

# ThoughtWorks®



## E4 site wins a Bafta

Channel 4 ( [www.channel4.com](http://www.channel4.com) ) is one of the UK's leading broadcast channels, and its youth-oriented E4 service, watched by over 7m 16-34s every month, is one of the strongest brands among this audience group. Always looking ahead, in mid-2007 executives decided to create a website – not just a website, but a web community – to engage and excite their broadcast audience. Creating an interactive medium fed into broader business objectives of building loyalty and delivering new paths for revenue growth.



E4 had already tested their concept using experiments with social networking sites. A MySpace area for the show “Skins” had proved extremely popular, and executives saw they could provide unique and relevant content to their audience - episode trailers, programme contests and more - without competing with video streaming sites such as YouTube or social areas such as facebook. And they could create new revenue streams in the process.

### Green light – but tall hurdles ahead

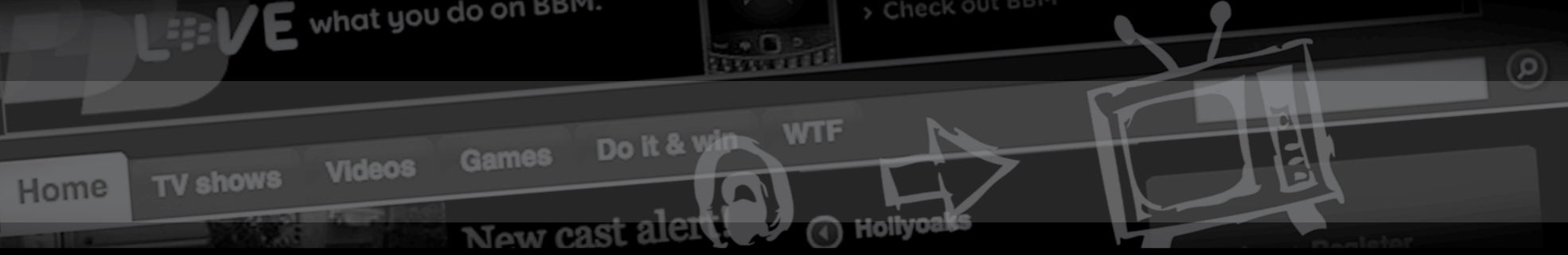
Channel 4 gave the project a green light but with strict directives to ensure financial success. The project had to achieve an aggressive timetable to support the new season marketing launch of one of E4's most popular programmes – which meant the site would have to be online in just six months. The short launch timeframe was also driven by the tight payback period for the project – the site had to recover its costs within a year of launch - by the end of 2008. The project faced technical as well as financial and timing hurdles. Storage and server capacity was limited and would be shared with other Channel 4 sites. And yet, as a community interaction site, performance had to be responsive and scalable. Success depended on it being easy and fun for users - lots of users. Performance and scalability were great concerns. And the site needed complex integration with ten different external system interfaces as well, most notably the content management system.

### Highlights

- ThoughtWorks' approach helped Channel 4 meet the launch target, driven by an upcoming marketing drive for the new season of a popular series
- The Use of RESTful development principles enabled the whole site to be remarkably lightweight and low cost
- Innovative integration with the content management system (CMS) allows easy dynamic page-building by editors
- Content for individual TV programmes is updated on-the-fly, meeting user expectations for a fully integrated experience between TV and Web
- The microsite made for 'Dead Set' won a Bafta for Interactive Creative Contribution, made possible by ThoughtWorks' back end

### Technology

The site was built on RESTful architecture using JAVA and Open Source libraries. PicoContainer (dependency injection), String Templates (forcing best coding practice by disallowing logic in views), Hibernate (data management) as well as the Agile tools Cruise (for continuous integration), and Mingle (story management) were all used



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### Help wanted – only the best need apply

With a stringent schedule and budget as well as the technical hurdles, an experienced development partner was essential. E4 knew that the decision was as important to overall success as the website conception itself.

### Fast launch – focused effort

ThoughtWorks headed a combined project team that included third party experts on site design, and collaborated closely with E4 every step of the way. The E4 team was overflowing with ideas and enthusiasm for what they wanted to achieve during the kick-off. ThoughtWorks' streamlined inception process helped them focus on exactly what was required for the initial release which would deliver value to the site's prospective users and the business. After Inception, the team, up to 40 people strong, used Open Source libraries to supplement the custom parts of the Java build, keeping within budget while maximizing available features. Technical experts implemented what is called a RESTful architecture. This leveraged the massive investment in the public internet infrastructure, relying on the Internet Cache Protocol to enable load handling with minimal hardware.

### Innovating – by necessity and for fun

Innovative means of addressing the technical challenges turned out to provide side benefits. For example, integration with the content management system was handled by creating a Query Module, a kind of URL domain specific language, which allows editors to build pages by simply specifying URLs including the required page elements. This makes for a site that can flex around the needs of the editors and the individual programmes from minute to minute. It was imperative that the site be ultimately up-to-date as it is so closely connected with



regular TV shows and the user expectation is for an integrated experience between TV and web. In answer to this the specific page is created on the fly - meaning it is always up-to-date. Many different views can be created of the same content, without increasing storage.

Channel 4 were also quick to invest in innovative ways to use the new site infrastructure to integrate the on and offline experience, making headlines along the way. The microsite for E4.com /deadset had a hugely effective viral campaign and won a BAFTA for Interactive Creative Contribution in 2009, which "wouldn't have been possible without the framework ThoughtWorks created." Paul Edwards, Programme Manager, E4.

“The relationships we have built, the communications and processes established, the transition from the London team and ramp up of the Pune team and, in particular, the productivity and quality of the deliverables have all exceeded my expectations.”

James Tatam - E4.com business manager

### Hack-tested to the limit

Technical brilliance would have been moot if the site were to end up in the headlines for the wrong reason - hackers. With security more and more at issue, Channel 4 commissioned a third party specialist to test the new site. He was challenged by Channel 4's in-house expert to break the site, but was unsuccessful.

### Live – on time, on budget

The site went live on schedule, at the end of 2007, instantly becoming a community space for E4 programme fans. In addition to unique E4 content, the site enables user-generated content, commenting and voting – focusing on users who want to participate in the site rather than just consume it. This approach draws the passive visitor into active community involvement, and so regular visits. Automated moderation processes make it all manageable for the client.

The decision to use a RESTful architecture allows the whole site to be backed by just 4 servers, and those are shared with other Channel 4 sites. It handles 1000 read requests per second, as well as 60-70 write requests per second.

“We needed a partner who could demonstrate proven credentials in this particular type of project, provide a robust development team and had the ability to innovate and be creative around the challenges – we felt that ThoughtWorks met all of these requirements.”

James Tatam - E4.com business manager

“Despite the reward of a slap-up meal at Mrs. Miggins' pie shop if he broke it, it could not be done.”

Martyn Lewis Channel 4 IT security and disaster recovery

### Success breeds success – from across the globe

Following the E4 site release at the end of 2007, the Channel 4 team decided to take advantage of ThoughtWorks' Offshore Agile development team in Pune, India for continued site improvements. The transition was managed by Technical Leads from the UK taking a 'seeding' visit: they spent several weeks working together with the Pune team and Channel 4 on requirements, to ensure that all parties fully understood the architecture and domain. Day-to-day contact is managed through daily conference call stand ups, videoconference, webex and skype. The delivery team, although physically split between ThoughtWorks in Pune and Channel 4 in London, can keep collaborating and delivering high value functionality to the business. They have already released updates such as advertising innovations and games since the main site went live.



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## Australia

Sydney

t: +61 2 9224 1700

email: [info-au@thoughtworks.com](mailto:info-au@thoughtworks.com)

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## Brazil

Porto Alegre

t: +55 51 34 337607

email: [poaoffice@thoughtworks.com](mailto:poaoffice@thoughtworks.com)

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## Canada

Calgary

t: +1 403 263 3287

email: [info-ca@thoughtworks.com](mailto:info-ca@thoughtworks.com)

---

## China

Beijing

t: +86 10 6407 6695

email: [info-cn@thoughtworks.com](mailto:info-cn@thoughtworks.com)

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## India

Bangalore

t: +91 80 2508 9572

email: [info-in@thoughtworks.com](mailto:info-in@thoughtworks.com)

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## UK

London

t: +44 20 7497 4500

email: [info-uk@thoughtworks.com](mailto:info-uk@thoughtworks.com)

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## US

Chicago

t: +1 312 373 1000

email: [info-us@thoughtworks.com](mailto:info-us@thoughtworks.com)

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