Dr. Faisal Taher

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Work Experience

Inventor, Hardy & Ellis Inventions Ltd. January 2016 – present

Working as a software and hardware engineer in a small team on interactive display projects. Responsibilities include writing high-quality tested and documented code, configuring interactive devices, and ensuring customer requirements are met for delivery to monthly milestones. Key technologies I work with involve Python, C#, JavaScript/JQuery, HTML5, CSS3, and Django in both Windows and Linux platforms (e.g. Raspberry PI devices). Code is version controlled using Git and reviewed within the team (e.g. through pull requests).

Research Associate, Lancaster University November 2013 – June 2016

The role involved building and evaluating physical shape-changing display prototypes by applying knowledge from various disciplines: Human-Computer Interaction, fabrication, software engineering, electronics engineering. Responsibilities included running user evaluations, performing statistical and theoretical data analysis, and writing and presenting conference papers. A key project involved building a physical and interactive bar chart. For example, I developed and programmed components such as custom laser-cut and 3D printed parts, custom circuit boards, and a web-based front-end application using HTML5, JavaScript, NodeJS, and websockets to communicate to a C# back-end.

Software Development Consultant, self-employed May 2013 – December 2013

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, styled with CSS3, and included an MVC framework.

Technical Project Consultant, Knowledge Business Centre, Unite with Business, Lancaster University March 2011 – April 2013

My role was to liaise with company directors of small to medium enterprises, formulate requirements, develop software applications, and provide documentation and guidance. In summary, the work involved:

- A project management application using the Backbone.js framework to interface with an existing Redmine application. The application simplified task management such as job entry, logging issues and time.
- A Moodle application that included custom modules (e.g. a Skype extension, an online classroom).
- A PHP and JavaScript web-portal to manage job requests and statuses from clients.

Web Developer, Backbone IT Group January 2012 – December 2012

Developed web-based 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-based content scraping tool compatible with over 100 websites a recruitment firm. I also designed and modified client websites and worked with content management and e-commerce systems (MODx, Magento, 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 Near Field Communication and QR codes for location information.
- Conducted a number of user evaluations with the navigation system to explore interaction requirements.

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.

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.

Skills Summary

Programming	C#, Python, JavaScript, PHP, Java, ASP.NET, HTML5, SQL, CSS3.
Frameworks, Versioning	Node.js, Backbone.js, Django, Git.
Fabrication & Design	3D printing, laser-cutting, CAD modeling (AutoDesk Inventor), Arduino, electronic circuits, Adobe Photoshop, Illustrator, Premiere.
Analysis	Statistical analysis using R, theoretical analysis (user-centered design methods), developing frameworks and taxonomies.
Adaptability	I have specific experiences with commercial and academic projects which required adapting to new challenging roles and responsibilities, including: providing consultancy and developing software for small and medium enterprises, learning electronics and fabrication techniques to construct shape-changing display prototypes, and writing and presenting top-level conference papers.

Awards & Achievements

- Best paper award at the Mobile and Ubiquitous Multimedia Conference in 2009.
- EPSRC scholarships for Masters by Research in 2007, and a 3 year PhD in 2008.
- Distinction for Master by Research degree in 2008.

References are available on request.