Nicholas Bentley

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PROFESSIONAL SUMMARY

Software Developer and Human-Computer Interaction Researcher working towards a thesis focused on the intersections of HCI and Digital Fabrication. Previously, I worked as a full-stack software developer for 4 years in the construction industry, where I worked to maintain and iterate on industry-leading CAD applications and develop multiple webapp projects from concept to delivery. I have specific interests in **Interface Design**, **UX**, **Accessibility**, **Optimisation**, and **Digital Fabrication**. These interests have directed my focus within teams and projects; helping me to contribute to the creation of robust, maintainable products with high end-user satisfaction, backed by strong, cohesive teams.

SKILLS & PROFICIENCIES

I have experience with a broad range of tools, technologies, and workflows. I have worked both solo and within teams using these skills, and have taken leading roles on a number of projects and features incorporating them. I have taught the use of a variety of these in personal, professional, and academic contexts through mentoring, workshops, and presentations.

Software Development - Languages, Tools, Concepts

- C#
- Python
- R
- Java
- .NET Core
- .NET Framework
- Typescript
- HTML5
- scss/css
- Angular
- Vue
- Nuxt
- Node.js
- Docker
- Azure
- Linux
- Nix/NixOS
- Scrum
- DevOps
- Git/Svn
- CI/CD

Design & Implementation Focuses

- User Experience
- Accessibility
- Interface Design
- Efficiency
- Human-Computer Interaction

Fabrication - Technologies, Tools, Workflows

- SLA
- FFF
- Fusion 360
- G-code
- BambuLab
- Photon Workshop
- Prusa
- Multi-materials

EDUCATION

August 2022 – Current
University of Birmingham - PhD Computer Science
I am currently pursuing a Human-Computer Interaction & Digital Fabrication PhD. This has involved a significant amount of self-direction, skill development, networking, and collaborating with peers around the world using a range of technologies. I have published one paper at conference.

2014 – 2018
University of Birmingham - MSci Computer Science - 1st Class Hons.
My degree covered a wide variety of topics, but a specific area of interest became interface design. My masters thesis comprised a study investigating factors affecting the efficacy of a variety of on-screen interfaces in combination with novel input devices, including the creation of a full stack platform for gathering and processing data and running of the study itself.

PROFESSIONAL EXPERIENCE

August 2022 – June 2024
University of Birmingham - Teaching Assistant
Alongside my PhD study, I have worked as a Teaching Assistant on two final-year/masters level modules - Human-Computer Interaction and Research Topics in HCI. I assisted with logistics, helped design aspects of the modules, provided assistance to large groups of students, and took on substantial marking workloads. Student attainment and satisfaction metrics have been consistently high and improving each year. I have also assisted a few students with their final year theses.

August 2018 – July 2022
MiTek Industries Ltd. - Software Developer
During my time at MiTek I worked on multiple highly successful projects, including legacy CAD software for the design and fabrication of roof trusses, a small engineering webapp for the design of chemical & mechanical anchors, a larger logistics management platform, and the integrations between those projects. I worked in teams both local and worldwide, and tackled a variety of challenges including research, design, and disseminating skills and ideas throughout teams through documentation and by running workshops, leading to strong cohesion and increased productivity.

Mid 2016
Xiphos Research Ltd. - Penetration Testing
During this short role I had hands-on experience with penetration testing alongside experienced mentors, and a large degree of freedom as to my approach. This gave me a good understanding of common vulnerabilities, where they come from, and how to prevent them. It also helped me develop an appreciation for clean, performant code, as well as the value of performance profiling and resolving technical debt.

References are available on request.