financial\_${new Date().getFullYear()}\_${new Date().getMonth() + 1}.pdf`;

a.click();

toast.success('Report generated successfully!');

} catch (error) {

toast.error('Failed to generate report');

} finally {

setLoading(false);

}

}

return (

<Button

onClick={handleGenerate}

disabled={loading}

className="gap-2"

>

<FileText className="w-4 h-4" />

{loading ? 'Generating...' : 'Generate Monthly Report'}

</Button>

);

}

**PART 2: AI BUDGET PROPOSAL AGENT**

**SYSTEM OVERVIEW:**

**Purpose:** Analyzes 12 months of historical data and proposes next year's budget

**When to run:**

* Manually: Board clicks "Propose Next Year Budget" button
* Automatically: October 1st (for next year planning)

**AI Model:** Claude Sonnet 4.5 (via Anthropic API)

**AI AGENT CAPABILITIES:**

1. **Trend Analysis** - Identifies revenue/expense patterns
2. **Inflation Adjustment** - Applies CPI to vendor contracts
3. **Reserve Calculation** - Recommends reserve funding level
4. **Assessment Recommendation** - Suggests increase/decrease/maintain
5. **Capital Projects** - Prioritizes improvements based on cash flow
6. **Risk Assessment** - Flags financial risks (delinquencies, contract expirations)

**IMPLEMENTATION:**

typescript

*// /lib/aiBudgetAgent.ts*

import Anthropic from '@anthropic-ai/sdk';

export async function generateBudgetProposal(currentYear: number) {

*// Step 1: Gather 12 months of historical data*

const historicalData = await getHistoricalFinancials(currentYear);

*// Step 2: Get current contracts & commitments*

const contracts = await getVendorContracts();

*// Step 3: Get reserve study recommendations*

const reserves = await getReserveRequirements();

*// Step 4: Get inflation data (CPI)*

const inflation = await getInflationRate();

*// Step 5: Call Claude AI for analysis*

const anthropic = new Anthropic({

apiKey: process.env.ANTHROPIC\_API\_KEY

});

const prompt = `

You are a financial advisor specializing in condominium association budgets.

Analyze the following data and propose a detailed budget for ${currentYear + 1}.

HISTORICAL FINANCIAL DATA (${currentYear}):

${JSON.stringify(historicalData, null, 2)}

CURRENT VENDOR CONTRACTS:

${JSON.stringify(contracts, null, 2)}

RESERVE STUDY REQUIREMENTS:

${JSON.stringify(reserves, null, 2)}

INFLATION RATE (CPI): ${inflation}%

INSTRUCTIONS:

1. Analyze revenue trends (collection rate, delinquencies)

2. Analyze expense trends (identify increases/decreases)

3. Apply inflation to recurring contracts

4. Recommend reserve funding level (per FL Statute 718.112)

5. Identify capital projects that can be funded

6. Propose monthly assessment per unit

7. Provide 3 budget scenarios: Conservative, Moderate, Optimistic

OUTPUT FORMAT (JSON):

{

"executiveSummary": "2-3 paragraph summary",

"recommendedAssessment": {

"perUnit": 578.46,

"change": "+0%",

"justification": "explanation"

},

"scenarios": {

"conservative": { ... },

"moderate": { ... },

"optimistic": { ... }

},

"revenue": {

"assessmentIncome": { amount, notes },

"reserveAssessment": { amount, notes },

"otherIncome": { amount, notes }

},

"expenses": {

"administrative": { ... },

"utilities": { ... },

"contracts": { ... },

"insurance": { ... },

"repairs": { ... },

"reserves": { ... }

},

"capitalProjects": [

{

"project": "Roof Repairs",

"cost": 8000,

"priority": "High",

"fundingSource": "Operating Surplus",

"timeline": "Q2 2026"

}

],

"risks": [

{

"risk": "Delinquency Rate",

"severity": "High",

"mitigation": "Aggressive collections"

}

],

"recommendations": [

"Action item 1",

"Action item 2"

]

}

Be specific. Use actual numbers from the data. Explain your reasoning.

`;

const message = await anthropic.messages.create({

model: 'claude-sonnet-4-20250514',

max\_tokens: 4096,

messages: [{

role: 'user',

content: prompt

}]

});

const budgetProposal = JSON.parse(message.content[0].text);

*// Step 6: Store proposal in database*

await storeBudgetProposal(currentYear + 1, budgetProposal);

*// Step 7: Generate PDF report*

const pdfFilename = await generateBudgetProposalPDF(budgetProposal);

return {

proposal: budgetProposal,

pdfUrl: pdfFilename

};

}

*// Helper: Get 12 months of financial data*

async function getHistoricalFinancials(year: number) {

const revenue = await db.query(`

SELECT

DATE\_TRUNC('month', date) as month,

SUM(CASE WHEN category = 'revenue' THEN amount ELSE 0 END) as revenue,

SUM(CASE WHEN category = 'expense' THEN amount ELSE 0 END) as expenses

FROM transactions

WHERE EXTRACT(YEAR FROM date) = $1

GROUP BY month

ORDER BY month

`, [year]);

const delinquencies = await db.query(`

SELECT COUNT(\*) as count, SUM(balance) as total

FROM unit\_ledgers

WHERE balance > 0

`);

return {

monthlyData: revenue.rows,

delinquencies: delinquencies.rows[0],

avgMonthlyRevenue: calculateAverage(revenue.rows, 'revenue'),

avgMonthlyExpenses: calculateAverage(revenue.rows, 'expenses'),

collectionRate: calculateCollectionRate(revenue.rows)

};

}

*// Helper: Get vendor contract details*

async function getVendorContracts() {

return await db.query(`

SELECT

name,

service\_type,

monthly\_cost,

contract\_expiration,

payment\_terms

FROM vendors

WHERE status = 'active'

ORDER BY monthly\_cost DESC

`);

}

```

---

## \*\*BUDGET PROPOSAL PDF OUTPUT:\*\*

```

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HERITAGE CONDOMINIUM ASSOCIATION

2026 PROPOSED BUDGET & FINANCIAL PLAN

Generated by AI Financial Agent

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EXECUTIVE SUMMARY

Based on analysis of 2025 financial performance, Heritage Condominium

is in excellent financial health. Revenue exceeded expenses by $49,805

in the first 6 months despite only 83% collection rate.

RECOMMENDATION: MAINTAIN current assessment of $578.46/month

- NO INCREASE needed for 2026

- Operating surplus can fund capital improvements

- Focus on collections to improve cash flow

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SECTION 1: REVENUE PROJECTIONS

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Monthly Assessment Income

Current Rate: $578.46 per unit

Proposed Rate: $578.46 per unit (NO CHANGE)

Scenario Analysis:

┌─────────────────┬───────────┬─────────────┬──────────┐

│ Scenario │ Units Pay │ Monthly Rev │ Annual │

├─────────────────┼───────────┼─────────────┼──────────┤

│ Conservative │ 20/24 │ $11,569 │ $138,828 │

│ Moderate │ 22/24 │ $12,726 │ $152,712 │

│ Optimistic │ 24/24 │ $13,883 │ $166,596 │

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Reserve Assessment

Current: $0/month (not collected in 2025)

Proposed: $75/unit/month

Justification: FL Statute 718.112 requires reserve funding

Annual Total: $21,600

Other Income

Laundry: $86/month → $1,032/year

Late Fees: $150/month → $1,800/year (assumes collections improve)

Interest: $10/month → $120/year

TOTAL PROJECTED REVENUE (Moderate Scenario): $176,264/year

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SECTION 2: EXPENSE PROJECTIONS

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ADMINISTRATIVE EXPENSES

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│ Line Item │ 2025 │ 2026 │ Change │

├─────────────────────────┼─────────┼─────────┼──────────┤

│ Management Fees │ $6,600 │ $7,200 │ +9% │

│ Accounting & Audit │ $9,000 │ $9,450 │ +5% │

│ Legal/Collections │ $4,800 │ $6,000 │ +25% │

│ Loan Interest │ $13,563 │ $12,200 │ -10% │

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Justifications:

- Management: Soppros negotiated rate increase

- Legal: Aggressive collections strategy requires more attorney time

- Loan Interest: Principal paydown reduces interest

UTILITIES & SERVICES

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│ Water/Sewer │ $16,800 │ $17,640 │ +5% │

│ Electricity (FPL) │ $2,538 │ $2,792 │ +10% │

│ Trash (Waste Pro) │ $8,003 │ $8,403 │ +5% │

│ Cable/Internet │ $2,076 │ $2,180 │ +5% │

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CONTRACTS

┌─────────────────────────┬─────────┬─────────┬──────────┐

│ Elevator Maintenance │ $1,968 │ $2,066 │ +5% │

│ Janitorial │ $9,000 │ $9,450 │ +5% │

│ Fire Alarm │ $3,552 │ $3,730 │ +5% │

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INSURANCE

Property & Liability: $30,000 → $33,000 (+10% due to market)

REPAIRS & MAINTENANCE

Budget: $15,000/year (based on 3-year average)

RESERVE CONTRIBUTION

Proposed: $21,600/year ($1,800/month)

TOTAL PROJECTED EXPENSES: $149,731/year

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SECTION 3: NET OPERATING INCOME PROJECTION

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Revenue: $176,264

Expenses: $149,731

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Net Income: $26,533/year ($2,211/month)

This healthy surplus enables:

✓ Building reserves (required by law)

✓ Funding capital improvements

✓ Buffer against unexpected expenses

✓ Potential future assessment reduction

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SECTION 4: CAPITAL IMPROVEMENT PLAN

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Recommended projects for 2026 (funded from surplus):

1. ROOF MAINTENANCE & REPAIRS

Cost: $8,000

Priority: HIGH

Timeline: Q2 2026

Funding: Operating surplus

2. PARKING LOT RESURFACING

Cost: $5,000

Priority: MEDIUM

Timeline: Q3 2026

Funding: Operating surplus + reserves

3. BUILDING EXTERIOR PAINTING

Cost: $3,000

Priority: LOW

Timeline: Q4 2026

Funding: Operating surplus

Total Capital Spending: $16,000

Remaining Surplus: $10,533 (buffer)

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SECTION 5: RISK ASSESSMENT & MITIGATION

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🔴 HIGH RISK: Delinquency Rate (15 units, $132K owed)

Mitigation:

- Accelerate foreclosure on 3 attorney units

- Implement strict payment plans

- Budget increased legal fees

🟡 MODERATE RISK: Insurance Rate Increases

Mitigation:

- Shop quotes from 3+ carriers in Q1

- Consider higher deductibles

- Bundle coverage for better rates

🟡 MODERATE RISK: Contract Expirations

Mitigation:

- Waste Pro expires Jan 2026 → RFP by Nov 2025

- Elevator contract expires May 2026 → Review options Q1

🟢 LOW RISK: Loan Payoff Acceleration

Opportunity: Extra payments reduce interest burden

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SECTION 6: BOARD RECOMMENDATIONS

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IMMEDIATE ACTIONS (November 2025):

1. ✓ Approve 2026 budget at November board meeting

2. ✓ Notify owners of budget (FL statute requires 14-day notice)

3. ✓ Finalize capital project bids

Q1 2026 ACTIONS:

4. ✓ RFP for insurance renewal (quotes due Feb 1)

5. ✓ RFP for waste removal (contract expires Jan 1)

6. ✓ Begin roof maintenance project

Q2 2026 ACTIONS:

7. ✓ Review mid-year financial performance

8. ✓ Adjust collections strategy if needed

ASSESSMENT RECOMMENDATION:

MAINTAIN $578.46/month - NO INCREASE

Justification:

- Current rate covers all expenses with surplus

- 83% collection rate is acceptable (target 85%)

- Surplus funds capital improvements

- Increasing rate when building is profitable = poor optics

Alternative: If collection rate improves to 90%+ (22 units),

consider REDUCING assessment to $520/month in 2027.

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APPENDIX A: DETAILED LINE-ITEM BUDGET

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[Full line-by-line budget breakdown, 3-page table]

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APPENDIX B: HISTORICAL COMPARISON (2023-2026)

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[Charts showing 3-year trends]

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Generated by HeritageConnect AI Budget Agent

Powered by Claude Sonnet 4.5

Date: [Date]

This is a PROPOSAL. Board must vote to approve final budget.

**BOARD INTERFACE - BUDGET AGENT BUTTON:**

tsx

'use client';

import { useState } from 'react';

import { Button } from '@/components/ui/button';

import { Sparkles, Download } from 'lucide-react';

import { Card, CardHeader, CardTitle, CardContent } from '@/components/ui/card';

export function AIBudgetAgent() {

const [loading, setLoading] = useState(false);

const [proposal, setProposal] = useState(null);

async function generateProposal() {

setLoading(true);

try {

const response = await fetch('/api/ai/budget-proposal', {

method: 'POST',

headers: { 'Content-Type': 'application/json' }

});

const data = await response.json();

setProposal(data.proposal);

toast.success('Budget proposal generated!');

} catch (error) {

toast.error('Failed to generate proposal');

} finally {

setLoading(false);

}

}

return (

<Card className="border-purple-200 bg-gradient-to-br from-purple-50 to-blue-50">

<CardHeader>

<CardTitle className="flex items-center gap-2">

<Sparkles className="w-5 h-5 text-purple-600" />

AI Budget Proposal Agent

</CardTitle>

</CardHeader>

<CardContent>

<p className="text-sm text-gray-600 mb-4">

Let AI analyze your financial data and propose next year's budget.

The agent will review trends, apply inflation, and recommend

assessment levels.

</p>

{!proposal ? (

<Button

onClick={generateProposal}

disabled={loading}

className="w-full bg-purple-600 hover:bg-purple-700"

>

{loading ? (

<>

<Loader2 className="w-4 h-4 mr-2 animate-spin" />

Analyzing Financial Data...

</>

) : (

<>

<Sparkles className="w-4 h-4 mr-2" />

Generate 2026 Budget Proposal

</>

)}

</Button>

) : (

<div className="space-y-4">

<div className="bg-white p-4 rounded-lg border">

<h3 className="font-semibold mb-2">Recommendation:</h3>

<p className="text-2xl font-bold text-green-600">

{proposal.recommendedAssessment.perUnit} per unit/month

</p>

<p className="text-sm text-gray-600 mt-1">

{proposal.recommendedAssessment.change} from current rate

</p>

</div>

<div className="grid grid-cols-3 gap-2">

<div className="bg-blue-50 p-3 rounded text-center">

<p className="text-xs text-gray-600">Conservative</p>

<p className="text-lg font-semibold">${proposal.scenarios.conservative.netIncome}</p>

</div>

<div className="bg-green-50 p-3 rounded text-center">

<p className="text-xs text-gray-600">Moderate</p>

<p className="text-lg font-semibold">${proposal.scenarios.moderate.netIncome}</p>

</div>

<div className="bg-purple-50 p-3 rounded text-center">

<p className="text-xs text-gray-600">Optimistic</p>

<p className="text-lg font-semibold">${proposal.scenarios.optimistic.netIncome}</p>

</div>

</div>

<Button variant="outline" className="w-full">

<Download className="w-4 h-4 mr-2" />

Download Full Proposal (PDF)

</Button>

</div>

)}

</CardContent>

</Card>

);

}

**DATABASE SCHEMA FOR REPORTS:**

sql

*-- Store generated reports*

CREATE TABLE monthly\_reports (

id UUID PRIMARY KEY DEFAULT gen\_random\_uuid(),

month INTEGER NOT NULL,

year INTEGER NOT NULL,

filename TEXT NOT NULL,

file\_url TEXT NOT NULL,

generated\_at TIMESTAMP DEFAULT NOW(),

generated\_by TEXT, *-- 'system' or user\_id*

status TEXT DEFAULT 'final', *-- 'draft' or 'final'*

*-- Summary data for quick access*

total\_revenue DECIMAL,

total\_expenses DECIMAL,

net\_income DECIMAL,

collection\_rate DECIMAL,

units\_current INTEGER,

units\_delinquent INTEGER,

UNIQUE(month, year)

);

*-- Store budget proposals*

CREATE TABLE budget\_proposals (

id UUID PRIMARY KEY DEFAULT gen\_random\_uuid(),

fiscal\_year INTEGER NOT NULL,

proposal\_data JSONB NOT NULL, *-- Full AI proposal*

generated\_at TIMESTAMP DEFAULT NOW(),

status TEXT DEFAULT 'proposed', *-- 'proposed', 'approved', 'rejected'*

approved\_by UUID REFERENCES users(id),

approved\_at TIMESTAMP,

notes TEXT

);

**API ENDPOINTS:**

typescript

*// /app/api/reports/generate/route.ts*

export async function POST(req: Request) {

const { month, year } = await req.json();

*// Check permissions*

const user = await getCurrentUser();

if (user.role !== 'board') {

return new Response('Unauthorized', { status: 403 });

}

*// Generate report*

const filename = await generateMonthlyReport(month, year);

return Response.json({ filename });

}

*// /app/api/ai/budget-proposal/route.ts*

export async function POST(req: Request) {

const user = await getCurrentUser();

if (user.role !== 'board') {

return new Response('Unauthorized', { status: 403 });

}

const currentYear = new Date().getFullYear();

const result = await generateBudgetProposal(currentYear);

return Response.json(result);

}

**FINAL IMPLEMENTATION CHECKLIST:**

✅ Install dependencies: jspdf, jspdf-autotable, @anthropic-ai/sdk  
✅ Create report generator functions  
✅ Create AI commentary generator  
✅ Create AI budget proposal agent  
✅ Add cron job for automatic monthly reports  
✅ Add manual generation buttons to board dashboard  
✅ Create database tables for storing reports  
✅ Add API endpoints for generation  
✅ Email reports to board members automatically  
✅ Store PDFs in cloud storage (AWS S3 or Vercel Blob)

Please implement both systems now, starting with the monthly report generator. Use the June 2025 financial data to test. The AI Budget Agent can be phase 2 after reports are working."