***NIEC***

***الشركة الوطنية للترفيه التفاعلي***

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| **JOB PROFILE** | | | |
| **JOB INFORMATION** | | | |
| **Job Title** | Engineer Hardware/Software | **Hierarchy** |  |
| **Grade** |  | **Division** | Experience Lab |
| **Reporting To** | TBD | **Department** | Creative Technology Dept. |
| **Direct Reports** | - | **Location** | Riyadh |

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| **JOB PURPOSE** | |
| The Creative Technology department at QSAS is seeking an experienced Engineer to design and create functional, beautiful, and sustainable work. In this role, you will contribute to and translate creative concepts into realistic, reliable, and efficient executions.  The ideal candidate has both a wide and deep knowledge of software and hardware but does not stop there. We are looking for someone who is creatively minded and experiments with immersive entertainment experiences. The Hardware/Software Engineer will be responsible for designing, developing, and integrating hardware and software solutions that drive QSAS’s entertainment-focused experiences. This role involves creating innovative, high-performance systems that seamlessly blend hardware and software components to deliver immersive and engaging user experiences. The Engineer will work closely with multidisciplinary teams to ensure that all technical aspects align with the company’s creative and strategic goals.  This is a mid-level role and requires proficiency in high performance programming languages such as C/C++ and Rust, but also scripting languages such as Python and JavaScript. The candidate should also have experience with hardware design tools and methodologies, including PCB design and embedded systems. This role is integral to developing the QSAS’s next-generation entertainment experiences, combining cutting-edge hardware and software to create groundbreaking experiences. The successful candidate will bring a passion for technology and creativity, along with technical expertise to realize ambitious projects. | |
| **Key Responsibilities** | **Core Responsibilities**  **Experience Development and Design:**   * Design and develop hardware and software systems that enable and enhance the user experience for entertainment products. * Integrate hardware components such as sensors, controllers, and display technologies to create custom solutions. * Collaborate with designers and creative teams to ensure that the technical implementation supports and enhances the creative vision.   **Technology Research and Audience Experience Behavior:**   * Stay current with the latest advancements in hardware and software technologies, tools, and methodologies. * Conduct research and experimentation to explore new ways of integrating hardware and software to achieve innovative product features and functionalities. * Prototype and evaluate emerging technologies to assess their potential application in future products.   **Collaboration and Brand Alignment:**   * Work closely with cross-functional teams, including designers, artists, and product managers, to ensure that hardware and software solutions align with the overall brand and product vision. * Communicate technical details and concepts to non-technical stakeholders to facilitate collaboration and ensure alignment with project goals. * Partner with external technology providers and vendors to source and integrate third-party hardware and software components.   **Responsibilities: General Management**  **Continuous Improvement**   * Lead efforts to optimize and improve the efficiency, reliability, and performance of hardware and software systems. * Implement best practices in hardware and software development, including design patterns, testing, and documentation. * Monitor and analyze system performance, making data-driven decisions to enhance product quality and user experience. * Share ideas and viewpoints to further streamline processes and solve technical and creative challenges, thus driving efficiency and improvements across QSAS.   **Change Management**   * Manage the integration of new hardware and software technologies into existing product pipelines, ensuring smooth transitions and minimal disruption. * Provide training and support to team members to enhance their understanding and ability to work with new systems and tools. * Oversee the impact of hardware and software changes on overall project timelines and deliverables, ensuring that all changes are effectively communicated and managed.   **Budget & Plans**   * Develop respective sub-function budgets based on inputs from the reporting manager to enhance alignment with the overall organization's strategy and operational requirements.   **Quality, Health, Safety, & Environment (QHSSE)**   * Adhere to all relevant QHSSE procedures, instructions, and controls so that NIEC provides a safe, best-in-class, secure, and environmentally responsible service to customers, the public, and its own people. |

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| **QUALIFICATIONS AND EXPERIENCE** | |  |
| **Minimum Qualifications** | |  | | --- | | Bachelor’s or Master’s degree in Electrical Engineering, Computer Engineering, Computer Science, or a related field. | |  |
| **Years & Nature of Experience** | * Minimum of 4-6 years of hands-on experience in hardware and software engineering, preferably in the entertainment or creative technology industry. * Experience leading projects from concept to deployment, with a demonstrated ability to manage complex systems integration. |  |
| **Technical Competencies** | * Hardware Design & Development: Expertise in designing, prototyping, and developing hardware systems, including experience with sensors, microcontrollers, and embedded systems. * Software Development: Proficiency in software development, including experience with low-level programming, firmware development, and software-hardware integration. * Systems Integration: Strong understanding of how to integrate hardware and software components to create cohesive and high-performance systems. * Prototyping & Experimentation: Ability to rapidly prototype and experiment with new technologies, iterating on designs based on testing and feedback. * Performance Optimization: Experience optimizing hardware and software systems for performance, reliability, and scalability. * Cross-Platform Development: Knowledge of developing systems that work across multiple platforms, including PC, mobile, and embedded devices. * Technical Collaboration: Ability to work effectively with cross-functional teams, translating creative and design requirements into technical specifications and solutions.) |  |
| **Behavioral competencies** | * Supremely organized * Effective, calm, consistent, and clear in your communications both in person and in writing * Proactive and a problem solver: You enjoy solving puzzles   ᐩ Collaborative  ᐩ Proud of the work you do  ᐩ Always learning: You seek out educational opportunities to gain new skills |  |

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| **KEY INTERACTIONS** | |
| **Internal** | **External** |
| * Experiential Technology * Design, Production, and Leading Teams * Cross-Functional Teams * Budget Oversight Teams | * Suppliers and Vendors * Market Research * Third-Party Consultants/Providers |

**ACKNOWLEDGEMENT**

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| **I certify that I have read this job description, it has been explained to me and I understand my duties and responsibilities as stated herein.** | |
| Job Holder: | Date: |
| **Reviewed By** | |
| Head of Department: | Date: |
| Line Manager: | Date: |
| HR Department: | Date: |

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| **DISCLAIMER** |
| The preceding job description is provided for general informational purposes, and it is in no way restrictive as to the overall work requirements that may be prescribed by Management. It is intended to be used as a guide only and has been designed to indicate the general nature and level of work performed by employees within this classification. It is neither designed to contain nor be interpreted as a comprehensive inventory of all duties, responsibilities, and qualifications required of employees assigned to this job. |