

# Job Specification

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## Software Architect

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|------------------------|--|
| <b>Responsible to:</b> | <b>Head of Software Engineering</b>        |
| <b>Grade of post:</b>  | Senior/Principal (depending on experience) |
| <b>Salary:</b>         | To be agreed                               |
| <b>Hours of work:</b>  | 37 hours per week                          |
| <b>Work location:</b>  | Oakley, Bedford, Hybrid working available  |

### Role Purpose:

Blue Bear is a leading autonomy and unmanned systems company. We are continuously innovating within the core area of Unmanned Aerial Systems (UAS/UAV) such as autopilots, mission systems and ground control stations. We are searching for engineers to assist in the development of the next generation of our swarming UAV technology, including both onboard and deskside

You will be required to support a mixture of R&D and product development activities and will be keen to get involved in all development areas, and have a good track history / proven track record in both problem solving and quality software development.

Your role as a Software Engineer will involve architecting, designing, implementing and testing embedded applications and system software. You may also be leading a small team of other engineers. Tasks will include improving existing software and developing new features as well as exploring state of the art methods for autonomy, swarming and assurance using our in-house fleet of UAVs.

Working as part of a team in a multidisciplinary environment you will have good communication skills. A can-do attitude and a genuine passion for innovative technology will be advantageous. The opportunity will enable the successful candidate to gain knowledge of cutting-edge autonomous systems.

### Key Responsibilities

- Primarily, your role will be to architect and design software for our existing and new products, written in a combination of C++ and Java.
- Technically lead a team to deliver new features of our UAV systems.
- Ensure software redundancy, real-time, safety and security objectives are met.
- You will be responsible for delivery of technical work and documentation.
- Act as a customer interface for your team from requirement gathering to delivery.
- Proactively engage with other engineers, teams and leadership to ensure needs are understood and met.
- Support simulation testing, flight testing and bug fixing.
- Gain system wide knowledge and become a subject matter expert
- Provide high level estimates for future projects and keep track of project budget.

**Essential skills:**

- Experience with one or more modern Object-Oriented Languages such as C++ or Java.
- Working knowledge of Linux and/or real time operating systems such as FreeRTOS.
- Good understanding of development tool chain for debugging and problem solving using e.g. gdb.
- Software Architecture skills for Embedded Systems and/or backend/server based applications taking into account constraints of performance, security and redundancy

**Other useful skills for this role:**

- Architecting and implementing SOA systems.
- Knowledge of HMIs, Databases and networks
- Knowledge of Matlab/Simulink
- Use of C on embedded systems.
- Testing (Unit, Integration) and/or Test automation experience.
- Experience as a Technical or Team leader
- Experience mentoring junior engineers.
- Experience with quality standards for software (e.g. DO-178).
- Good communication skills for internal and external technical discussions.
- Knowledge of any of the following DDS, GIS, MISRA C/C++
- Project management experience.
- Existing SC Clearance

**Other Duties and Responsibilities**

- To undertake such other duties and responsibilities as may be reasonably required within the grade and level of the post.
- To actively participate in Blue Bear's Performance Management Scheme.
- You will be expected to perform different tasks as necessitated by your evolving role within the company and the overall business objectives of the company.
- Some travel within the UK may be required.

**What's in it for you**

- Work in a small, friendly company on the cutting edge of swarm autonomy.
- See your work in action flying on our own fleet of custom-built UAVs
- Hybrid working available
- Career development
- Competitive Salary

**Equality and Diversity**

We are committed to the promotion of equality of opportunity in all of our activities and to encouraging access to our organisation from all groups irrespective of the equality strands. We are working to create an environment in which cultural diversity and individual difference are positively valued in an atmosphere free from harassment and discrimination. We take our legal and moral obligations with respect to equal opportunities seriously and welcome dialogue with individuals on ways in which our equal opportunities policies and practice can be enhanced.

**Health and Safety**

The organisation together with the assistance of all employees are fully committed to developing a positive safety culture.

We encourage and support employees becoming involved in and participating in health, safety and welfare matters. Our goal is to motivate and empower all employees to work safely and protect their long-term health, not simply to avoid accidents.

## PERSON SPECIFICATION

| <b>Education/Qualifications</b>   | <b>S/L</b> | <b>I</b> | <b>A</b> |
|---|------------|----------|----------|
| <i>Desirable:</i>   |            |          |          |
| • Degree in Software Engineering or SMET discipline (e.g. Maths or Physics) with a demonstrable aptitude for Software Engineering | <b>X</b>   |          |          |
| <b>Knowledge and Experience</b>   |            |          |          |
| <i>Essential:</i>   |            |          |          |
| • Java OR C++ (2011 or later)   | <b>X</b>   | <b>X</b> | <b>X</b> |
| • Agile working using e.g. JIRA   |            | <b>X</b> |          |
| • Configuration Management (e.g. git)   | <b>X</b>   | <b>X</b> |          |
| • Software development lifecycle – including unit and integration testing   |            | <b>X</b> |          |
| • Software Architecture   |            | <b>X</b> |          |
| <i>Desirable</i>  |            | <b>X</b> |          |
| • UML using Enterprise Architect or Similar   |            |          |          |
| • Requirements Authoring/Management   |            | <b>X</b> |          |
| • Technical author – requirements, design, test, user   |            | <b>X</b> |          |
| • Linux / Unix environment for development  |            | <b>X</b> |          |
| • Unit and Hardware-in-the-loop testing   |            | <b>X</b> |          |
| • Service Orientated Architecture (SOA)   |            | <b>X</b> |          |
| • Technical and/or team leadership  |            | <b>X</b> |          |
| • Integration with electronics  |            | <b>X</b> |          |
| • Avionics background   |            | <b>X</b> |          |
| • Networking experience (TCP/IP)  |            | <b>X</b> |          |
| • Use of Matlab/Simulink for Control applications   |            | <b>X</b> |          |
| <b>Personal/Behavioral Attributes</b>   |            |          |          |
| <i>Essential:</i>   |            |          |          |
| • Ability to work to tight deadlines  |            | <b>X</b> |          |
| • Creative and innovative thinker and planner   |            | <b>X</b> |          |
| • Excellent problem-solving skills  |            | <b>X</b> |          |
| • Team player and possible leader   |            | <b>X</b> |          |
| • Good analytical and communication skills  |            | <b>X</b> |          |
| • Passion for innovation  |            | <b>X</b> |          |
| • Excellent writing and speaking skills   |            | <b>X</b> |          |
| <b>Other Requirements</b>   |            |          |          |
| <b>Subject to</b> security vetting to a minimum BPSS level (further security vetting based on position)                           | <b>X</b>   |          |          |

**S/L = Short Listing    I= Interview    A=Assessment**