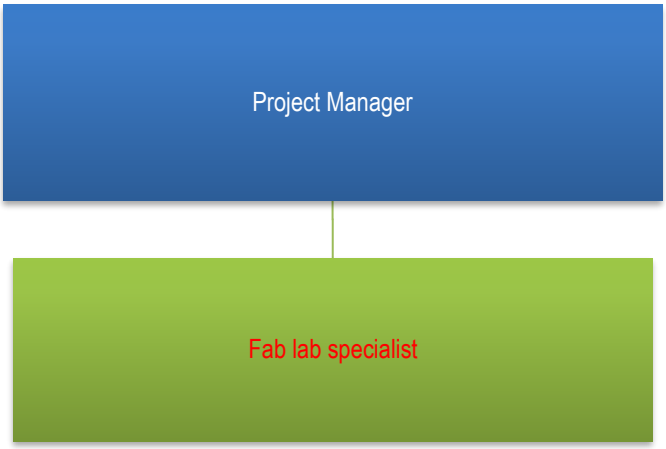
DescriptionDescriptionDescriptionPosition Name (Title) :	FabLab Specialist	**Position Level:**	Grade 5
Reporting to (Title) :	Education Project Manager	**No. of Direct Reporters:**	N/A
Version:	1	**Sector /Department/Section:**	Education Program

Position Reporting Lines



Main Job Purpose

The Fab Lab Specialist exists to give children and youth in the Learning Hubs access to hands-on digital fabrication and innovation learning. By running a safe, well-maintained lab and delivering engaging activities, the role helps participants build technical, creative, and problem-solving skills and turn their ideas into real products, in line with the project's learning objectives and child protection standards.

Objectives

- Manage and operate the lab and its equipment safely and efficiently.
- Design, develop, and produce products and prototypes using digital fabrication technologies.
- Prepare and deliver trainings, workshops, and interactive events for children and youth.
- Develop participants' technical and creative skills and promote innovation and applied learning.
- Ensure compliance with child protection policies and approved safety procedures.

Accountabilities

1. Lab Management and Equipment Operation

- Manage the daily operation of the lab, ensure its readiness for use, and prepare equipment operation schedules to ensure effective utilization.
- Operate and set up the available equipment, such as 3D printers and laser cutting and engraving machines, and adjust its settings according to the type of materials and designs, in line with operating procedures and manufacturers' instructions.
- Monitor the condition and operational efficiency of the equipment, ensure its proper handling and care, and manage the stock of materials, tools, supplies, and spare parts.

2. Equipment and Device Maintenance

- Coordinate with suppliers or technical service providers to carry out specialized repairs and maintenance when needed.
- Follow up on maintenance and repair work and ensure the equipment is ready before it is used again.
- Document faults, maintenance work, and repairs carried out, and follow up on the spare parts and supplies required.
- Report any faults or technical risks that may affect user safety or operational efficiency.

3. Designing, Developing, and Producing Products

- Design and develop innovative products, prototypes, educational aids, and interactive tools that support learning activities and the needs of the learning hubs, and prepare the designs and digital files required for fabrication.
- Turn ideas and designs into actual products using 3D printing, laser cutting and engraving, and other digital fabrication techniques, and follow up on the production stages through to final finishing.
- Test products and prototypes, evaluate their quality, and make the modifications needed to improve design and function.

4. Preparing and Delivering Trainings and FABLAB Activities

- Prepare session plans and training materials, and design and deliver practical trainings and workshops on digital fabrication, design, 3D printing, and laser cutting and engraving, tailored to the age groups and skill levels of children and youth.
- Provide introductory and hands-on sessions on the use of the equipment and on design and fabrication software.
- Plan and organize lab events such as exhibitions, open days, demonstrations, and innovation competitions, including schedules, technical needs, materials, and venue readiness.
- Coordinate with the Learning Hub team to integrate the lab's activities into the educational programmes provided to beneficiaries.
- Follow up on learning outcomes, and document participants' projects, events, and results.

5. Monitoring, Documentation, and Reporting

- Prepare operation plans and schedules for activities and trainings.
- Prepare records of the number of participants, attendance, and the workshops and events held.
- Prepare periodic reports on the lab's activities and progress made, in compliance with the documentation and reporting requirements approved by the project.

6. Child Protection, Safeguarding and Safety

- Comply with the safeguarding and child protection policies and procedures and the professional conduct standards approved by CARE and partner entities.

- Apply occupational health and safety procedures when operating equipment, provide the necessary instructions and protective equipment, supervise children's and youth's use of devices in line with their ages and skill levels, and comply with emergency and incident-handling procedures.
- Contribute to a safe and inclusive learning environment, protect participants' privacy, and immediately report any concerns or potential violations through the approved reporting mechanisms.

Position Relationship with Other Parties

Internal Relationship	External Relationship
• **Direct Supervisor and Project Manager:** Receives guidance, reports on progress, and coordinates activity planning and budgets. • **Other CARE programmes and projects:** Coordinates activities, shares information, and ensures a fast response to the target group. • **Programme Support Units (Finance, HR, Logistics/Procurement):** Coordinates on budgets, settlements, recruitment, procurement, and assets. • **M&E and Safeguarding focal points:** Coordinates on data collection, reporting, and safeguarding concerns and referrals. • **Hub supervisors, facilitators and volunteers:** Supervises, trains, and provides guidance and feedback.	• **Partner organizations:** Coordinates joint activities and outreach. • **Service providers and referral partners:** Refers children and families for specialized services (e.g., protection, health, education), in line with referral pathways. • **Government counterparts (as relevant):** Coordinates as directed by the Project Manager. • **Children, caregivers, and the community:** Engages with them to promote the Hub, enroll beneficiaries, and receive feedback

Working Environment

The position follows the normal working environment of the organization.

Indoor: 90% (in the Hub)

Outdoor: 10 %

Working Hazard: Normal

Working Days: 5 days

Days Off: 2 days

Working Hours: 7:9-30 to 3- 5:30

Position Dimensions

POSITION DIMENSION	
Level of Authority	Minor Judgement Within Guidelines
Budget Control	Make Expenditure on a Predefined Budget
Budget Amount	From 10,000 to 100,000 EGP
Hiring Authority & Promotion	Does not Coach New Employees
	Does Not Supervise Employees
	Does not Participate in the Promotion Cycle
	Does not Approve Hiring New Employees
Consequence of Error	Impact Own Tasks

Job Requirements

Education/Experience	• A university degree in a relevant field, such as Mechatronics, Mechanical Engineering, Industrial Design, Product Design, Engineering Technology, or any technical specialization suited to the nature of the equipment used. • At least two years of practical experience in digital fabrication or operating the equipment of Fab Labs / Makerspaces, or in related technical fields. • Practical experience in operating 3D printers and laser cutting and engraving machines. • Proficiency in digital design software and in preparing fabrication files, including 3D design software and software for preparing printing, cutting, and engraving files. • Practical experience in designing, developing, and producing products and prototypes using digital fabrication technologies. • Technical knowledge of equipment maintenance basics, performing preventive maintenance, diagnosing initial technical faults, and carrying out minor repairs. • Experience in preparing and delivering trainings, workshops, and applied activities. • Experience in dealing with children and youth, or working in educational and community projects, is preferred.
Years of Experience:	2-3 years of experience in field implementation of development work.

Computer Skills	• Proficiency in 3D design software (CAD) and preparing 3D printing files (slicing), such as Fusion 360, Cura, or equivalent software. • Ability to use 2D design software and laser machine control software to prepare cutting and engraving files, such as Inkscape, LightBurn, or equivalent software. • Proficiency in Microsoft Office applications (Word, Excel, and PowerPoint) and online collaborative tools for preparing records, inventory logs, and reports. • Ability to organize design files and technical documentation and maintain backup copies.
Languages:	• Arabic • English

Reports

Signatures

		Date
Employee		
Manager		
Human Resources		