

Tim Chorzempa

Examples of Salesforce Marketing Cloud Architecture

The following are seven examples of Marketing Cloud web applications, solutions and tools architected by Tim Chorzempa



**CloudPage dynamic content
scenario Testing Tool**



**Cloning AEM public site
template for CloudPages**



**Interactive CloudPage
component demo tool**



**Automated CloudPages
Link Shortener**



**CloudPages Multifactor
Authentication with SMS**



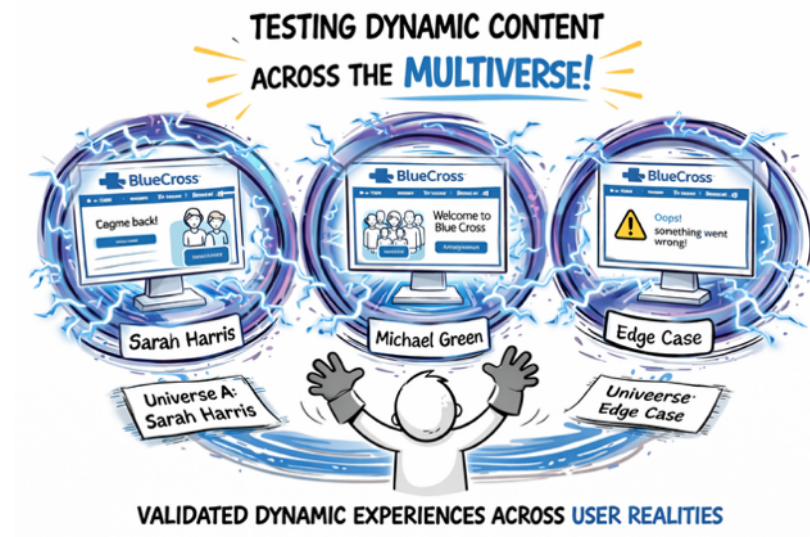
**Data Driven “Next Best
Action” CTAs**



**Dynamic Video Gallery with
Timed Content Release**

CloudPage dynamic content scenario Testing Tool

Instantly preview the exact content blocks a member will see on a dynamic landing page by entering their Subscriber Key and link parameters—no test emails required.



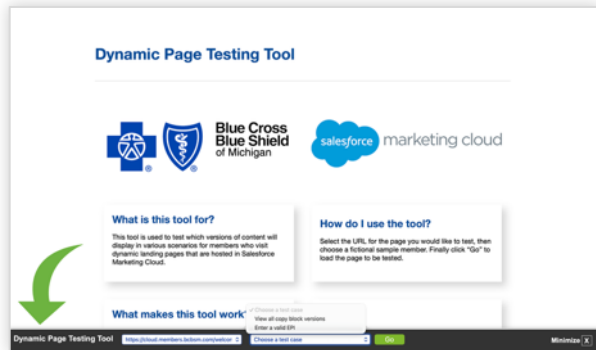
My Contributions to this tool: ✓ Personal initiative | ✓ Architected the tool | ✓ Coded the tool | ✓ Designed UI for the tool | ✓ Maintain & improve

CloudPage dynamic content scenario Testing Tool

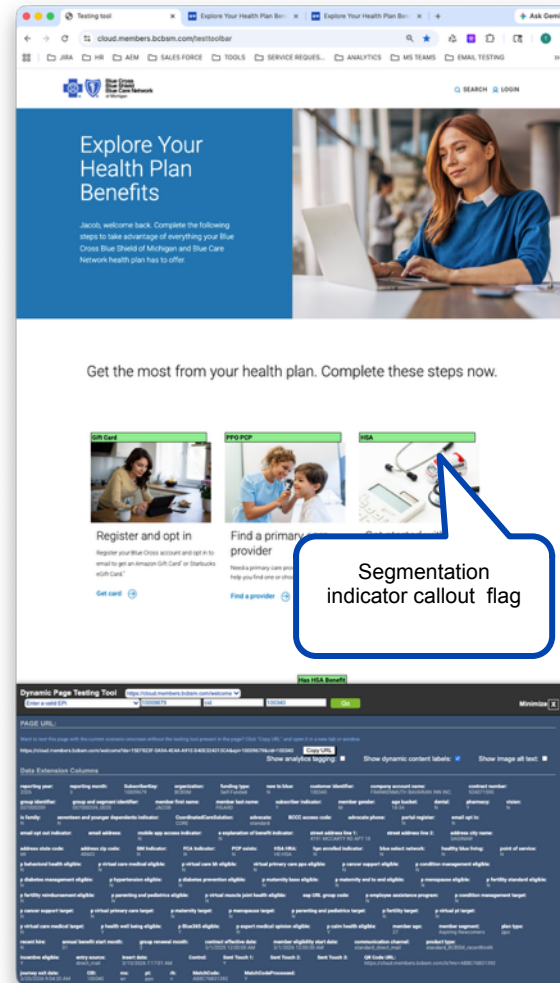
The tool lets testers see exactly which content blocks a member will view on a CloudPages landing page after clicking a campaign-email link.

After configuration, testers choose a page from a dropdown, input Subscriber Keys and any extra link-parameter name/value pairs to mimic email clicks. This enables fast, real-time scenario testing, eliminating the need to send test emails.

When a member is selected, the page displays a live read-out of every field in the associated Data Extension to help validate segmentation logic. It also offers a “view all variations” mode for fast copy proofing.



Testing tool start screen



CloudPage dynamic content scenario Testing Tool

Page testing dashboard

Subscriber
Key /"View
all copy
blocks"
selector

Subscriber
Key entry
field

Aux URL
Parameter
name entry
field

Aux URL
Parameter
value entry
field

Minimize / maximize testing dashboard toggle

Page, SubscriberKey and URL parameter selection

Test link URL and display options

Data Extension field display

Page selector

Click the button to copy a URL for the current scenario to the clipboard, omitting the dashboard. This gives a clean page for testing analytics and screen readers without the testing tool's HTML interfering.

Toggles onscreen display for analytics tracking

Toggles onscreen display for dynamic content labels

Toggles onscreen display for Alt text and Aria labels

CloudPage dynamic content scenario Testing Tool

Page callouts – Dynamic content indicators

The tool shows callouts for member scenarios, indicating which data points triggered the content block to appear based on the applied logic.

Data Extension record for the selected member. Note that the Wellbeing indicator in the record is set to Y for “yes”

Indicators showing which data points made the member eligible to view the copy block

Welcome_DirectMail_Monthly_2026_I

202603 - Monthly Commercial Direct Mail Audience 2026 - DI

Properties Records

SubscriberKey 10009679

Import Export Edit

p_virtual_pt_target	p_virtual_care_medical_target	p_health_well_being_eligible	p_Blue
N	N	Y	Y

Ampscript logic that looks up the status of Well-Being eligibility.

```
124 %%[ Set @PortalRegister = Lookup(@ENAMEVar,'portal_register',@Epi,@subscriberKey) ]%%  
125 %%[ Set @PaperlessE08 = Lookup(@ENAMEVar,'e_explanation_of_benefit_indicator',@Epi,@subscriberKey) ]%%  
126 %%[ Set @Incentive_Eligibility = Lookup(@ENAMEVar,'incentive_eligible',@Epi,@subscriberKey) ]%%  
127 %%[ Set @Spine_And_Joint_Care_Eligible =  
Lookup(@ENAMEVar,'p_virtual_muscle_joint_health_eligible',@Epi,@subscriberKey) ]%%  
128 %%[ Set @Condition_Management_Eligible =  
Lookup(@ENAMEVar,'p_diabetes_management_eligible',@Epi,@subscriberKey) ]%%  
129 %%[ Set @Health_Wellbeing_Eligible = Lookup(@ENAMEVar,'p_health_well_being_eligible',@Epi,@subscriberKey) ]%%  
130 %%[ Set @Fertility_Standard_Eligible = Lookup(@ENAMEVar,'p_fertility_standard_eligible',@Epi,@subscriberKey) ]%%  
1%%
```

Has HSA Benefit

Health savings account

Has Calm Health benefit

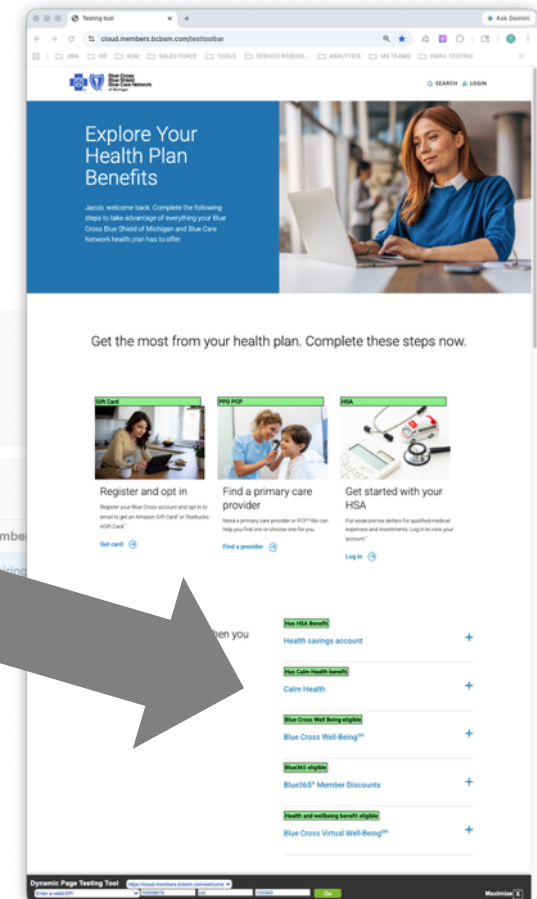
Calm Health

Blue Cross Well Being eligible

Blue Cross Well-BeingSM

Blue365 eligible

Blue365SM Member Discounts

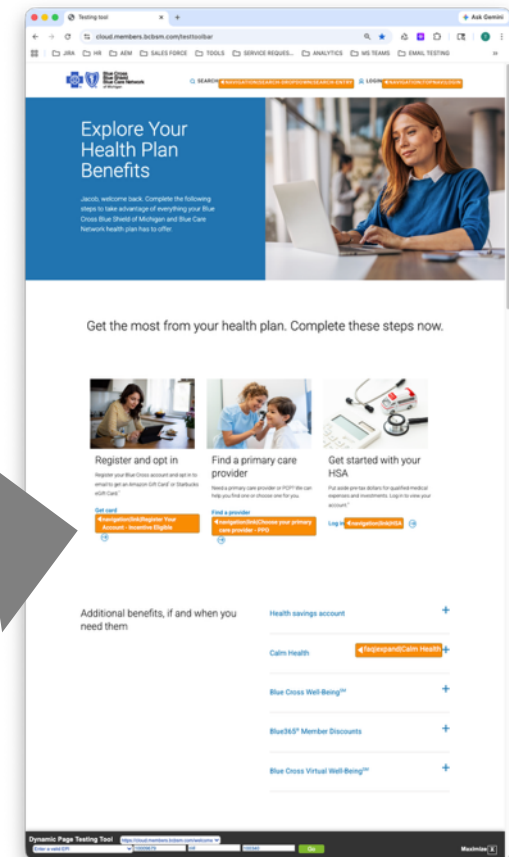
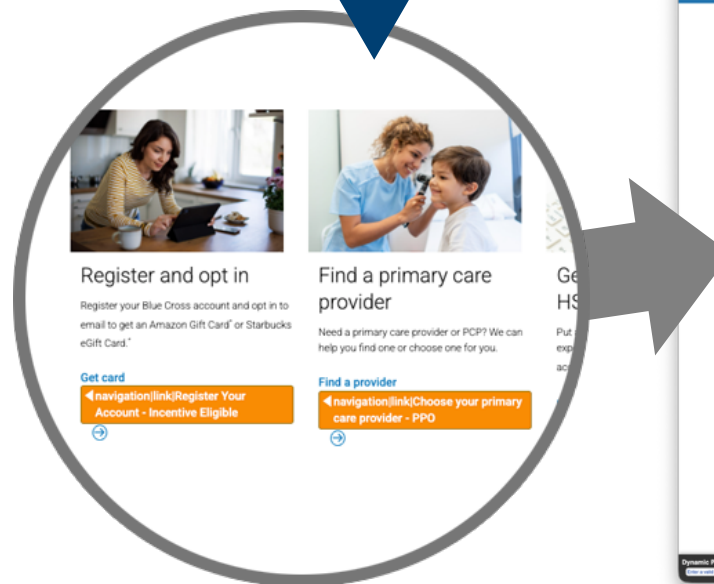


CloudPage dynamic content scenario Testing Tool

Page callouts – Page tracking link indicators

When enabled, the page-tracking link indicator visibly show link tracking code on the page for quick verification before testing clicks or reviewing analytics. This lets analysts confirm codes are correct instantly, saving time on manual clicks and code checks.

Tracking link indicators help to confirm that the correct tracking codes are applied at a glance

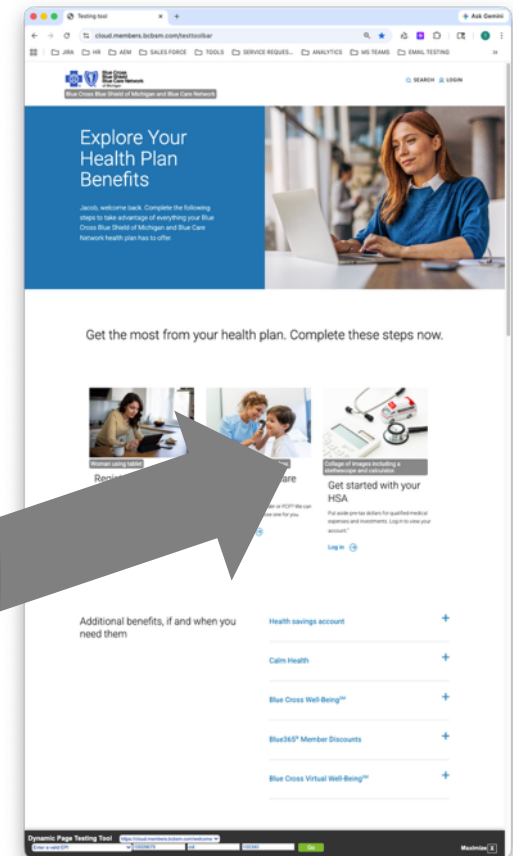
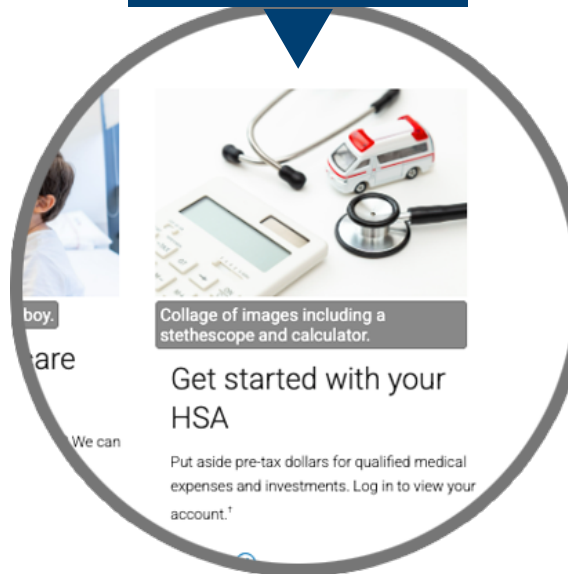


CloudPage dynamic content scenario Testing Tool

Page callouts – Alt text and Aria label indicators

When enabled, the Alt-text and ARIA-label indicators reveal the normally hidden code, allowing you to quickly verify their content before screen-reader or assistive-technology testing and speeding up QA.

Alt tag indicators help to confirm that the correct alt content is defined for images and web links.



Cloning AEM public site template for CloudPages

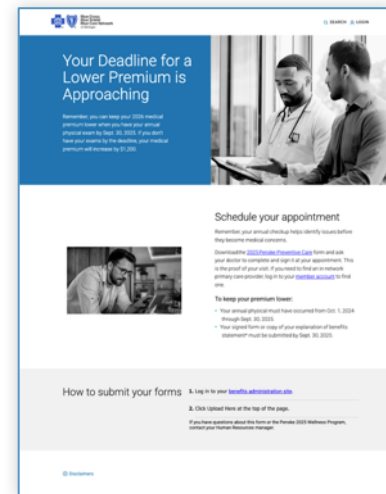
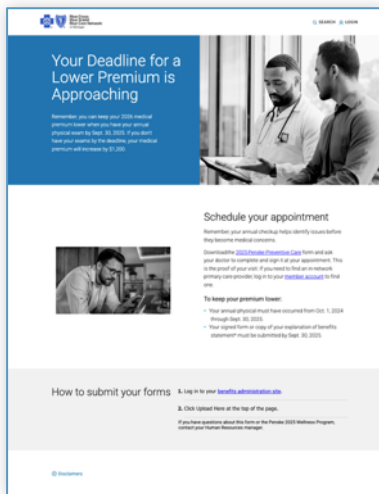
A CloudPages framework that mirrors the BCBSM public site's layout, brand, centralizes assets, and enables drag-and-drop content blocks for fast, consistent landing-page builds.



My Contributions to this project: ✓ Personal initiative | ✓ Architected the framework | ✓ Converted the template | ✓ Coded the framework | ✓ Maintain & improve

Cloning AEM public site template for CloudPages

Cloning the template included reverse engineering and copying the rendered HTML markup code, styling and presentation JavaScript from the AEM BCBSM public site.



Cloning AEM public site template for CloudPages

Brand

BCBSM's brand identity is a key trust factor for members. While email and web use different visual languages, maintaining a consistent look and feel across all digital touch-points reinforces credibility.

The Challenge

CloudPages' out-of-the-box templates are visually and structurally misaligned with the BCBSM public site. Early on our team tried to manually imitate the main site's design on a per-page basis. This approach was unsustainable: every new page was built from scratch, causing ongoing debates between QA, stakeholders, and developers over whether a page "looked right." This slowed production cycles because each page had to be handcrafted from scratch.

Cloning AEM public site template for CloudPages

Solution: A Unified, Reusable Template

I created a single, reusable CloudPages template that mirrors the BCBSM public site's AEM design system.

- **Full-site cloning** – Captured the public site's live HTML, CSS, and JavaScript.
- **Modular outer shell** – Organized shared elements (logo, navigation, footer, scripts) into a clean, reusable framework.
- **Shared code blocks** – Centralized global code so updates automatically apply to every CloudPage using the template.
- **Component library** – Rebuilt the most common AEM components as Content Builder blocks, documented for easy reuse.
- **Drag-and-drop slots** – Defined editable areas that let marketers assemble pages without touching code.

Results

- Delivered three complete versions of the template and component system.
- Landing pages are now fast, consistent, and predictable—built from a single source of truth.
- Content teams reuse established patterns, reducing review cycles and cognitive load.
- Ongoing maintenance is simplified: one update instantly refreshes all dependent pages.

Cloning AEM public site template for CloudPages

Demos

EXAMPLE CLOUDPAGE-BASED LANDING PAGES

INSTRUCTIONS:

- Follow the links below

SAMPLE PAGES

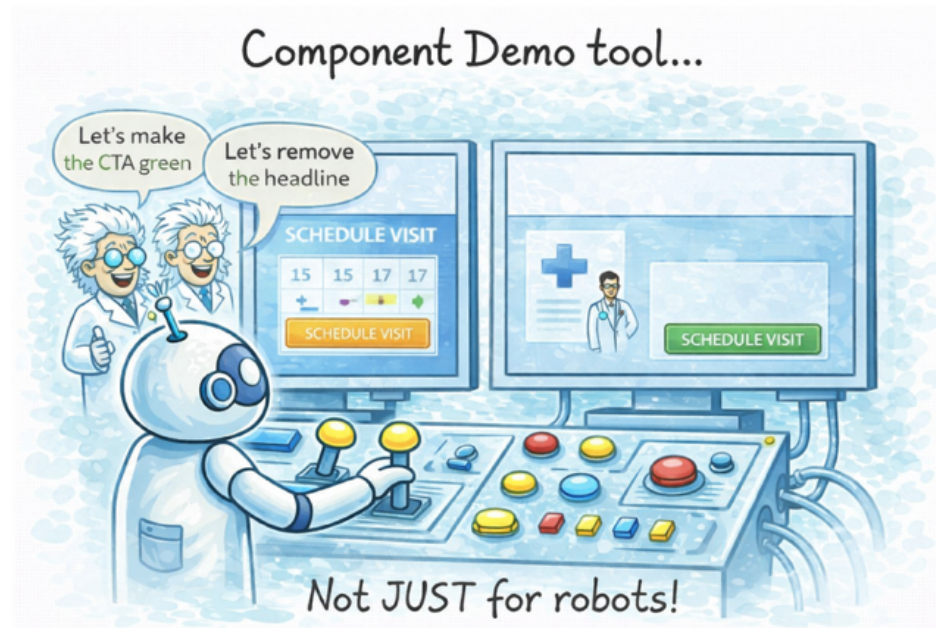
Page: Saving for your Health and Wealth	URL: https://cloud.members.bcbsm.com/cdh-benefits-of-an-hsa
--	---

Page: Coordinated Care Advocate Resource Center	URL: https://cloud.members.bcbsm.com/bcccdigitalhub-advocate
--	---

Page: Special Birthday Message	URL: https://cloud.members.bcbsm.com/birthday
---------------------------------------	---

Interactive CloudPage component demo tool

An interactive CloudPage component showcase that lets UX, UI, and copy teams instantly toggle styles, layouts, and colors in real-time via JavaScript-driven controls.



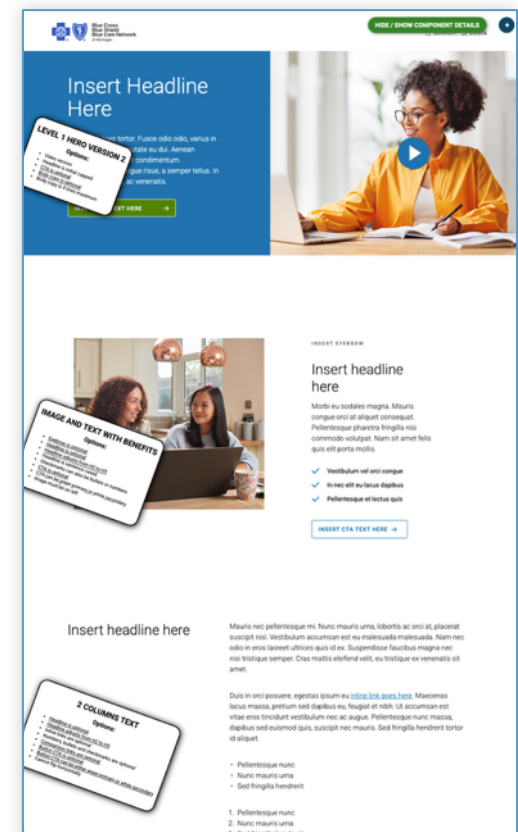
My Contributions to this tool: ✓ Personal initiative | ✓ Architected the tool | ✓ Coded the tool | ✓ Maintain & improve

Interactive CloudPage component demo tool

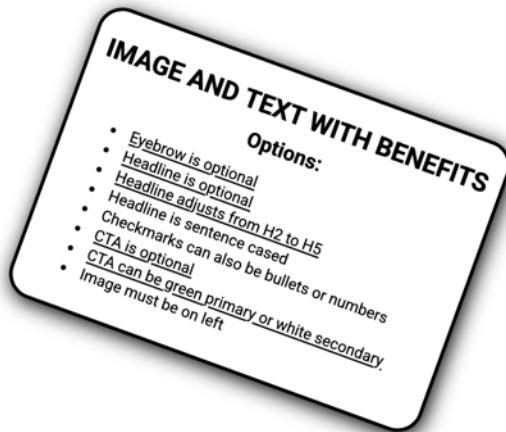
The CloudPage component demonstration tool serves as an interactive visual catalog of page-content components that have been adapted for the CloudPages platform. Designed for UX, UI, and copy writers, as well as project stakeholders, the tool showcases the full range of content formats and design options available for each component, helping teams align on content strategy and visual direction.

Each catalog page lists the available components and equips them with on-screen controls. Users can click these controls to toggle text formatting, adjust content alignment, switch heading hierarchy levels, and experiment with background color variations—all in real time. This immediate preview capability lets users see how different treatments affect the component's appearance without needing to edit code manually.

The interface includes a “hide/show customization controls” feature, allowing users to focus on the component itself or dive into the configuration options as needed. A built-in tooltip provides concise instructions on how to navigate and use the tool effectively. Under the hood, the tool leverages JavaScript and jQuery to apply configuration changes by adding or removing HTML classes and by showing or hiding specific content blocks, ensuring a smooth and responsive experience.



Interactive CloudPage component demo tool



Component option controls.
Click on underlined items to
toggle through available
options

Component
option controls



Toggle to hide /
show component
option controls

Component being
previewed

Interactive CloudPage component demo tool

Demos

VIEW CLOUDPAGE COMPONENT DEMONSTRATION TOOL

INSTRUCTIONS:

- click the demonstration links below
 - Click on component option controls to test options
-

DEMONSTRATION

Page: 1 of 4 **URL:** <https://cloud.members.bcbsm.com/componentgallery-01>

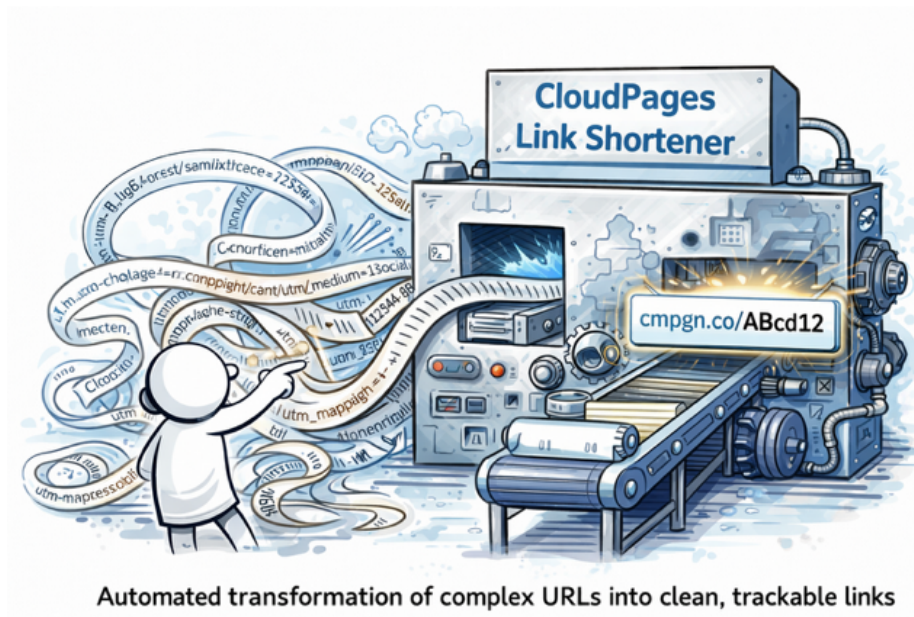
Page: 2 of 4 **URL:** <https://cloud.members.bcbsm.com/componentgallery-02>

Page: 3 of 4 **URL:** <https://cloud.members.bcbsm.com/componentgallery-03>

Page: 4 of 4 **URL:** <https://cloud.members.bcbsm.com/componentgallery-04>

Automated CloudPages Link Shortener

A Bitly-style CloudPages link shortener that auto-generates compact URLs, logs analytics, and redirects members to their personalized, encrypted content.



My Contributions to this tool: ✓ Personal initiative | ✓ Architected the solution | ✓ Coded the solution | ✓ Maintain & improve

Automated CloudPages Link Shortener

The new Salesforce Marketing Cloud URL-encryption creates very long links—often exceeding 600 characters. For the Welcome and Onboarding print journey, our vendor PFL needed QR codes that point to each member's personalized page, but it cannot store URLs of that length.

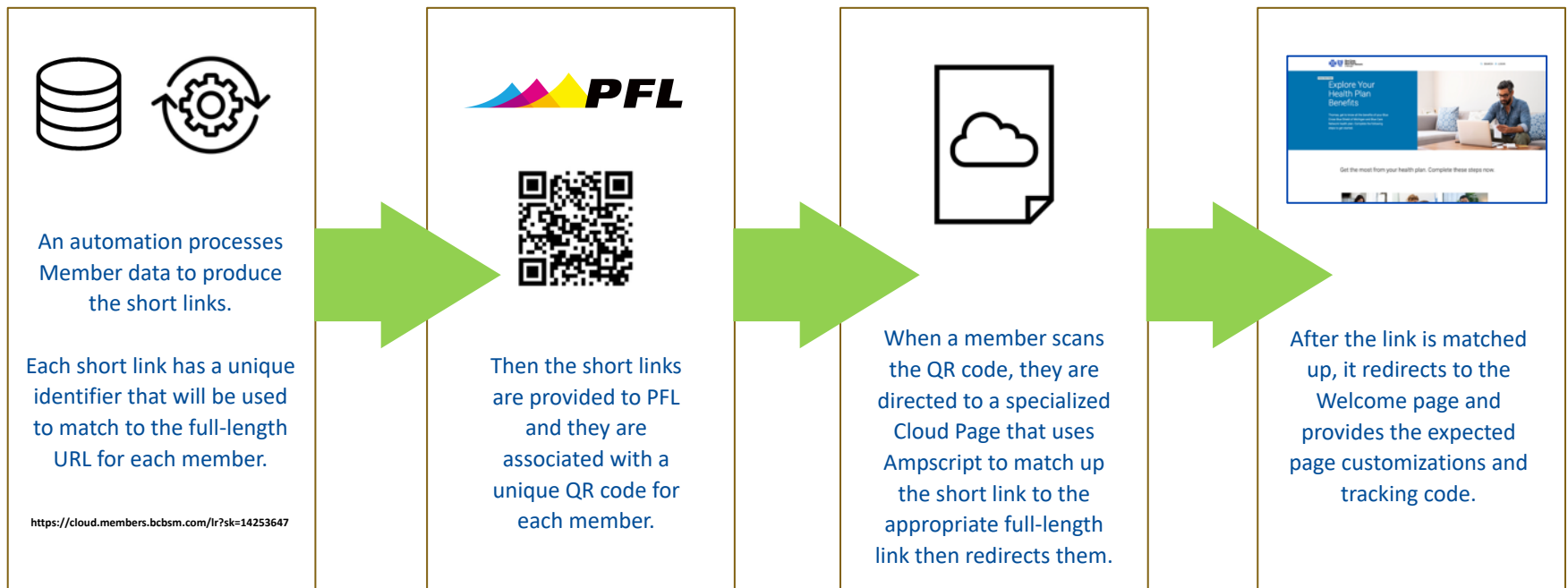
We solved this by building a Bitly-style link shortener. An automation generates a unique short link and match code for every member in the Journey Data Extension. The short link directs to a processing page that logs analytics, appends the required URL parameters, and then redirects the member to the personalized content. Technologies used were SQL, AmpScript, SSJS and Data Extensions

My contributions —

- Researched, prototyped, built, troubleshoot and deployed the entire solution.
- Created SQL script automation to generate unique QR code short URLs and match codes and store them in a Data Extension
- Built short link processor page to identify members by match codes and build links to destination page on the fly for each
- Modified Welcome and Onboarding page to work with the link shortener processor page

Automated CloudPages Link Shortener

Link shortener process



Automated CloudPages Link Shortener

Demos

EXAMPLE CLOUDPAGES LINK SHORTENER

INSTRUCTIONS:

- Follow the short links below
 - Observe that the redirect page is called “ls” and that match code is listed after the “?”
 - Observe that the short links redirect to the Welcome and Onboarding page
 - Observe that UTM parameters have been successfully added to the address bar
-

SAMPLE SHORT LINKS

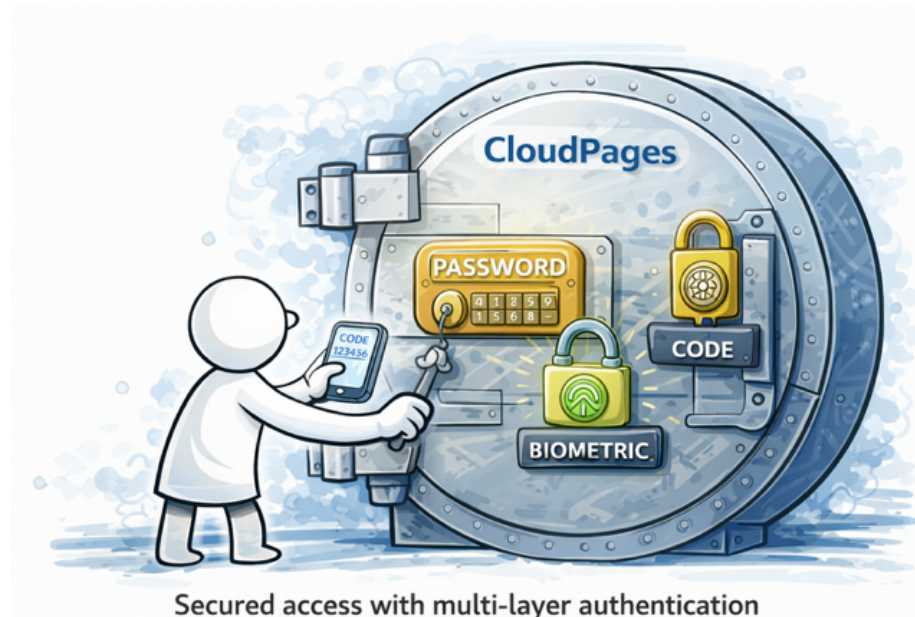
Name: Rocco	Org: BCBSM	Short URL: https://cloud.members.bcbsm.com/ls?mc=880A2C51099A
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Name: Aaron	Org: BCN	Short URL: https://cloud.members.bcbsm.com/ls?mc=1F04E4E6A9A2
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Name: David	Org: BCN	Short URL: https://cloud.members.bcbsm.com/ls?mc=5906DE9F7EDA
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CloudPages Multifactor Authentication with SMS

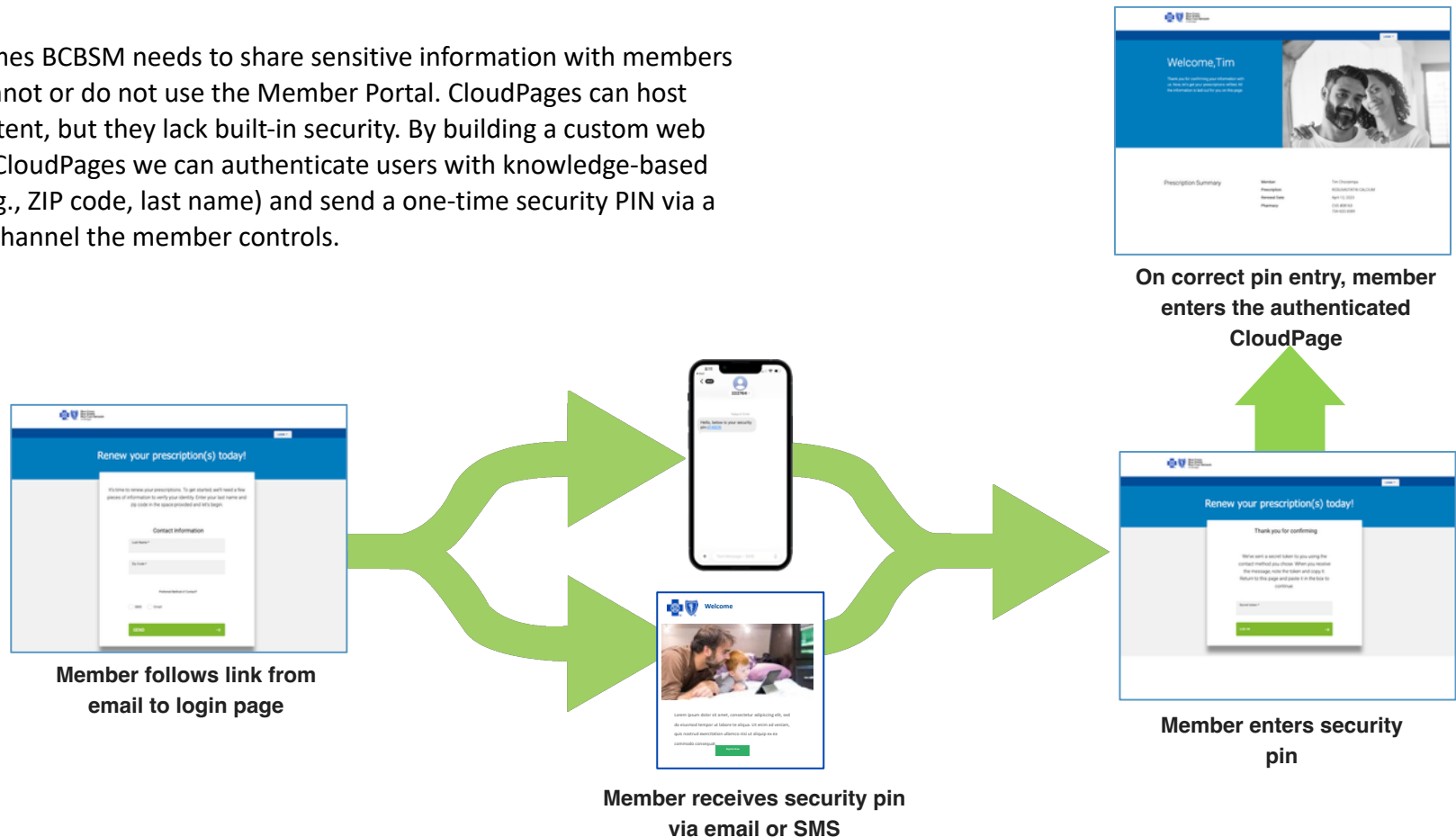
Secure, multifactor-authenticated CloudPages deliver personalized, one-time-PIN protected content to members without portal access.



My Contributions to this project: ✓ Assigned initiative | ✓ Researched the solution | ✓ Adapted the solution | ✓ Coded additional functionality | ✓ Assist & Troubleshoot

CloudPages Multifactor Authentication with SMS

Sometimes BCBSM needs to share sensitive information with members who cannot or do not use the Member Portal. CloudPages can host this content, but they lack built-in security. By building a custom web app on CloudPages we can authenticate users with knowledge-based data (e.g., ZIP code, last name) and send a one-time security PIN via a secure channel the member controls.

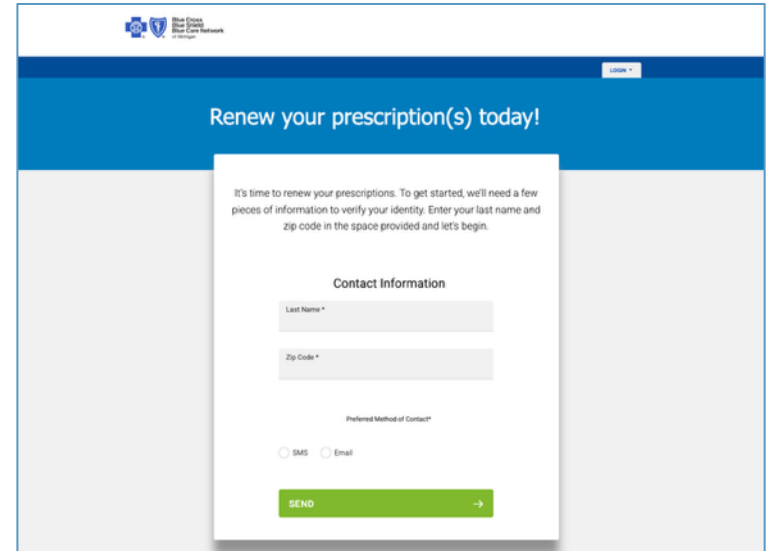


CloudPages Multifactor Authentication with SMS

The solution is an adaptation of an online design pattern that uses Server-Side JavaScript, AMPscript, Data Extensions, and Automated Send email activities and includes many new enhancements.

Use cases

- Initially, to give SHP students living away from home their Contract IDs so they could register for the portal.
- Currently, to alert Medicare members with overdue prescription renewals.



The screenshot shows a web interface for renewing prescriptions. At the top, there is a blue header with the text "Renew your prescription(s) today!". Below this, a white overlay form is displayed. The form contains the following elements:

- A heading: "Contact Information"
- A text input field labeled "Last Name *"
- A text input field labeled "Zip Code *"
- A section titled "Preferred Method of Contact*" with two radio buttons: "SMS" and "Email".
- A green "SEND" button with a right-pointing arrow.

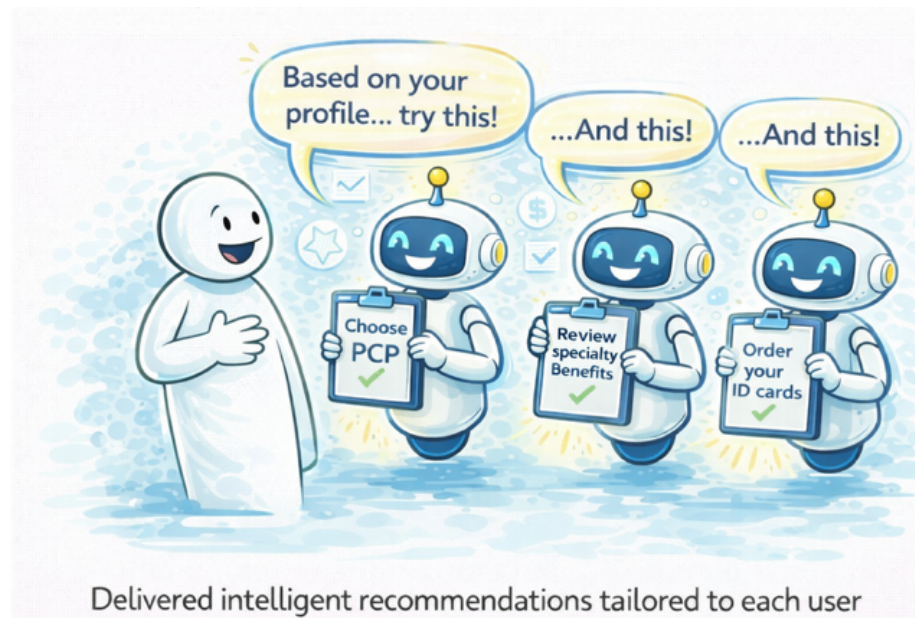
The background of the page is light gray, and the overall design is clean and professional.

My contributions

- Placed the initial code, built Data Extensions, and automated email sends in Marketing Cloud.
- Troubleshoot and adapted the solution for the BCBSM business unit.
- Re-engineered the flow to encrypt URL parameters between login, routing, and content pages.
- Added lock-out functionality for repeated failed login attempts.
- Updated Salesforce email links to use encrypted URLs.
- Implemented SMS delivery of security PINs via the Marketing Cloud Text Message API.

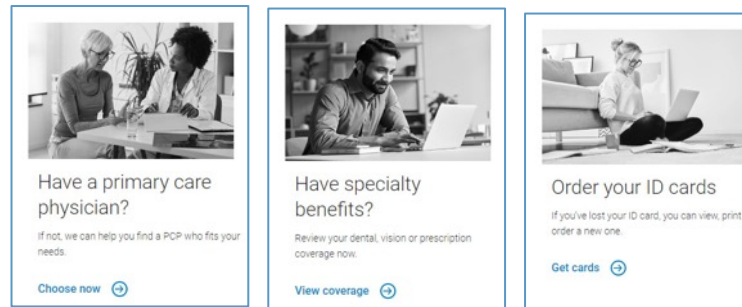
Data Driven “Next Best Action” CTAs

Real-time “Next Best Action” engine that instantly surfaces each member’s top three personalized, priority-ranked CTAs—or fallback defaults—using AmpScript-driven logic.



My Contributions to this solution: ✓ Assigned initiative | ✓ Architected the solution | ✓ Coded the solution | ✓ Assist & Troubleshoot

Data Driven “Next Best Action” CTAs



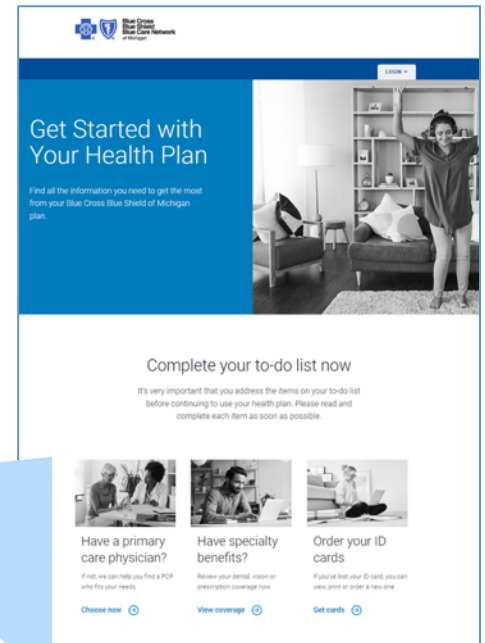
The “Next Best Action” CTA engine dynamically selects the most relevant calls-to-action for each member using AmpScript. It reads the member’s record from a data-extension, checks which of the top three business-goal tasks have already been completed, and then ranks the remaining tasks according to a numerical hierarchy supplied by strategists.

The three highest-ranked, unfinished actions are displayed as personalized CTAs in descending order of importance. If a member has completed all goal-related tasks, the engine falls back to three generic default CTAs that apply to every visitor.

This approach keeps the page always actionable while aligning the user experience with business priorities. The real-time logic runs on page load, ensuring members see the most valuable next steps instantly.

Data Driven “Next Best Action” CTAs

The Welcome and Onboarding page uses logic that shows Call-to-Actions (CTAs) for the member’s top three goals or behaviors, based on the data we have about them. If the member has already completed those data-driven items, the page falls back to default CTAs that apply to all members.



The CTAs for the three most highly prioritized goals not achieved by the member will be displayed

Dynamic Video Gallery with Timed Content Release

Date-driven CloudPage video gallery that automatically surfaces an additional new video every week to support a weekly email series, eliminating manual copy edits.

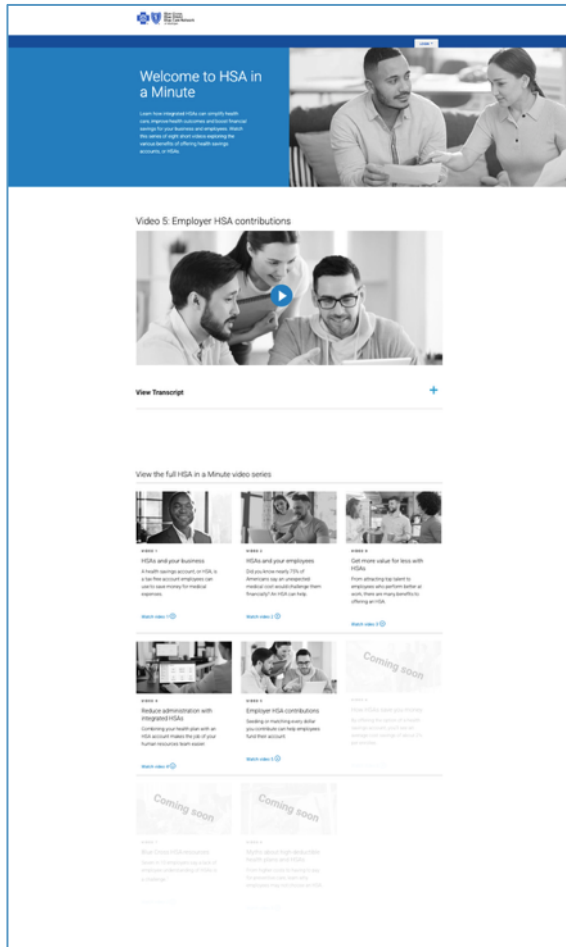
I checked back...



...and another one unlocked

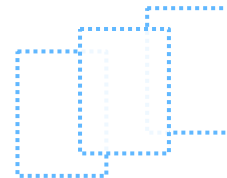
My Contributions to this tool: ✓ Solution is personal initiative | ✓ Architected the solution | ✓ Coded the solution | ✓ Assist & Troubleshoot

Dynamic Video Gallery with Timed Content Release



What it is: Dynamic video gallery that surfaces content based on campaign schedules or seasonal relevance.

Impact: Keeps content timely and relevant, driving higher member engagement without manual updates.



Dynamic Video Gallery with Timed Content Release

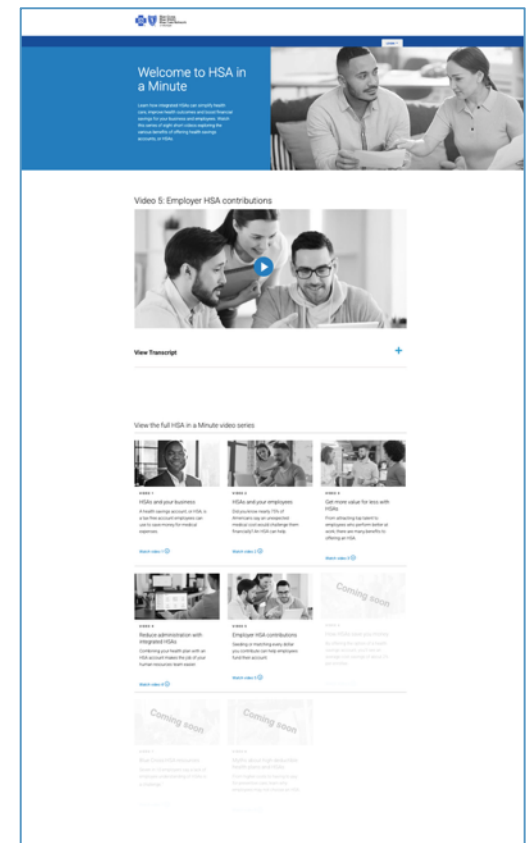
Date-Based Video Gallery – “HSA In a Minute” Series

The eight-week email campaign required a new video to appear on a CloudPage each week. Manually editing the page for each release would have meant eight separate edits, QA cycles, and tight coordination with the email send schedule—introducing risk and consuming significant time.

I built a single CloudPage that uses AMPscript to gate video content by date. An AMPscript variable stores the initial release date, and each video block is assigned a relative offset (e.g., +0 days, +7 days, +14 days). During QA the variable is shifted forward to verify that the offsets display the correct video, allowing the entire page to be tested once before launch. The social-media team kept the videos private on the streaming service until the scheduled release, and the AMPscript automatically surfaced the appropriate video each week without further code changes.

Key outcomes

- Automated weekly video rollout, eliminating manual edits and reducing operational risk.
- Streamlined QA by testing all content in a single pass using date offsets.



Dynamic Video Gallery with Timed Content Release

Demos

VIEW DATE-BASED VIDEO GALLERY (SIMULATING WEEKS)

INSTRUCTIONS:

- click the demonstration links below
 - Observe that each week the newest video is highlighted
 - Observe that the gallery of displays more videos as time goes on
 - Note that “testweek” in the address bar counts how many weeks since the first week and not week number
-

DEMONSTRATION

Week 1	Link: Simulated week 1	Week 5	Link: Simulated week 5
Week 2	Link: Simulated week 2	Week 6	Link: Simulated week 6
Week 3	Link: Simulated week 3	Week 7	Link: Simulated week 7
Week 4	Link: Simulated week 4	Week 8	Link: Simulated week 8