

Job Description for Professional Posts

Position and Grade:	Programmer (P-2)
Organizational Unit:	Remote Monitoring Team Section for Systems Integration Division of Technical Support Department of Safeguards
Duty Station:	Vienna
Type/Duration of Appointment:	Junior Professional Officer / 1 year

Organizational Setting

The Department of Safeguards is the organizational hub for the IAEA's safeguards work. The IAEA inspects nuclear and related facilities under safeguards agreements with more than 140 States. Within the Department of Safeguards, the Division of Technical and Scientific Services is responsible for providing technical support in safeguards specific equipment matters to the three Operations Divisions. The Remote Monitoring Team (RMT), which is responsible for safeguards remote data transmission and SGTS software applications development, is located in the Section for Systems Integration and Coordination as part of the Division of Technical and Scientific Services. The operating environment is collaborative, with due regard given to confidentiality.

Main Purpose

Under the supervision of a Unit Head, the Programmer leverages networking expertise and application development skills to program remote monitoring software, to document current RM software, and to install and upgrade remote monitoring systems in the field.

Role

As an active member of the unit, the Programmer is a substantive contributor, (1) *developer*, performing relevant software engineering disciplines as a member of a team; (2) *resource* for the Unit, taking part in various activities as required, such as quality assurance, documentation and continuous process improvements.

Partnerships

The Programmer works closely with the staff of SGTS-TSI and the other members of the SGTS on the development, monitoring, and improvement of the remote monitoring infrastructure and on enhancing the efficiency of daily data transfers where possible. He/she provides support to the Operations Divisions as needed and shares technical information with external technical contacts such as Member State representatives, facility staff and vendors. Additionally, he/she liaises with States' R & D organizations and with commercial equipment developers and manufacturers to plan future systems.

Functions / Key Results Expected

The candidate should possess the ability to perform at least 2 of the following functions:

- Maintain remote monitoring systems to improve communications and data transfers from remote facilities.
- Carry out requirements analysis and design of software systems and develop custom applications for remote and secure data transfers, monitoring, and state of health (SoH) analysis.
- Design, test and implement various network configurations, using the latest firewall, VPN (virtual private network), routing techniques etc., to enhance the existing TCP/IP-based remote monitoring infrastructure.
- Ensure the reliability and availability of safeguards remote monitoring data repositories on a 24/7 basis and ensure that the system meets the performance criteria.
- Provide expert advice and support to Operations Divisions, including the provision of field support during inspections and instruction on the use of instruments, methods and techniques, and writing network/system operation procedures.

Knowledge, Skills and Abilities

- Technical expertise (the following skills are desirable):
 - Thorough understanding of software engineering processes and the software engineering life cycle.
 - Disciplined, methodical approach to requirements analysis and system design.
 - Knowledge of Web programming (Javascript, PHP, PERL, HTML/HTML5, ASP.NET).
 - Knowledge of programming custom desktop/server user applications and/or services with one or more of C/C++, C#, and/or Java.
 - Knowledge of mobile operating systems and mobile application development for one or more of iOS (including Objective-C programming), Android (including Java programming) and/or Windows Phone 8 (including C# programming).
 - Knowledge of relational database management software (e.g. SQL Server) and SQL
 - Basic knowledge of cryptographic concepts (e.g. PKI).
- Demonstrated ability to write clear and concise technical reports, procedures, and/or technical specifications.
- Demonstrated capability to work on complex engineering/scientific tasks from the conceptual stage, through prototyping, evaluation, and field-use.
- Demonstrated communication and interpersonal skills, and the ability to establish and maintain effective working relations with Agency staff at all levels.
- Ability to work in a multicultural environment with sensitivity and respect for diversity.

Education, Experience and Language Skills

- University degree in Information Technology or Computer Science.
- Minimum of 2 years experience in IT-related projects with high technical content.
- Networking knowledge to include TCP/IP, routing protocols, VPN, firewalls, telecommunications, and IT security techniques.
- Practical experience in producing functional specifications and in formulating solutions to meet user requirements.
- Fluency in written and spoken English is required. Working knowledge of another official IAEA language (Arabic, Chinese, French, Russian, or Spanish) and/or German is an asset.

NOTE: The incumbent of the post will be considered to be a radiation worker and be subject to an appropriate programme of physical and special medical surveillance arranged by the Agency.

Internal Human Resources use only:	
Effective Date:	
Occupational Group(s):	
Post Number:	