

Dr. Faisal Taher

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Work Experience

Inventor, Hardy & Ellis Inventions Ltd.

January 2016 – present

Working as a software engineer in a small agile team that develops interactive systems for physical spaces. I work with Python, C#, JavaScript/JQuery, HTML5, CSS3, REST services, and Django, as well as Windows and Linux environments. My code includes unit testing, documentation, code reviews within the team (e.g. through merge requests), and run through a CI pipeline to ensure robustness and reusability. User experience criteria are always integrated so that end users are faced with a usable system. I recently completed a large project involving a software system that creates and controls interactive spaces. I ran a workshop to gather requirements, planned user journeys, designed UI mockups, developed Python services and a JavaScript/HTML5 UI, and a website to host documentation. This resulted in successfully capturing the client's vision, an effective handover process, and several deployments across the UK.

Research Associate, Lancaster University

November 2013 – June 2016

The role involved working with emerging physical shape-changing display prototypes and applying multi-disciplinary knowledge (e.g. software and hardware engineering, HCI). My projects included constructing actuator prototypes (e.g. using smart materials), exploring pressure-input on mobile devices, and leading a European project that involved building and evaluating a physical bar chart where I fabricated laser-cut and 3D printed parts and wrote a software application with JavaScript, HTML5, NodeJS, websockets, and C#. The bar chart project resulted in BBC news coverage and two top-tier international conferences, one of which I presented at in South Korea. I ran a number of user testing sessions and analysed data using quantitative and qualitative techniques.

Software Development Consultant, self-employed

May 2013 – December 2013

I developed and deployed a business management system for an engineering company to be used by its administrators, employees, and company partners. The system was based on PHP, JavaScript/JQuery, MySQL, HTML, CSS, and included an MVC framework. Features included enquiry management, quotes and purchase order generation, and timesheet logging. The system was tested and documented, and involved regular meetings that ensured requirements were met.

Technical Project Consultant, Knowledge Business

March 2011 – April 2013

Centre, Unite with Business, Lancaster University

I liaised with a diverse range of clients from small to medium enterprises (e.g. engineer, developer, designer, magazine editor), formulated requirements, developed software applications, and provided documentation and guidance. Software included business management applications and a customised virtual learning environment. These were developed with PHP, MySQL, JavaScript/JQuery, HTML, CSS, and RESTful APIs.

Web Developer, Backbone IT Group

January 2012 – December 2012

I developed web applications such as: a PHP and JavaScript web portal designed to enable the company administrators (and its clients) to manage transactions on partner online shops, a Python content scraping tool compatible with over 100 websites for a recruitment firm. I also designed

and modified client websites and worked with content management and e-commerce systems such as MODx, Magento, and CubeCart.

Education

PhD Computer Science

*Degree awarded
Lancaster University
2008 to 2013*

Indoor Navigation Systems

- Developed and deployed a prototype indoor navigation system for mobile phones and public displays. The system integrated 3D visualizations, digital maps and signage, as well as sensor technologies such as NFC and QR codes for location information.
- Conducted a number of user evaluations with the navigation system to explore interaction requirements and published/presented several international conference papers.

Masters by Research

*Degree awarded with
distinction
Lancaster University
2007 to 2008*

Human-Computer Interaction

- Research focused degree that involved interactive systems design, psychological research methods, and oculomotor systems.
- Collaborated in an innovative design project to develop a virtual usability testing laboratory using Second Life.
- Dissertation: Developed and evaluated an indoor navigation system that later formed part of my PhD research.

Bachelor of Science (Hons)

*Degree awarded
Lancaster University
2004 to 2007*

Computer Science with Multimedia Systems

- Included modules based on programming, networking, digital media standards, database systems, algorithms, operating systems, and the software development lifecycle.
- Dissertation: Investigating wayfinding in virtual 3D environments.

Skills Summary

Languages

Python, C#, JavaScript/JQuery, PHP, Java, ASP.NET, HTML5, SQL, CSS3.

Frameworks and Tools

Node.js, Backbone.js, Django, Docker, Flask, Jekyll, Sentry, Git, REST.

Prototyping

3D printing, laser-cutting, CAD modeling, Arduino, Raspberry Pi, Adobe Photoshop, Illustrator, concept sketching.

User Testing and Data Analysis

I am experienced in running workshops, planning user testing sessions, conducting interviews, setting up data capture, performing qualitative (e.g. deriving frameworks) and quantitative analysis (e.g. using statistical software such as R).

Adaptability

I have adapted to new challenging roles and responsibilities including: providing consultancy and developing software for small to medium enterprises, learning electronics and fabrication to construct, as well as develop software for, shape-changing display prototypes, and writing and presenting top-level conference papers.

Selected Publications

- Taher, F., Hardy, J., Karnik, A., Weichel, C., Jansen, Y., Hornbaek, K., and Alexander, J. (2015). Exploring Interactions with Physically Dynamic Bar Charts. CHI 2015, Seoul, South Korea.
- Taher, F., Alexander, J., Hardy, J., and Velloso, E. (2014). An Empirical Characterization of Touch-Gesture Input-Force on Mobile Devices. ITS 2014, Dresden, Germany.
- Taher, F. and Cheverst, K. (2011). Exploring User Preferences for Indoor Navigation Support through a Combination of Mobile and Fixed displays. MobileHCI 2011, Stockholm, Sweden.