

# Jo Carter (she/they)

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Talented and experienced technical leader, manager, mentor and coach; with a passion for diversity, inclusion, accessibility and enabling others. Looking for a balance between management, technical architecture and leadership, and hands-on coding. My goal is to help drive a positive change in those around me; through coaching, technology and awareness. A literal-minded individual who thrives with clarity of communication, and in an open and inclusive workplace culture.

## KEY SKILLS

- Product-minded team leader and engineer (accessibility, domain-driven design and test-driven development, contributing back to open source projects, as well as hands on coding)
- Managing, coaching, mentoring; leading and developing teams of engineers, with a special interest in neurodivergent individuals
- Writing technical documentation, identifying security risks, considerations and edge cases, user interface and experience design
- Specialisation in code gardening (refactoring, pruning, maintenance, documentation, automation, data cleaning)
- Delivery assurance (code quality, automated testing, quality assurance, edge cases, aesthetics, follow through, oversight over the entire project process)
- Building diverse and inclusive teams; with a focus on neurodiversity and accessibility, shaping company culture and having a positive impact on peoples' lives

## TECHNOLOGIES AND PLATFORMS

- PHP (Laravel with Nova, Symfony), ORMs (Doctrine, Eloquent, Propel) and event-based architecture
  - Javascript (Node.js, Typescript, React.js (React-Three/Fiber, DREI and UIKit), Next.js, Vue (Composition API)
  - Augmented, Mixed and Virtual Reality (AR/ XR/ VR) – Three.js, Shaders (GLSL), GLB/GLTF/USDZ, Model Viewer, WebAR, WebXR
  - Databases, analytics and data engineering (Snowplow, dbt Cloud, Postgres, SQL, GraphQL)
  - Automated testing – Unit/ integration tests (PHPUnit, Cypress, Mocha, etc); Static code analytics (ESLint, PHPStan, etc)
  - Devops/ Infrastructure (AWS, GCP, Terraform, Ansible, Kubernetes, Docker, Nginx, Jenkins)
  - Mobile app and game development (ReactNative, RenJS, Unity\*, Apple AppStore and GooglePlay)
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## EXPERIENCE

### Freelance Three.js Developer, Make Associates (Jul 2025 – Present)

Worked on a custom webXR-based 3D VR training experience (for use on the Quest headset and mobile VR) using Typescript, React.js, Three.js, React-Three/Fiber and Next.js. Custom UI, fonts and animation using Three.js, React-Three/UIKit and DREI. Dynamic content integrated via Strapi CMS and GraphQL.

Technologies: VR, XR, 3D, Three.js, React-Three/Fiber, React, TypeScript, Next.js, Vercel, Strapi CMS, Github, jit.io

### Freelance Full Stack Developer, Alex Howard Group (July – September 2024, December 2024 – January 2025)

I was brought in to Investigate and fix issues with Cloudflare; and to fix and improve the Order system on the Conscious Life website to avoid missing data (using callbacks and asynchronous event-based queues); and I also performed various code gardening tasks including fixing Dusk test suites. I thoroughly documented these investigations and existing functionality in order to see where improvements could be made. I then turned the documentation into multiple testing suites to ensure that the functionality matched the business needs (and changes could be made with confidence). I was brought back in December to do some paternity cover; where I fixed and completed the in-progress upsell functionality, along with providing technical support.

Technologies: Cloudflare, GCP, Laravel Forge, Laravel with Statamic CMS integrated with Keap/ Infusionsoft and Zendesk, Vite, Tailwind, PHPUnit, Dusk, Github actions.

### Head of Engineering, PRELOADED (April 2023 – May 2024) (Redundancy)

PRELOADED's core values are we play with purpose, we are curious, we are greater than the sum of our parts, we prioritise a work/life balance and we believe in accountability and trust. I believe that during my tenure at PRELOADED I have embodied those values, and made a difference to both the Engineering team, and the wider team as a whole. I am also an advocate for diversity and inclusion.

As Head of Engineering I am responsible for ensuring that the Engineering team is set up for success – through leading, nurturing and developing the individuals in the team, and ensuring the right level of studio-wide Engineering Governance and processes are in place to successfully deliver a broad range of projects. I am incredibly proud and passionate about bringing Technical Excellence to everything I do – across projects, processes and pitches.

From a team leadership perspective, I make sure that the Engineering team are supported, and have a voice. They know that I have their backs and this makes them feel empowered. My management philosophy is one of trust, empathy and clear

communication, along with a healthy dose of radical candour. I encourage autonomy, whilst also providing structure and support where needed; tailored to each individual's needs.

I have been responsible for overseeing the successful deployment of several projects during my tenure, including Wonders: Pyramids of Giza (An educational UEFN Map, in collaboration with Epic Games), Andrex's GoTime app (Unity mobile app, for Kimberley-Clark), and LEGO® Cat Island Adventure (UEFN Map, in collaboration with LEGO System A/S).

- Responsible for overseeing and contributing to many Web, ReactNative, Unity, Roblox and UEFN projects, pitches and prototypes for other (big name) clients (some unreleased, all under NDA).
- Line manager for the engineering team (3–5 engineers), and mentor to other roles – my responsibilities include annual reviews, career progression, compensation evaluation, weekly 1:1s, and 360 feedback.
- Outlining what Engineering Governance and Technical Excellence looks like at PRELOADED; including spearheading and practising the process of continuous (but not onerous) documentation of projects and processes.
- Responsible for Devops, including maintaining our build machine and our Jenkins build pipeline (used for Unity and ReactNative projects)
- Collaborating with other departments, fostering robust cross-discipline relationships and navigating ways of working to support both the team and the projects, encouraging communication and collaborative problem solving and troubleshooting.
- Proactively upskilling myself, honing my own skills, knowledge and understanding; learning about the specifics of game design and development (including learning the basics of Unity); and using my universally applicable knowledge to help my team debug some of their projects.
- Advocate for diversity, equity, inclusion and belonging (DEIB). I am specifically passionate in advocating for the lived experiences of and support for neurodivergent individuals. Pioneering processes and sharing my personal experiences and knowledge in order to make the work environment a more inclusive one, and instilling a strong sense of belonging allowing everyone to do their best work.

## **Head of Engineering, Poplar Studio (September 2020 – March 2023) (Redundancy)**

### **Tech Lead (September 2020 – September 2021)**

At Poplar Studio, learning was at the core of everything we did, and we were passionate about educating people about Augmented Reality (AR). Our project management tools and talent cloud made it easy for brands to create and deploy AR and 3D experiences across all channels. We also had a lot of fun trying the latest immersive technologies and we wanted to share that fun with everyone.

I was part of the Leadership team throughout my tenure, which included attending board meetings and presenting to investors (and applying for R&D Tax Credits). I was responsible for building, managing and coaching the engineering team; and for technical architecture and direction, in direct liaison with the product team. I was also responsible for shaping and maintaining an inclusive company culture – changing behaviours for the better, and inspiring others to share and be themselves.

I was hand-ons with innovating, coding and managing tech debt and infrastructure; building and managing 5+ SaaS platforms from the ground up. Our work enabled brands/agencies to submit briefs through a simple interface; to manage projects with a network of creators through our platform; with a CMS to enable virtual try ons of various products including rings, watches, furniture etc. at scale, which could be integrated through a single line of code.

- Line manager for two team members, and mentor to other roles – my responsibilities included annual reviews, career progression, compensation evaluation, weekly 1:1s, and 360 feedback.
- Platform migration from WordPress to Vue and Laravel with Nova for the Admin (with Ansible, AWS and Postgres), including an upgrade to using the Vue Composition API – this enabled the business to move from an MVP (which was unsuitable for building on as a base) to a flexible, scalable and secure platform.
- Researching, designing and building an Analytics Pipeline and data visualisation in Snowplow and dbt cloud (with Terraform and AWS) – which enabled the business to use the custom data collected to gain a fuller understanding of a user's journey through 3D and AR.
- Proactively upskilling myself in AR, with a focus on WebAR, 3D models and shaders; and working with the team to innovate and build new products, and learning via solo and paired projects.
- Development of an embeddable unit integrated with a single line of code, for e-commerce clients to showcase their products in 3D and AR on their websites – including innovation around how to make AR accessible.
- Upgrading and maintaining the AR-asset conversion pipeline, API, CMS and infrastructure (Node, Postgres, GCP, Kubernetes, Terraform) enabling the addition of multiple useful features to expand our offerings and make customers' lives easier.

## **Director, Jo Carter Ltd (April 2019 – June 2021) – full details available on LinkedIn**

### **Senior Software Engineer – MyBuilder.com (February – August 2020)**

### **Arc.dev/ CodeMentorX Certified Developer and Peer Technical Interviewer (May 2019 – Jan 2020)**

### **Consultant Senior PHP Developer at J Sainsbury, Daemon Solutions (May – December 2019)**

Via the technology consultancy firm Daemon Solutions, I worked with the Sainsbury's Food to Order team on their website, which consisted of a collection of Symfony 4 microservices (used by their Node and React applications) and a legacy Symfony 3 monolith. I was involved in integration with internal (third party) APIs, logging and auditing, code gardening, documentation, planning and deprecation of old code. This included upgrading the monolith to the latest version of PHP and Symfony 3; and rolling out a whole range of code improvement tools across the microservices (PHPStan, Infection/ Mutation), in addition to improving overall coverage and code quality. I really enjoyed collaborating with the team, including helping mentor an apprentice developer.

**Fifty Penguins in Fuzzy Socks Ltd (November 2017 – April 2019)** – full details available on LinkedIn

**Freelance PHP Developer, Babylon Health (March – April 2019)**

**Freelance Senior Software Developer, Wellcome Trust (March 2018 – December 2018)**

Part of the team responsible for the development of the Explorify website (science for primary school teachers). During my time there we refactored the majority of the codebase (PHP, frontend and the database), added additional automation for testing and QA, and upgraded the site from Symfony 3 to 4. Day to day work included code reviews, adding new features, cleaning data, maintenance and as much code gardening as I could squeeze in. I also contributed back to several of the open source bundles we used.

I was brought in as a full-stack developer, so I also worked with the team on adding automated testing using Chai, Mocha, Cypress and Nightwatch (with Browserstack); and helped refactor the frontend code (with an emphasis on accessibility and UX) and developed new features (using Webpack, Javascript and SCSS/CSS). We also added in a stats dashboard, split testing (A/B), tracking and monitoring so we could see how our new features improved the user experience.

**Consultant Engineering Manager, Onlicar (November 2017 – March 2018)**

Fifty PIFs was brought in to evaluate the technical process at Onlicar and help streamline it. I worked with the existing team to add in monitoring for their services, update the documentation to understand how all the systems worked together, and introduced the developers to automated testing to make their systems more resilient and add oversight to increase efficiency. I also code reviewed and QA'd new python code for a system upgrade by our internal team.

**Engineering Manager, MOO (June – November 2017)**

**Joint Development Team Leader, The Mill (November 2014 – June 2017)**

Responsible for the whole project pipeline – requirements gathering, quoting, planning and architecting, writing technical and functional specifications, liaising with project owners, instructing and liaising with the UX and design team, managing the development team, testing and development (test-driven and domain-driven development, using PHPSpec, Behat and Symfony 2/3), Continuous Integration, liaising with Sysadmins, deployment, maintenance and further phases of updates.

My team and I mainly worked on internal projects, which included developing a custom CRM; a custom solution for optimising the quoting pipeline for our 2D, 3D and design departments; an applicant tracking system with accompanying candidate microsite; an online annual review system for HR; and other internal integration projects. We also worked on a number of large external client projects, mainly on integrations and APIs for mobile applications and games, with some branching into VR.

I was directly responsible for managing several members of the Development team, including coaching, mentoring and career path development. I was heavily involved in the recruitment process for new team members; through tech tests, interviews and hiring. I was part of the diversity and inclusion network within the Mill, with a focus on improving the hiring pipeline.

**Various Engineering Roles (March 2006 – November 2014)** – full details available on LinkedIn

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**EDUCATION**

**University of Nottingham (2005)**  
MSc in Information Technology: **Distinction**

**VOLUNTEER AND CHARITY WORK**

**Streaming for Extra Life (2019 – present)** (Raised over \$13k)  
**ID@Xbox Moderator (2022 – present)**  
**Xbox Moderator (2024 – present)**  
**Xbox Ambassador (2012 – 2024)**

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**OTHER INTERESTS**

- Content creator and streamer (indie games) on Twitch (2017 – present)
- Computer games, achievement hunting, reading, escape rooms, puzzles, knitting: a self-confessed geek

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**OTHER RELEVANT INFORMATION**

Autistic/ ADHD

**What does that mean?** – Great attention to detail; able to evaluate all possible outcomes/ edge cases; can balance big picture with little details; highly organised; keeps on top of all outstanding tasks; intense/ deep focus; wants to make everyone's lives easier/ make a difference; loves routine tasks; tenacity and resilience; integrity and commitment; excellent at multi-tasking (prefer working on multiple projects at a time); diligent; resilient; highly empathetic; and great in a crisis.