

Role Definition

Job Title: Software Developer (ARD – Front-end Developer)

Reporting to: Head of Applied Research and Development

The Applied Research + Development team produces cutting-edge technologies, including web applications, to support Architecture, Engineering, Construction and Operations for the built environment. We take these technologies through all stages of the innovation lifecycle, from R+D prototypes through to robust production applications. We are looking for programmers with a keen eye for design to support this mission and deliver industry-leading solutions.

In this position you will help deliver innovative web applications for Architecture, Engineering and Design. Often these will involve visualisation of data and geometry in 2D, 3D and 4D (animation). Front end developers are responsible for ensuring the alignment of web design and user experience requirements, optimizing web pages for maximum efficiency, and maintaining brand consistency across all web apps, among other duties.

Front-end web developers are required to work in teams alongside back-end developers, graphic designers, and user experience designers to ensure all elements of web creation are consistent. This requires excellent communication and interpersonal skills.

Responsibilities

- Determining the structure and design of web apps and conducting user testing to guide design choices.
- Development and integration with beta hardware, software, and cloud-based solutions.
- Developing interactive data-driven visualizations in 2D, 3D and 4D.
- Writing clean, readable and properly tested code.
- Optimizing web apps for maximum speed and scalability.
- Utilizing a variety of markup languages to write web apps.
- Write automated visual regression tests, unit tests and integration tests.
- Translate user requirements to trackable tasks.
- Maintaining brand consistency by using an existing design system, while having the ability to extend it when needed.
- Familiarity with common web security threats and threat mitigation. Ability to liaise with colleagues in our IT infrastructure team to ensure best practices.
- Following office-wide standards for coding, user interface and application security
- Delivering in support of all stages of application development lifecycle, including tests, CI/CD pipelines and documentation

Qualities and Skills required

Essential

- Degree in computer science, software development or equivalent experience.
- Demonstrated experience building large web apps (MPAs or SPAs) in a scalable and maintainable way.

- Understanding of key graphic and interaction design principles.
- Comfortable learning new cutting-edge technologies.
- Experience working in a team focused on fast-paced development and rapid prototyping.
- Proficiency in HTML, CSS, JavaScript, and jQuery.
- Demonstratable knowledge of a front-end framework/library like React, Angular or Vue.
- Good understanding of tradeoffs between different rendering strategies (Client Side Rendering, Server Side Rendering, Server Side Generation, Incremental Static Generation etc.)
- Experience with graphic design and wireframing applications such as Figma, Adobe XD and Illustrator.
- Experience with responsive and adaptive design.
- Able to manage sensitive and confidential information
- A keen eye for detail.
- Good problem-solving skills
- Excellent verbal and written communication skills
- Good interpersonal skills

Desirable

- Knowledge of Microsoft Azure services.
- Ability to work on any missing abstractions between the front end and the back end. Full-stack skills or willingness to learn is appreciated.
- Experience in serving and manipulating 3D content on the web (three.js, BabylonJs, Unity or equivalent).
- Experience with persistent HTTP connections using technology including Microsoft SignalR, WebSockets or WebRTC for real-time applications
- Familiarity with web-based, interactive data visualizations and JavaScript libraries for producing these

Interest in UX research to striking a balance between functional and aesthetic design.