



# Delivering performance, scalability, and affordability to support rapid expansion

**2.24X**

increased throughput

**73%**

decrease in average response times

**62%**

reduction in average build times

**>1100**

Popmenu hosted restaurant sites

**20-25%**

reduction in Heroku hosting costs with shared node rendering

**43%**

sustained improvement in Google Lighthouse performance scores

## Popmenu Case Study

### Innovating at speed

"ShakaCode far exceeded our expectations. Not only did they bring industry-leading technology - React on Rails PRO - to give us the performance and savings we needed, they also gave us the partner we were looking for. ShakaCode has provided the skills, experience, and professionalism we can depend upon as we grow our working relationship."

**Justis Blasco**, Co-founder and VP of Technology, Popmenu



## POPMENU

Founded in 2016 and now supporting thousands of restaurant locations, Popmenu is a startup SaaS platform for restaurateurs. Popmenu's technology supercharges online restaurant menus, providing a dynamic consumer experience that puts photos, reviews, ratings, and social validation directly on the restaurant's website and under their control

## HIGHLIGHTS

### CHALLENGES

- Improve the user experience for finding restaurant information, browsing restaurant menus, and rating dishes
- Reduce Heroku infrastructure hosting costs with each Rails server requiring a lot of memory for rendering
- Improve developer workflow and reduce build and test times to accelerate deployment

### SOLUTION

- **Technology:** React front-end, Ruby on Rails backend, React on Rails PRO for Server-Side Rendering, Code Splitting, and memory and CPU optimization, Cypress on Rails for testing, and CircleCI for CI/CD
- **Team:** ShakaCode developers, including Justin Gordon, the creator of React on Rails.

### RESULTS

- 73% decrease in average response time with 2.2x increased throughput
- 43% sustained Google Lighthouse performance score while scaling to over 1100 sites and adding new features
- 62% reduction in average build times
- 20-25% reduction in Heroku hosting costs

## CHALLENGE

### Enhancing the dining experience and increasing engagement

"When our sales team first started promoting Popmenu hosting for restaurant websites, they were occasionally asked about performance," states Justis Blasco, Co-Founder and VP of Technology at Popmenu. "At the time we were mainly focused on cranking out new features to deliver Popmenu's vision, and our performance - at least according to Google Lighthouse and PageSpeed tests - was only average, so we tried to avoid the topic. We don't have to do that anymore. Our sites are now feature-rich as well as fast and responsive - thanks to React on Rails PRO and ShakaCode."

Founded in 2016 to help restaurateurs bring the experience that users crave to their own site rather than relying on third-parties, Popmenu transforms the dining experience into one that's easy, interactive, and fun. Adding Popmenu to their website provides restaurants with interactive real-time menu management, eliminating archaic, PDF-based menus that are often out-of-date, difficult to view on mobile phones, and contribute to poor SEO rankings. Restaurants can use Popmenu to host photos, ratings, and reviews on their own site rather than relying on third-party sites to control the narrative. In addition, Popmenu's automated email and social post capabilities can be used to increase customer engagement.

"How people discover their next dining experience is dominated by third-party platforms like Yelp, TripAdvisor, and Open Table," says Brendan Sweeney, Co-founder and CEO at Popmenu. "Restaurants feel a lack of control over how they present their business to potential guests. With Popmenu, we've built a platform that allows restaurants to take control of the entire experience - with real-time menu updates, direct feedback on menu items, and automated marketing to increase customer engagement."

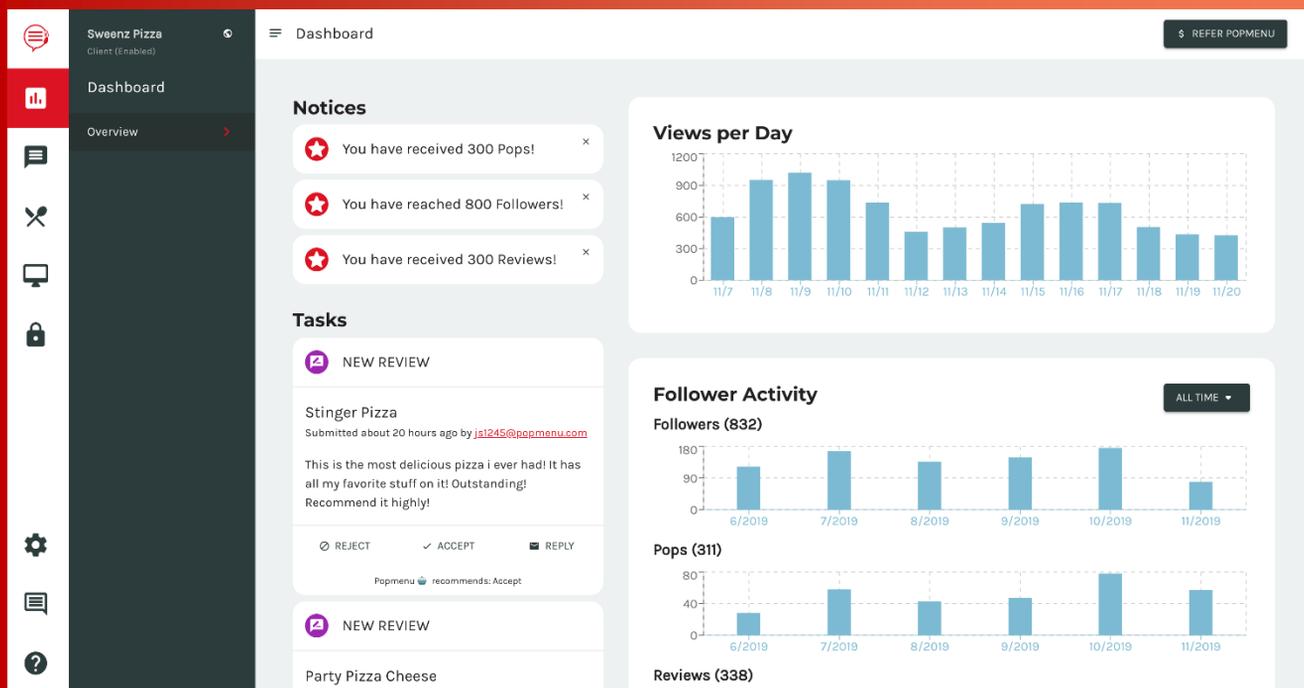
But there was a challenge.

### Performance constrained by rapid growth

"We were growing so fast that our infrastructure wasn't keeping up," explains Justis. "At the time, Popmenu could either be embedded into an existing website or fully hosted on our servers. We initially onboarded our first clients in 2017 and, by the end of the year, had about 100 using Popmenu as their web host. However, since then, we've onboarded and launched over 1,000 restaurants nationwide, with the majority of them choosing us to build and host their website for them."

With most clients asking Popmenu to host their website, Popmenu's infrastructure performance began to degrade while their Heroku - a fully-managed, container-based cloud Platform as a Service - expenses were increasing as they cloned their apps to meet demand.

"We needed to address the problem before it began to impact our existing clients," continues Justis. "We had some ideas on how we could improve performance and cut costs. However, as an extremely lean team, we simply didn't have enough manpower in-house to research and implement them. We needed to find a partner who could help us."



Popmenu's dashboard

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**Brendan Sweeney** - CEO and Co-founder, Popmenu

## PROCESS

### Finding a long term, value-add partner

"We'd already transitioned from only using Ruby on Rails," explains Justis, "to using a mix of React and Rails, with a React frontend supported by a Rails GraphQL API. We had also been using ShakaCode's [react\\_on\\_rails](#) gem to help transition our codebase and implement server-side rendering (SSR). However, as traffic and bundle sizes increased, we were running into performance issues."

Justis began exploring options to address Popmenu's performance challenges. These included implementing react-loadable to reduce the size of their Rails bundles, offloading SSR to a separate server to reduce page load times and Heroku costs, and caching prerendered HTML for anonymous users to accelerate rendering. Now he needed to find someone who could validate his ideas and help implement them.

"At the same time," highlights Justis, "I didn't just want someone who would get the job done and walk away. Since we're expanding so fast, I wanted a partner who could help me make technical decisions, suggest best practices, and be available to assist over the long-term as we faced new challenges. I also wanted someone who would share new tools and standards for development and testing to help us improve our development workflow and the team's overall efficiency."

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**Justis Blasco** - Co-founder and VP of Technology, Popmenu

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### React on Rails PRO from the creators of React on Rails

"When I started looking for solutions to my performance problems," says Justis, "I came across React on Rails PRO. According to the documentation, it addressed all of my challenges within a single package. If it really did what it's creators claimed, it would save me a massive amount of time and effort."

A proprietary extension of React on Rails, React on Rails PRO reduces server response times by up to 90%. Incorporating code-splitting, cached server rendering, fragment caching, standalone Node JS server rendering, rolling restart of Node workers, improved Node tooling, and a host of other features, React on Rails PRO optimizes performance and saves on infrastructure costs.

"I reached out to Justin Gordon, the CEO and Founder of ShakaCode and creator of React on Rails and React on Rails PRO," states Justis. "After a quick conversation and based on the performance improvements seen by other clients, we decided that ShakaCode was the right partner for Popmenu. We were confident that they could provide real value over the long term. We haven't been disappointed."

## PROJECT

### Realizing everything that was promised

"Justin and his team were easy to work with," says Justis. "They quickly adjusted to our way of doing things, while at the same time bringing insights as to how we could do things better. They provided a lead developer who was with us throughout the project, only bringing in other resources to address specific issues when needed. That streamlined communication and made projects very easy to manage."

ShakaCode's React on Rails PRO technology, agile project approach, and competitive pricing with transparent billing gave Justis confidence that he'd made the right choice.

"Partnering with ShakaCode was definitely the right decision," expands Justis. "They weren't there just to get the job done. I wanted someone who would quickly become part of the in-house team, share their knowledge, and help us improve our capabilities. That's exactly how it worked out. ShakaCode was professional, easy-going, and flexible irrespective of whether it was implementing React on Rails PRO, tuning the SSR, or getting fragment caching to work. I set the goals in two-week increments, and they just got the job done. We didn't really have any hard deadlines, but things progressed quickly."

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**Justis Blasco** - Co-founder and VP of Technology, Popmenu

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### Expertise and experience to ensure results

"The lead engineer that ShakaCode provided has been great work with," states Justis. "He was fast, thorough, and produced high-quality work. The entire ShakaCode team brought out-of-the-box thinking that alleviated our concerns, addressed our requirements, and helped us to implement solutions that worked within our operational constraints."

"One thing I really appreciated," adds Justis, "is the fact that they didn't just look at things from a technical perspective. They took the time to get to know our business and understand the impact of what we were doing from our clients' perspective. When I produced a list of projects based on technical issues I wanted to address, ShakaCode transformed it into a list of business goals underpinned by technical solutions. That helped us to stay focused on addressing the business goals and not just implementing the technology."

The result?

## RESULTS

### A scalable, high-performance platform built for growth

For Justis and the Popmenu team, the project couldn't have gone better.

### Increased throughput with "amazing" performance improvement of 73%

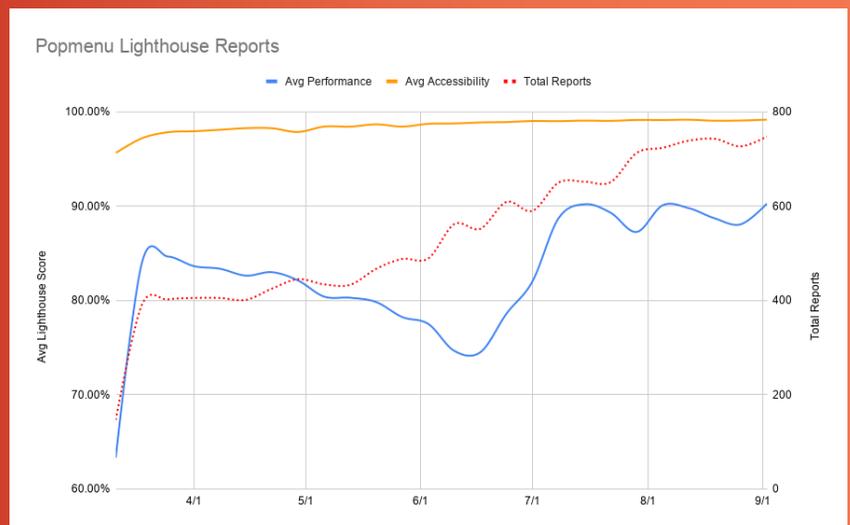
"The initial performance improvements far exceeded our expectations," says Justis. "The average page response time for Popmenu users has been reduced by over 73%."

But that's not all.

"What makes it all the more impressive," continues Justis, "is that during the period where we've reduced response times by almost 75%, we've also increased throughput by 124%. So we're handling 2.24x the number of requests while maintaining much faster response times than previously. That's amazing!"



Google Lighthouse reports for Popmenu.com



## One of Google Lighthouse's "top 5% of top-performing web pages"

"Initially our Lighthouse performance scores were hovering at 60 to 70," states Justis. "They weren't bad, but they weren't great either. Google rates 45 to 74 as average. We didn't want to be merely average."

After implementing React on Rails PRO with code splitting and multiple layers of caching - along with optimized bundle sizes and lazy-loading - Justis was ready to pop open the champagne.

"The average Google Lighthouse performance score across our network of sites is now well over 90," says Justis. "That's an increase of 43%! Google states that 'a score above 90 represents the top 5 percent of top-performing pages.' And, thanks to ShakaCode, these performance improvements were realized without cutting any corners. We've been able to sustain that performance despite continuously adding new features and improving the look and feel of all of our client sites at the same time."

## Reduced build times and costs

"On top of the performance improvements that we were looking for," states Justis, "one of our other priorities was to reduce our Heroku costs per client. ShakaCode implemented React on Rails PRO which enabled us to separate the Rails servers from the Node rendering servers, reducing the amount of memory and CPU we needed to meet the demands of our clients. As a result, we've been able to save 20-25% in our Heroku hosting costs - savings that practically paid for the consulting work ShakaCode provided."

"ShakaCode also helped us to incorporate development best practices and new tools into our workflow," adds Justis. "As a result, we migrated from Heroku CI to CircleCI. It's reduced our average build time from 35 minutes to just 13 minutes - a 62% reduction. At the same time, we've increased confidence in our deployments with the implementation of CypressOnRails for end-to-end testing."

What does Justis think about the experience working with ShakaCode?

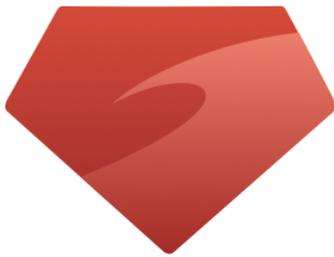
Justis sums everything up: "When I first reached out to them, I already had high expectations. Now that the performance phase of the project is complete, I have to say that ShakaCode far exceeded those expectations. Not only did they bring industry-leading technology - React on Rails PRO - to give us the performance and savings we needed, they also gave us the partner we were looking for. ShakaCode has provided skills, experience, and professionalism we can depend upon as we grow our working relationship."

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Would you like to accelerate  
performance and reduce hosting  
costs for your app?



**ShakaCode**  
**makes it happen!**

Email us at [contact@shakacode.com](mailto:contact@shakacode.com)  
for a free consultation.