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# ***DigiS: Building up a Digital Skills Alliance for the Enhancing of Programming Competencies***

## **JOB DESCRIPTION**

### ***Virtual Reality Applications Programmer and Developer***

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## Methodology

A job description describes the general tasks and responsibilities of a position “Virtual Reality Applications Programmer and Developer”. Job descriptions as specified below comprises a list of competencies, responsibilities and duties, qualifications (such as education level, experience, specific skills, personal characteristics, certifications, licences and physical abilities) and competences necessary for this job including digital competencies and soft-skills.

## 1 Job Description

### 1.1 Job Title

Virtual Reality Applications Programmer and Developer

### 1.2 Job Overview

The virtual reality ("VR") programmer and developer creates programs, applications and solutions for VR and performs their debugging and testing. He/she installs and sets up VR programs and uses VR applications. He/she has an overview of the market and knowledge of used HW tools for VR and can integrate them for the needs of specific solutions. He/she knows the necessary legislation and the practical use of VR in various sectors.

### 1.3 Responsibilities and Duties

- Assignment analysis
- Design of software solution
- Programming and testing of VR application in the relevant programming language based on analytical documentation
- Creating data and object structures and defining their relationships
- Creating analytical documentation of simpler applications or partial application units
- Solving problems
- Processing of system documentation of created code and documents for user documentation
- Communication with the contracting authority, assessment of proposed solutions and incorporation of comments
- Maintenance of system software and design documentation
- Defining HW needs for applications and programs
- Monitoring current trends in related fields and technologies

### 1.4 Qualifications

- Secondary education with a school-leaving examination in the field of computer technology
- Secondary education with a school-leaving examination (without apprenticeship) in the field of computer technology
- Secondary education with a school-leaving examination in the field of applied electronics
- Secondary education with a school-leaving examination (without apprenticeship) in the field of applied electronics
- Secondary education with a school-leaving examination in the field of telecommunications
- Secondary education with a school-leaving examination (without apprenticeship) in the field of telecommunications
- Secondary education with a school-leaving examination in the field of automation

- Secondary education with a school-leaving examination (without apprenticeship) in the field of automation
- Secondary education with a school-leaving examination in the field of electronics
- Secondary education with a school-leaving examination (without apprenticeship) in the field of electronics

## 1.5 Competence requirements for the exercise of the profession

### 1.5.1 Vocational skills

- Programming in the appropriate programming language based on analytical documentation
- Creating a user interface for VR applications
- Creating database content, setting up data schema interconnections and data integrity
- Update and maintenance of design and system tools (e.g. code lists, parametric modules)
- Creating data and object structures and defining their relationships in collaboration with the task analyst
- Testing applications and tasks
- Creating analytical documentation of applications for VR
- Processing of system documentation of created code and documents for user documentation
- Implementation of VR applications in the specified environment
- Management of the process of implementing all system changes in user applications

### 1.5.2 Vocational knowledge

- Principles of programming and programming languages
- Informatics and properties of information systems
- Design of information systems
- Software environments, software testing and localization, operating systems
- Tasks' algorithmization
- Basics of computer graphics and graphic software
- Spatial orientation in 3D
- Health risks in programming and using VR
- Orientation in HW resources for VR and in their suitable implementation

### 1.5.3 General skills

- Computer skills
- Legal knowledge
- Language proficiency in national language
- Language proficiency in English

#### 1.5.4 Digital competences

- Principles of programming and programming languages
- Informatics and properties of information systems
- Design of information systems
- Integrated development environment, software's testing and localization, operating systems
- Tasks' algorithmization
- Basics of computer graphics and graphic software
- Spatial orientation in 3D

#### 1.5.5 Soft skills

- Flexibility
- Autonomy
- Problem solving
- Lifelong learning
- Active approach
- Team collaboration
- Work planning and organizing
- Search capabilities and orientation in information