Niall Beard

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I have a strong theoretical background in Computer Science from a Masters degree at the University of Manchester. I have gained software engineering skills from developing production level applications (as a developer and as a tech lead), and I have built strong communication and leadership skills from my time as an academic project manager and trainer.

WORK EXPERIENCE

Senior Research Software Engineer – October 2016 – January 2020
ELIXIR-TeSS Project
University of Manchester

As *Senior Research Software Engineer* my primary responsibility was the delivery of ELIXIR-TeSS (https://tess.elixir-europe.org). TeSS is a flagship Ruby on Rails project developed on behalf of the Life Science Research Infrastructure - ELIXIR. The project aim was to improve the findability of training resources for the European Life-science community by aggregating disparate training opportunities' metadata into a centralized, feature-rich portal. I worked on this project as the lead developer for the first 2 years and as the project manager for the remainder of my time in post.

The portal is developed using the Ruby on Rails framework and makes extensive use of many open-source Rubygems. To best create a UX-considered front-end we made use of ERB, Javascript/jQuery, Bootstrap, Handlebars and Markdown renderers. To facilitate search, we decided to implement a search engine using Sunspot SOLR. To enhance the service, we created numerous integrations with 3rd party web services - such as Google Maps API, BioPortal Ontology API, various data services, and an AAI integration. To open up our curated data back to the community in the most interoperable and usable way; we followed industrial best-practices and implemented a JSON-API specification, Swagger docs, CSV exports, and embeddable JavaScript widgets. To create automatic data imports; we developed a library of Ruby scripts which scrape target websites nightly and write new or modified results to the TeSS API. We published as Rubygems any components that were generic enough to be re-utilized by other developers. In order to create performance optimizations we used Redis and Sidekiq to queue data processing activities and minimize the load for web services.

The majority of the design and technology decisions were made by me and based on gathered user-requirements and analysis of available technologies. I frequently engaged with stakeholders to ensure the software met the needs of a diverse, changing community of scientists by hosting workshops and attending conferences regularly.

I oversaw the entire software life-cycle and ensured robust deployment practices were adhered to including code-review, CI testing, and documentation. I was responsible for scheduling, assigning, and reviewing the work of a team of developers distributed across Europe with varying and unpredictable availability. I was also responsible for handling pull requests from a community of voluntary Open Source contributors. In order to fully engage with this community, I represented TeSS globally at over fifty international conferences, workshops, and hackathons. Some of my presentations are available to view on slideshare.net, and some of my academic posters are available on f1000.

I have co-authored several academic papers, and I am the lead author on two papers (one pending review). In addition to these responsibilities I also supervised Masters, 3rd-year, and Summer Vacation students undertaking projects involving TeSS. I have taught introductory programming workshops through The Carpentries foundation and I am a qualified Carpentries Instructor.

Scientific Web Technologist – May 2014 – October 2016
eScience Lab (formerly myGrid) https://www.esciencelab.org.uk
University of Manchester

In this role I was responsible for the prototyping of the newly-funded ELIXIR training portal, TeSS. As this was a new project, I was involved in requirements elicitation activities, the critical assessment of existing available infrastructures, and the initiation of environment and deployment pipelines. Initially I implemented a prototype by configuring and deploying an instance of the CKAN registry software, but due to framework limitations, I decided to implement the first production application using Ruby on Rails.

eLab Engineer – March 2013 - May 2014
eScience Lab (formerly myGrid) https://www.esciencelab.org.uk
University of Manchester
Manchester, United Kingdom

In this position I developed the BioCatalogue (https://www.biocatalogue.org), a web service catalogue for the Life Sciences. The Biocatalogue is also implemented in Ruby on Rails and required some considerable work to upgrade the Rails version 2 application to Rails 3, and eventually 4. Some of my accomplishments include integrating the content with a 3rd party service by rendering data in a common exchange format, and creating a dashboard to facilitate curation.

EDUCATION
M.Eng (Hons) 2:1, Computer Science - September 2009 - June 2013.
University of Manchester
- Studies focused on machine learning and data mining techniques
- Student staff consultation committee member
- Accenture short film competition winner
- PricewaterhouseCooper Teamwork Award Runner up

A-Levels, June 2006 – June 2008
Winstanley College, Billinge, Wigan

A2: Philosophy: A, Maths: A, Computing: B
AS: Politics: A, Further Maths: B

AWARDS & QUALIFICATIONS
Software Carpentry Instructor, 2017
1st Prize at Hackathon; Collaborations Workshop 2019

WEB PORTFOLIO
https://tess.elixir-europe.org
https://biocatalogue.org[defunct]
http://pretentious-o-meter.co.uk

PERSONAL INTERESTS
I enjoy travelling and have been very fortunate to do so. I enjoy working to make innovative web applications with like-minded people such as the pretentious-o-meter.co.uk and stayk.co.uk [currently down]. I have volunteered to teach beginner coding courses for which I prepared fun, collaborative Git training exercises based on the game *Rock, Paper, Scissors.* I attend meetup groups around technologies I am interested in (pre-corona), such as Android and React.js. I enjoy playing music, cycling, and have always had a strong interest in philosophy, politics, and the study of history.

REFERENCES

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