Jonathan Bates

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# I am passionate about

* Ensuring we deliver business value - not creating over-engineered works of art
* Quality - Software needs to be understandable, well-tested and monitored
* Distributed systems; both the benefits and the novel failure modes that they bring
* Communicating with my team & knowledge sharing, be that in documentation or informally
* Platform work - CI / CD / Gitops / Kubernetes etc - things that I can tame to make other developers’ lives easier

# Employment Details

**April 2022 – July 2022 – Senior Developer, DELLI**

A pre-series-A start-up trying to "recreate Borough Market online", which was unable to secure continued funding. The backend consisted of Kubernetes-hosted .NET Core 6 services and leveraged a number of Azure products

Business Analytics Platform

* Working with C-Level management, I designed and implemented a “fact and dimension”-based business analytics pipeline & implemented dashboards to help management with KPI queries.
* The design balanced flexibility & mid-term scalability with speed of delivery
* The implementation used PostgreSQL, Azure EventHubs & Grafana because these solved the BI requirements for the next couple of years, whilst keeping cost and complexity to a minimum
* The system was well-received since it was shown to reconcile better than the previous Google Analytics funnels

Geospatial Filtering

* Iled a project to improve results surfaced to users by taking into account their location
* We used the Geospatial features of both Azure Search and CosmosDB for different use-cases
* The project was completed on schedule, and included a lot of documentation for future maintainers

Misc

* I was also the technical go-to for product & management teams, when technical concepts needed to be distilled into a more human-digestible format, or when technical input was required

**September 2020 - April 2022 – Senior Developer, Bumble**

Part of a hand-picked team which was created to invigorate Bumble’s customer-facing technical stack, migrating it from a PHP monolith hosted on bare-metal to a blend of PHP and Kubernetes-hosted Kotlin services

Virtual Date & Nextgen platform

* As one of the first members of the team, I worked to create & standardise a Kotlin-friendly CI/CD infrastructure on top of TeamCity, ArgoCD & Kubernetes. This formed the basis of the entire “Next-Gen” platform
* An example output was a Bumble-centric helm chart that supported almost all deployment scenarios, but greatly reduced the Kubernetes learning curve for other developers whilst building in safety, e.g. rack-awareness and automatic JVM memory configuration, harmonising deployments acrss teams
* I championed the use of industry-standard tools, such as Vault & Prometheus over home-grown variants until they became the accepted solutions

Social Network (not yet launched)

* We created a globally-distributed social network, which presented some new challenges for Bumble (the entire architecture up to this point was to support 1:1, geographically-local interactions, not global groups)
* I worked on spiking and designing the sharding solutions, taking into account requirements such as maintaining geographically-local read-replicas, network resilience, costs & availability of various platform teams.

Misc

* I created a number of libraries inside bumble which became part of the Nextgen standard practices
* I took on some of the front-end developers testing by maintaining and rationalising our Calabash mobile automation tests
* Dabbled in Golang, PHP & Ruby (for Calabash mobile automation) to unblock my team

**July 2016 – August 2020 – Senior Developer, Zopa**

Transaction Store

* A core part of the team that designed and built the financial backbone of Zopa Bank. This system recorded and modelled all financial transactions, and was built using Kafka-Streams & Kotlin, integrating with Redis, Aurora, MSSQL & S3
* I used this system to introduce OpenTracing (Jaeger) into Zopa, so we could monitor the bank as a whole
* I introduced some failure-modelling exercises to document how our system could tolerate increasingly severe infrastructure failures, which allowed us to fix a number of latent risks
* I took time to understand each product teams’ product at a business-level, which allowed me to validate and flag incorrect financial modelling in various change requests they submitted to us

Misc

* Created a well-received binary format for storing Kafka records to S3. It predated the mainstream Kafka-Connect S3 plugin and was able to sustain a recovery rate of ~50k messages per second on a modest device.
* Moved our stack to a helm-charts deployment, creating helm charts used by others
* Created the first docker-compose testing stack, gave us access to an isolated testing database
* Created one of Zopa’s only open-source libraries - <https://github.com/zopaUK/Zopa.ServiceDiagnostics>

**Jan 2013 – July 2016 – Senior Developer, JustGiving**

Responsibilities

* Full-stack development on a site that typically has 3000 concurrent visitors, with an 800GB OLTP dataset
* Part of the FinTech team, who are responsible for all payment processing, using C#, ASP.Net & Event-Sourcing
* Rewrote JustGiving’s checkout in React/Redux as part of a secondment to the frontend team

**Oct 2005-Jan 2013 – Analyst Developer, ILLY Computer Systems Ltd**

* Exposed to a wide range of personalities, including technical directors of Tier-1 banks and MPs

# Education

**2001 – 2005** University of East Anglia - BSC (2:1) & MSc (distinction) in Advanced Computing Science **1994 – 2001** Westcliff High School for Boys - 10 GCSEs (A\* - C), 4 A-levels (B - D)