

# **LIST OF ACRONYMS AND ABBREVIATIONS**

CEGS College of Engineering and Geosciences

CRAFT Center for Renewable energy, Automation, and Fabrication Technologies

CSU Caraga State University - Main

DECE Department of Electronics Engineering
DOST Department of Science and Technology
DTI Department of Trade and Industry
HEI Higher Education Institutions

LGU Local Government Unit

MSMEs Micro, Small, and Medium Enterprises
PLIC Packaging and Labelling Innovation Center

SUCs State Universities and Colleges

# **Table of Contents**

1.	П	NTRODUCTION	4
2.	F	PROJECT HISTORY	4
3.	P	PROJECT MANDATE	5
4.	١	/ISION AND MISSION, GOALS and OBJECTIVES	5
,	VIS	ION	5
	MIS	SSION	5
	GO.	ALS	5
(	OB.	JECTIVES	5
5.	T	THE BUSINESS LOCATION	6
6.		DESCRIPTION AND LAYOUT OF THE FACILITY AND WORKPLACE	6
7.	Е	BUSINESS SERVICES	7
	a.	Technology Access Center	7
	b.	Training Provider	7
	С.	Collaboration Hub	7
	d.	Intellectual Property (IP) Management	7
(	e.	Marketing / Promotional Strategies	7
8.	C	DRGANIZATIONAL STRUCTURE AND RESPONSIBILITIES	8
;	a.	FABLAB CARAGA ORGANIZATIONAL STRUCTURE	8
	b.	DUTIES AND RESPONSIBILITIES	8
9.	P	PROJECT PARTNERS/ STAKEHOLDERS	10
10		PRODUCTS AND SERVICES	10
i	a.	ENUMERATION OF SERVICES	10
	b.	FEES AND CHARGES	11
11		FINANCIAL MANAGEMENT	12
;	a. P	Payment of FABLAB Service Fees and Charges Overflow	12
	b. E	expenditures	12
12	ı	GUIDELINES TO FABLAB CARAGA SERVICES	12
	a.	TERMS AND CONDITIONS	12
	b.	RULES AND REGULATIONS	13
(	С.	LIMITATIONS AND PROHIBITIONS	13
(	d.	FABLAB SERVICES	14
	е.	PROCESS FLOW	15

### 1. INTRODUCTION

FABLAB (Fabrication Laboratory) Caraga is a technology driven prototyping space for invention and product innovation opening vast opportunities for makers and technopreneurs.

FABLAB Caraga is a platform for skills learning and mentoring through its hands-on training and workshops. Nourishing the makers' culture, FABLAB Caraga is connected to a global community of FABLABs making a knowledge-sharing network.

Moreover, FABLAB Caraga aims to develop a pool of designers in the region through Caraga State University (CSU) system who can readily assist Caraganons in product design and development and to upgrade the framework conditions or creative work in the region.

FABLAB Caraga endeavors to elevate the local economy by providing better and more competitive products and support its long-term viability by providing the necessary tools and equipment to do rapid prototyping and modeling. It enhances the local MSME ecosystem, encourages start-ups, and develops entrepreneurs who create more jobs.

#### 2. PROJECT HISTORY

The FABLAB project was conceptualized by Dr. Neil Gershenfield at the Massachusetts Institute of Technology's (MIT) Center for Bits and Atoms with the idea of "How to make almost anything". Currently, in more than 90 countries, there are approximately 1,500 Fab labs.

The conceptualization of FABLAB Caraga begun in 2014 with the Department of Trade and Industry's (DTI) efforts to help local Micro, Small, Medium Enterprises (MSMEs) increase their productivity through the introduction of digital fabrication equipment.

Bohol Fabrication Laboratory is the first fabrication laboratory established in Philippines through

Shared Service Facility (SSF) primarily managed by the Bohol Island State University (BISU). After the benchmarking activity at Bohol Island State University conducted by DTI Caraga and participated by Caraga State University (CSU) last November 16, 2015, it was an eye opener for the group that MSMEs can be globally competitive with the use of state-of-the-art machinery and technology. Most MSMEs in Caraga Region are micro enterprises who need assistance in digital fabrication, packaging and labeling. With the prohibitive cost of printing and limited financial capacity of the MSMEs, the quality and design of their product labels are in most cases compromised. This affects the marketability of their products. Even how good and far better the taste of the food items they produce and even how creative the arts/crafts products are executed but with low quality and unattractive packaging and labeling, selling and expanding markets will be difficult.

Afterwards, a partnership project between DTI and Caraga State University were cemented through the establishment of a Shared Service Facility (SSF) named FABLAB Caraga in 2017.

FABLAB Caraga was launch last October 2018 and is now currently assisting clients with its modern digital fabrication equipment amounting to 12 million pesos funded by DTI and housed in Mechatronics Building, Caraga State University. In addition to the grant of DTI, the Department of Science and Technology (DOST) also augmented fabrication equipment and tools amounting to 1.3 million to further

4 | FABLAB CARAGA SPACE FOR INVENTION AND INNOVATION

enhance the capability of the laboratory. The laboratory also served as an integral part of the Center for Renewable energy, Automation and Fabrication Technologies in their research and product prototyping.

The establishment of FABLAB Caraga is a great help in addressing the design gaps, encourage other users to use the facility to test and execute their design in developing quality and competitive products at par with other MSMES in the country of similar products and accommodate secondary users not only CSU but also other universities/colleges to boost inventive capability.

### 3. PROJECT MANDATE

FABLAB Caraga must provide access to the tool, the knowledge and the financial means to educate, innovate and to invent using technology and digital fabrication to allow anyone from academe and in different industries and institutions and all Caraganons to make and enhance products through fabrication technology.

FABLAB creates opportunities.

# 4. VISION AND MISSION, GOALS and OBJECTIVES

### **VISION**

"A LEADING MAKERS' HUB CREATING INVENTIONS AND INNOVATIONS THROUGH PRODUCT RESEARCH, DEVELOPMENT, AND PROTOTYPING CONTRIBUTING TO THE TECHNOLOGICAL ADVANCEMENT OF THE COUNTRY"

#### **MISSION**

"FABLAB CARAGA AIMS TO IMPROVE THE COMPETITIVENESS OF THE COMMUNITY BASED PRODUCTS, INVENT AND INNOVATE NEW PRODUCTS BY PROVIDING THE NECESSARY TECHNOLOGY, TOOLS AND EQUIPMENT AND BY CREATING A POOL OF MAKERS"

# **GOALS**

FABLAB Caraga aims to provide access to digital fabrication machineries and technical expertise to aid MSMEs in prototype, product and technology development.

# **OBJECTIVES**

- To be a technology access center by operating and maintaining a digital fabrication equipment suite
- To be a training provider by conducting training programs on digital design and digital fabrication.

# 5. THE BUSINESS LOCATION

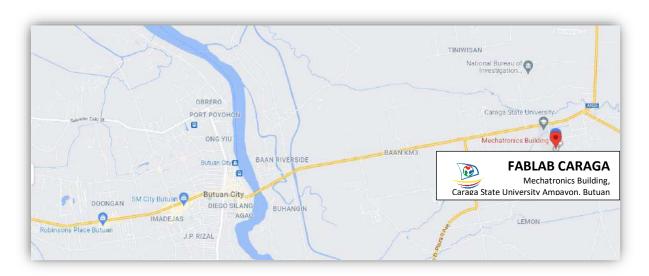


Figure 1. FABLABB Caraga Business Location

# 6. DESCRIPTION AND LAYOUT OF THE FACILITY AND WORKPLACE

FABLAB Caraga Facility is located at the Ground Floor of the Mechatronics Building, Caraga State University (CSU) – Main Campus, Ampayon Butuan City in Agusan del Norte, Philippines. The facility provides a laboratory area to in house and accommodate the machines and equipment needed for the FABLAB Operation namely but not limited to; Laser Cutter, Small Milling Machine w/ rotary, Print and Cut Machine, 3D Printer, Big Milling Machine and Sewing and Embroidery Machine.

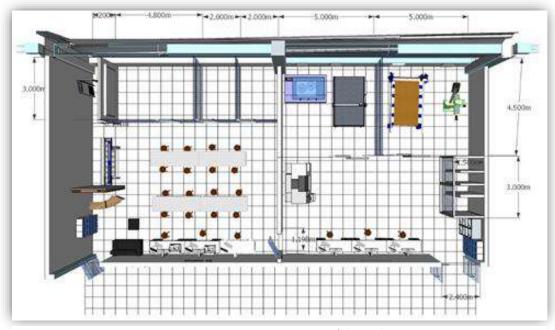


Figure 2. FABLAB Caraga LAY-out of the Facility

## 7. BUSINESS SERVICES

## a. Technology Access Center

FABLAB Caraga provides access to digital fabrication equipment and expertise to our MSMEs, students and researchers through:

- Fostering entrepreneurial activities and the creation of downstream industries which utilizes digital fabrication
- Provides common service facility to industries in need of digital fabrication and other stakeholders in the locality

# b. Training Provider

FABLAB Caraga provides knowledge and skills transfer in digital fabrication through:

- Conducting trainings for skills development and enhancement in various areas of digital fabrication
- Delivers technical assistance/ consultancy for livelihood development projects.

#### c. Collaboration Hub

For government agencies and organization, FABLAB Caraga provides an avenue to collaborate on developed prototype and projects through:

 Collaborating and strengthening research and extension partnerships with local government units, civil society or any funding agencies for the product development and advancement through digital fabrication.

# d. Intellectual Property (IP) Management

IP related matters will take into consideration the IP guidelines of technology generators (R&D institutes, SUCs, private HEIs, companies) and existing IP laws (e.g. RA 10055 –Technology Transfer Act of the Phils.; IP Code of the Philippines; TAPI IP A.O.). The FABLAB Caraga in coordination with Caraga State University Technology Transfer and Licensing Office (TTLO) and Innovation and Technology Support Office (ITSO) has IP Management guidelines to encompass, among others, the use of existing technical information and technology; and the IP protection and rights of stakeholders for new technology, process, and product developed.

# e. Marketing / Promotional Strategies

Most of the MSMEs in Caraga Region do not have the facilities/technology that allows them to transform their creative ideas into prototypes. They have conducted series of training in product improvements but the capacity as to volume/mass production is evidently lacking.

FABLAB Caraga addresses the gap by tapping expertise of the student in actualizing design ideas by MSMEs coupled with the student's inventive/exploratory nature and create activities to promote the services offered by this facility but not limited to;

Production of information/educational and communication (IEC) materials such as brochures, fliers, posters, video presentation, web site, etc.; Attend Industry Cluster Meetings to formulate

collaborations within the firms, MSMEs and other stakeholders in the region and beyond; Attend promotional activities undertaken by the line agencies such as Department of Trade and Industry, etc.; and to conduct continuous market research and collaborations among FABLAB Ph Network for the enhancement and development of services offered by FABLAB Caraga.

### 8. ORGANIZATIONAL STRUCTURE AND RESPONSIBILITIES

# a. FABLAB CARAGA ORGANIZATIONAL STRUCTURE

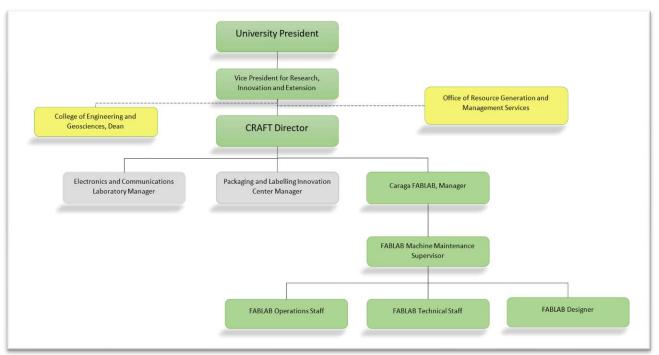


Figure 3. FABLAB Caraga Organizational Structure

FABLAB Caraga is operated and managed by the Office of the President of CSU and will be under the Office of the Vice President for Research, Innovation and Extension, and then cascaded to the College of Engineering and Geosciences to manage the operation and ensure that the project is running in conformity of policy and guidelines of Shared Service Facility. The Center for Renewable Energy, Automation and Fabrication Technologies Director shall establish the rules and policies that will govern the operation of the facility and under the supervision and consultancy from the CRAFT Director, the FABLAB Manager will supervise the planning of schedule for the use of FabLab facilities and ensure MSMEs are given priority, monitor collection of fees from usage of facilities, observe proper maintenance of the equipment, submit regular monitoring report to DTI and other agencies, and identify need of MSMEs for referral to the appropriate technical experts. Technical experts who will manage the FabLab are regular employees whose services are part of the community extension program and receiving compensation from the university.

### b. DUTIES AND RESPONSIBILITIES

# **CRAFT Director:**

A CRAFT Director handles 3 laboratories namely; Packaging and Labelling Innovation Center (PLIC), Electronics and Communications Laboratory and the Caraga Fabrication Laboratory that are part in

8 | FABLAB CARAGA SPACE FOR INVENTION AND INNOVATION

the area of Research and Extension Project; He is also part of the Electronics Engineering Faculty Member at Caraga State University.

- The CRAFT Director will establish the rules and policies that will govern the operation of the facility;
- Give technical advice and consultancy to the FABLAB Caraga Manager and Technical Staff;
- Conduct technical review and evaluation on the progress of the facility;
- Forge linkages with relevant institutions and stakeholders as partners for the FABLAB Caraga; and
- Strengthen the coordination, collaboration and networking mechanism among stakeholders and project enablers.

# **FABLAB Manager:**

The FABLAB Manager is also part of the Department of Electronics Engineering Faculty Member.

- Facilitate in the planning, monitoring and assessment of programs and interventions towards the sustainability of the facility;
- Organizes promotional and marketing activities; and
- Monitors the facility implementation of services and submit required documents and progress reports to collaborators and supervisors.

### **FABLAB Machine and Operations Maintenance Supervisor:**

The FABLAB Manager is also part of the Department of Electronics Engineering Faculty Member

- Shall be responsible on the planning on Machine and Equipment Maintenance
- Shall supervise the full operations of the Machines and Equipment
- Provide Weekly and Monthly Reports to the FABLAB Manager on the calibration and Maintenance of the Machine and Equipment
- Shall provide facility inventory
- Provide technical advised and supervision to the FABLAB Staff

#### > FABLAB Technical Staff: Full time Personnel

- In-charge of all financial transactions;
- In-charge in procurement of supplies and consumables;
- Maintains all client and payment records;
- Acts as overseer of all shared service facility operations;
- Handles day-to-day business transactions;
- In-charge of production operations and quality checking of products/services rendered;
   and
- Observe periodic maintenance of machines.

# FABLAB Designer: Full time Personnel

- Responsible of all product development activities initiated by the facility;
- Provide technical assistance to all clients and users in terms of how existing products can be improved and new ones to be introduced;
- Assess the product performance characteristics required by clients;
  - 9 | FABLAB CARAGA SPACE FOR INVENTION AND INNOVATION

- Provide technical support and other extension services to the FabLab; and
- Observe periodic maintenance of machines.

# 9. PROJECT PARTNERS/ STAKEHOLDERS

FABLAB Caraga is the first of its kind in the region and it is a collaboration project of the DTI, DOST, and CSU. It is a good example of convergence with partners working together by putting in financial and technical resources to the project.

Table 1. Total Project Cost: (2018)

Agency	Investment
DTI	P12,000,000.00
DOST	P1,300,00.00
TOTAL	P13,300,000.00

The Caraga State University has allocated a 200 sq. m. space to house the equipment given and to serve as training for makers and MSMEs.



# **10. PRODUCTS AND SERVICES**

# a. ENUMERATION OF SERVICES

Table 2. FABLAB Caraga Services

Product Development	<ul> <li>Design Services</li> <li>Rapid Prototyping</li> <li>Project Consultations</li> </ul>
Prototyping	<ul> <li>2D/3D Printing and Modeling</li> <li>Laser Cutting and Engineering</li> <li>Shopbot Cutting</li> <li>Print and Cut Services</li> <li>Plasma Cutting</li> </ul>

Capability/Capacity Development	<ul> <li>2D &amp; 3D Modeling</li> <li>Arduino Controllers and Sensors</li> <li>Product Design</li> <li>Material Manipulation</li> </ul>
Facility Guided Tours	<ul> <li>Guided Tours @ FabLab</li> <li>Hands-on Training</li> <li>Workshop on Machine and Equipment Operation</li> </ul>

# b. FEES AND CHARGES

Table 3. FABLAB Caraga Fees and Charges

USE OF MACHINE/ EQUIPMENT	RATE	
<u> </u>	MSMEs/Enthusiasts	Students
3-D Printer	Php 1.00 / min	Php 0.80 / min
Laser Cutter	Php 15.00 / min	Php 12.00 / min
Print and Cut Machine		
Tarpaulin Printing	Php 25.00 / sq. ft	Php 20.00 / sq. ft
Vinyl Sticker Printing	Php 60.00 / sq. ft	Php 48.00 / sq. ft
Cutting charge	Php 10.00 / sq. ft	Php 8.00 / sq. ft
ShopBot (Large CNC Machine)	Php 250.00 / hr	Php 200.00 / hr
Small CNC Milling Machine	Php 200.00 / hr	Php 160.00 / hr
Metal CNC Machine	Php 300.00 / hr	Php 240.00/ hr
Plasma Cutting Machine	Php 300.00/ hr	Php 240.00/ hr
Use of Laboratory Facility without computers	Php 350.00/ hr	Php 350/ hr
Use of Laboratory Facility with computes	Php 500.00/ hr	Php 500.00/ hr
Training-Workshops:		Part of the curriculum.
<ul> <li>2-days 2D Modelling (15 persons)</li> </ul>	Php 3000.00/ person	Student shall pay for
2-days 3D Modelling (15 persons)	Php 3000.00/person	the materials to be used in the workshop.
- Doguest of convices from the Institutions / Univ	versity also all be are billion bare	! !: ! + !! + -

<sup>•</sup> Request of services from the Institutions/University shall be on billing basis subject to compliance to accounting and auditing rulings.

# Note:

i. Fees and charges may subject to changes.

### 11. FINANCIAL MANAGEMENT

The University shall maintain the separate holdings and records for all financial transactions under FABLAB Caraga.

# a. Payment of FABLAB Service Fees and Charges Overflow

- Issuance of Billing Statement to Client after the transaction will be only from the authorized FABLAB Caraga Staff indicating the required payment incurred from the transaction.
- The client pays the indicated amount to the University Cashier's Office of Caraga State University from the issued Billing Statement. Then the client presents official receipt to the FABLAB Caraga Staff for release of the engagement output.
- Request of services from the Institutions specifically Caraga State University shall be on billing basis subject to compliance to accounting and auditing rulings.
- By the end of each month, the Accounting Division shall prepare Report of Collections with COA rules and regulations.

### b. Expenditures

- Procurement of support materials and machine servicing will be forecasted and programmed to ensure that the machine runs as intended.
- Disbursements shall be in accordance with the usual government budgeting and accounting rules and regulations.

### 12. GUIDELINES TO FABLAB CARAGA SERVICES

# a. TERMS AND CONDITIONS

# **OPEN DAY**

In accordance to the FABLAB Foundation and as stated that "First and foremost", public access to the FabLab is essential. People should have access to the tools for expressing ideas into innovations and inventions therefore a FabLab should be open to the public for free or in-kind service facility.

- Open every Monday to Friday from 8:30 am 5:30 pm;
- Open to all researchers and innovators;
- Online reservation should be done before visiting the laboratory;
- In the moment that online booking is not possible, first come, first serve must be observed; and
- Only 15 persons per batch is allowed at a given time.

### SCHEDULE OF MAINTENANCE

- Perform weekly maintenance every Wednesday and fill up the maintenance forms
- Submit a report on damaged parts or equipment
  - 12 | FABLAB CARAGA SPACE FOR INVENTION AND INNOVATION

- Quarterly preventive maintenance will be performed every 1st week of the quarter
- Reports of maintenance should be signed by the performing staff

### MONTHLY REPORTING

- Submit a monthly report using the monthly monitoring sheet every 3rd of the month
- The monthly report should be signed by the FABLAB Manager

### b. RULES AND REGULATIONS

- Researchers and innovators must provide their own materials or pay to university cashier
  the indicated amount in the billing statement issued by the FABLAB Manager including
  the incurred materials provided by the facility and agreed by both parties.
- They are liable to pay for any loss or damage of tools and equipment arising during their stay and use;
- Must use the needed tools and machines in the proper way;
- Must refrain from hurting people and damaging equipment;
- Must assist in the maintenance of cleanliness in the facility;
- Willing to share documentation and instruction;
- Avoid loud conversation/discussion and loitering inside the FABLAB;
- FABLAB Caraga is exclusive for collaboration, research, prototyping, and advancement of new knowledge;
- Eating and drinking is allowed in designated areas only;
- All visitors and students must log-in before entering the lab;
- Customers (MSMEs and Students) must fill-up the forms for documentation before and after entering the lab;
- Clean your working area and return borrowed tools before leaving;
- Inform the laboratory in-charge for if you need assistance or if accidents happened in the laboratory; and
- Always follow the laboratory rules and observe the conduct of Occupational Safety and Health.

# c. LIMITATIONS AND PROHIBITIONS

- Cannot do mass production
- Can only produce mock-up prototype

Laser Cutter
 ShopBot
 Print and Cut
 Plasma Cutter
 4 ft x 2 ft
 4 ft x 8 ft
 4 ft wide
 4 ft x 8 ft

o 3D Printer --- (8 x 8 x 8) inches

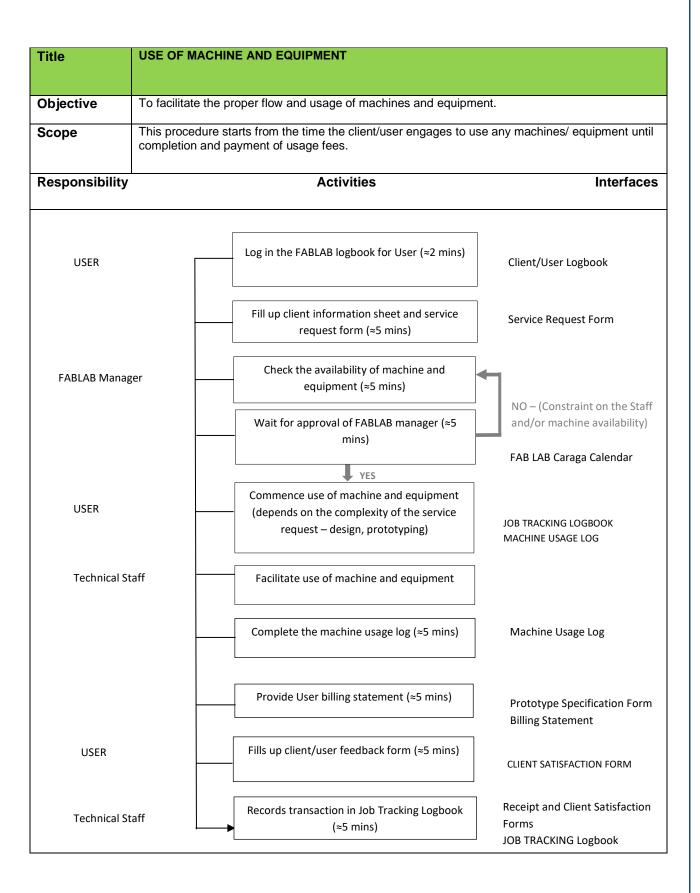
- Have only 8 hours to do their activity per machine
- Must return to their proper place the tools and equipment used

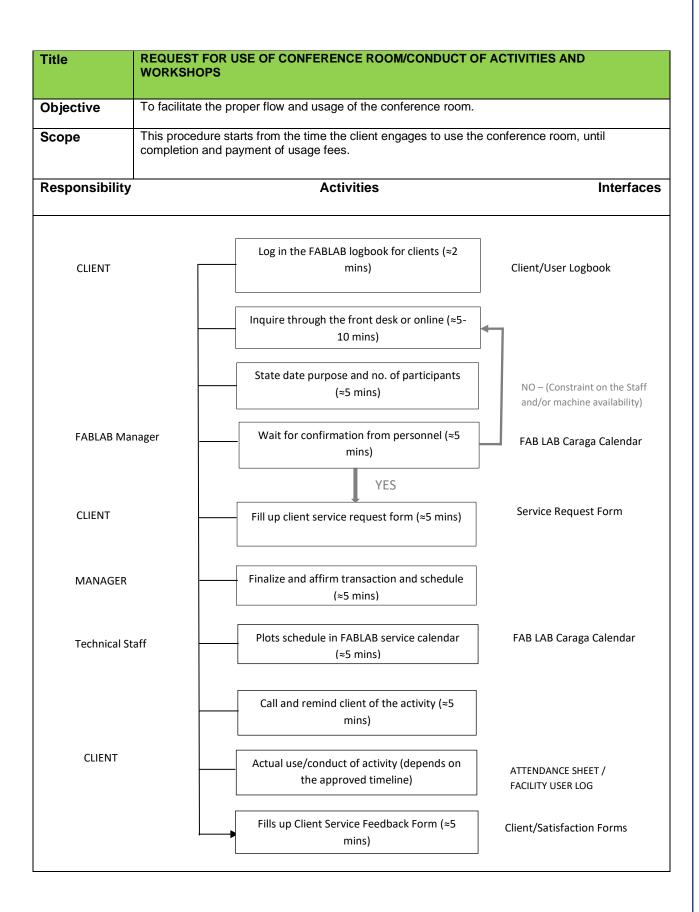
# d. FABLAB SERVICES MONDAY TO FRIDAY (8:00 AM - 5:00 PM)

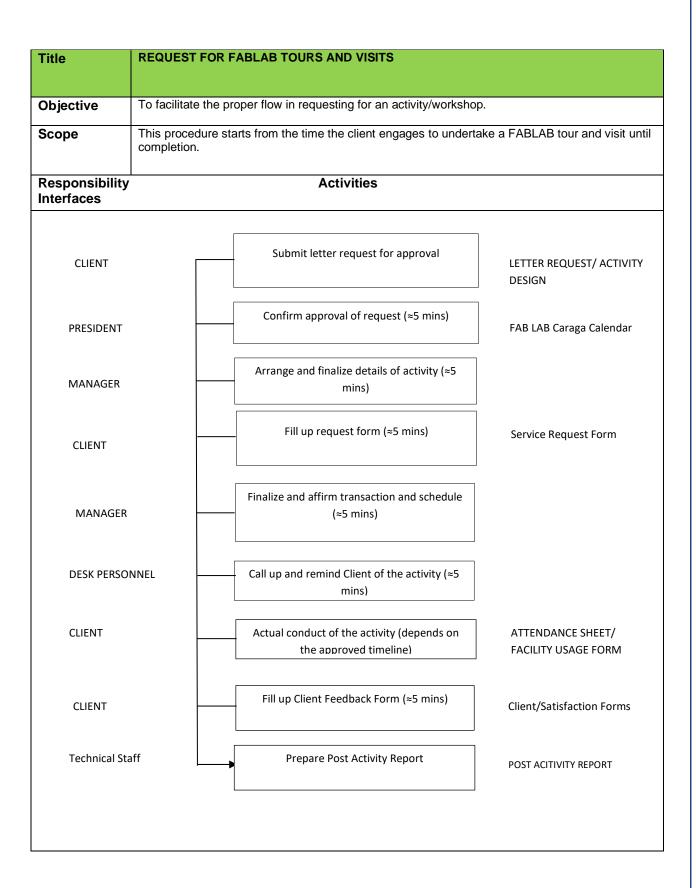
- MSMEs, Researchers and Innovators
  - Must inform and state purpose of visit to FABLAB staff before use of the facility
  - Must log in the client logbook
  - For design and prototyping, must set appointment before accessing FabLab services
  - Must provide their own materials and design in 2D or 3D machines prior to printing
  - Must strictly follow FabLab house rules
- Conference Room Reservation
  - Must sent Letter Request 1 day ahead before use
  - o Fill Out reservation Form
  - Must pay first for reservation
- Tours and Visits
  - Must sent Letter request 3 days ahead of time address to the University President
  - o Must secure approval of schedule from Manager
  - Only 25 persons are allowed per tour/visit
- Borrowing FabLab Items
  - o Must inform FabLab Manager of intent to borrow particular item
  - o Must fill up Borrower's Form
  - Must return item borrowed a maximum of 2 weeks
  - o Must pay for any damage or loss of item borrowed
- Release of FabLab Serviced Items
  - Must first fill up documentation forms.
  - Release of items will be made upon presentation of O.R. of payment of fees or charges
  - o Releasing of item will depend on the production and completion

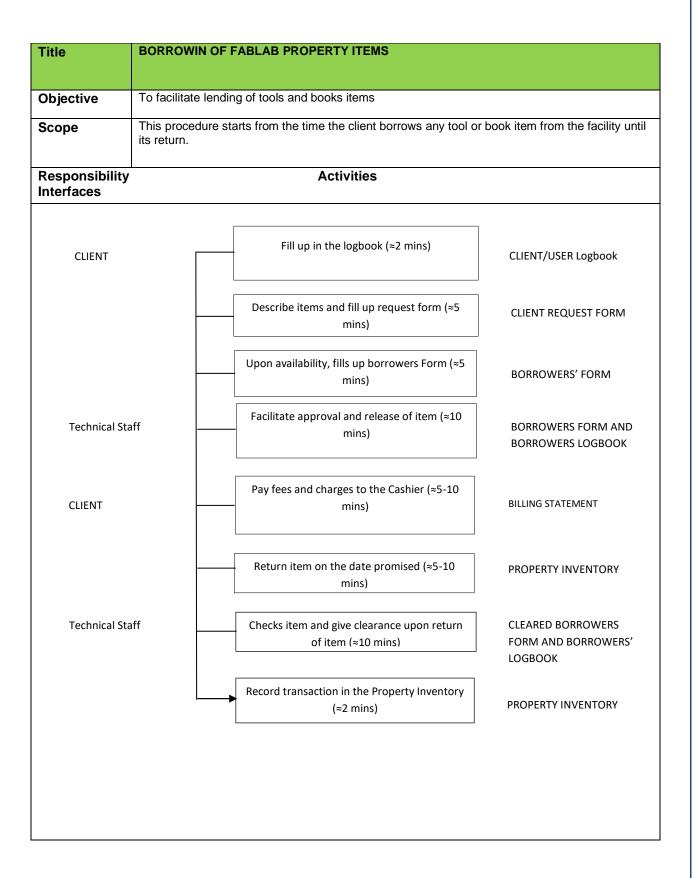
# e. PROCESS FLOW

Title	CLIENT INQUIRY AND SERVICING	
Objective	To provide prompt, courteous and proper information and service	to the client.
Scope	This procedure starts the moment the client/user walks in and inqueservices until the client/user leaves the facility.	uiries about the FABLAB
Responsibility Interfaces	Activities	
Technical :	Greet and facilitate log in of client/user	Client/User Logbook
	Initiate conversation with client (≈5 mins)	
	Provide proper information to client inquiry (≈5 mins)	Service Request Form
FABLAB Ma	Evaluate need and inform service procedures (≈5 mins)	
	Check, and arrange schedule of servicing (≈5 mins)	FAB LAB Caraga Calendar
	Affirm and close client service need	
Technical :	Staff Facilitate service form (≈5 mins)	JOB Tracking Form JOB Tracking Form
	Provide Service (depends on the complexity of the service request – design, prototyping)	Prototype Specification Form
	Provide billing statement (≈5 mins)	Billing Statement Form
	Complete Job Tracking Logbook	Receipt and Client Satisfaction Forms JOB TRACKING Logbook









tle	REQUEST FOR DESIGN DEVELOPMENT AN	ID PROTOTYPING
bjective	To facilitate prototyping and designing	
DJECHVE		
cope	This procedure starts at the time of inquiry to th of charges and completion of request and paym	
esponsibility	Activities	Interface
	Log in FABLAB Client Logbook (≈2 mins)	
CLIENT	LOG III I ADLAD CIICII LOGDOOK (~2 IIIIIIS)	CLIENT/USER LOGBOOK
	Fill up client Inquiry Form (≈5 mins)	SERVICE REQUEST FORM
	Show initial draft design with FABLAB  Designer/Manager (≈10 mins)	
DESIGNER/ MANAGER	Discuss details with Designer (≈10-15 mins)	
MANAGER	Finalize and affirm transaction (≈5 mins)	JOB ORDER FORM
TECHNICAL STAFF –	Schedule Designing and Data Making (≈5 mins)	FABLAB CALENDAR
DESIGNER	Present design output for comments (≈5 mins)	SERVICE REQUEST FORM
-	Finalize design output (depending on the agreed design	
_	Proceed to machine Prototyping (depending on the complexity	PROTOTYPE SPECIFICATION FORM
TECHNICAL STAFF	Provide Billing Statement (≈5 mins)	BILLING STATEMENT
CLIENT	Present Official Receipt and receive the item (≈5 mins)	O.R. AND CLIENT SATISFACTION FORM
TECHNICAL STAFF	Complete Job Tracking log (≈2 mins)	JOB TRACKING LOGBOOK

Objective	To facilitate payment of FABLAB services.	
Scope	This procedure starts from the time of completion an rendered.	nd payment of FABLAB service
Responsibility	Activities	Interface
Technical Staff	Check client job order form/ machine usage log (≈5 mins)	JOB ORDER FORM/ MACHINE USAGE LOGBOOK
	Compute charge of service rendered (≈5 mins)	
	Issue billing statement to client (≈5 mins)	BILLING STATEMENT FORM
CLIENT	Submit billing statement and pay to CSU  Cashier (≈5-10 mins)	
CSU CASHIER	CSU Cashier will issue Official Receipt (≈2 mins)	OFFICIAL RECEIPT
	CSU Cashier records transaction in Journal under FABLAB Caraga Account (≈5 mins)	
CLIENT	Present OR and give a copy of billing statement to the technical staff with written OR number on it (~5 mins)	BILLING STATEMENT FORM
TECHNICAL STAFF	Secure a copy of the OR number of the transaction (≈2 mins)	JOB TRASCKING LOGBOOK
	Give client satisfaction form (≈1 min)	CLIENT SATISTACTION FORM
CLIENT	Fill-up client satisfaction form (≈5 mins)	
TECHNICAL STAFF	Close the transaction by receiving the form and release the prototype/product (≈2 mins)	

# **13. SUPPORT SERVICES**

	PREVENTIVE MANTENANCE OF FACILITY, MACHIN	NES AND EQUIPMENTS
Objective	To facilitate care and maintenance of facility, machines	and equipment.
	This procedure starts at the time the facility commence	
Scope	This procedure starts at the time the facility commence	s daily operations and so forti
Responsibility	Activities	Interface
FACILITY STAFF	Inspect facility, machines and equipment (≈5- 10 mins)	MACHINE MAINTENANCE MONITORING RECORD
	Conduct daily cleaning activities of facility, machines & equipment before use (≈30 mins)	STAFF LOGBOOK
	Ensure tools are in the proper place before use (≈5 mins)	PROPERTY MAINTENANCE LOGBOOK
	Check condition of machines and equipment (≈30 mins)	LOGBOOK
	Record status of machine equipment in machine & equipment logbook (≈10 mins)	
	Report to FabLab Manager for any malfunction (≈10 mins)	
	Check and clean machine and equipment after every usage (≈30 mins)	
	Clean facility area and turn off computers (≈30 mins)	
FABLAB MANAGE	Close and properly lock facility (≈5 mins)	

Title	IROUBLESHO	OOTING OF MACHINE AND EQUIPMENT BREAKE	DOWN
Objective	To facilitate ma	chine and equipment checkup and malfunction trouk	oleshooting.
Scope This proce malfunction		starts during periodic maintenance checkup and tro	ubleshooting of machine
Responsibilit	у	Activities	Interfac
FACILIT	TY STAFF	Inspect facility, machines and equipment (≈30 mins)	MACHINE MAINTENANCE MONITORING RECORD
		Conduct daily cleaning activities of facility, machines & equipment before use (≈30 mins)	STAFF LOGBOOK
		Ensure tools are in the proper place before use (≈5 mins)	PROPERTY MAINTENANCE
		Check condition of machines and equipment (≈30 mins)	
		Record status of machine equipment in machine & equipment logbook (≈10 mins)	
		Report to FabLab Manager for any malfunction (≈5 mins)	
		Check and clean machine and equipment after every usage (≈30 mins)	
		Clean facility area and turn off computers (≈30 mins)	
FAB L	AB MANAGER	Close and properly lock facility (≈5 mins)	

Title	MATERIALS	AND SUPPLIES REQUEST AND INVENTORY CON	NTROL
bjective	To facilitate re	quest, utilization and inventory of materials and supp	olies.
Scope	This procedure inventory man	e starts from listing materials and supplies in the FAE agement.	BLAB, its utilization and
esponsibility	y	Activities	Interfac
FABLAB N	//ANAGER	Prepare list of materials and supply needs (≈30 mins)	SUPPLIES REQUEST FORM
		Prepare Request Form (≈5 mins)	
	_	Prepare and submit request form to FABLAB  Business Manager (≈30 mins)	
	-	Receive materials and supplies (≈5 mins)	SUPPLIES INVENTORY
		Check and classify materials and supplies and record in supplies inventory (≈30 mins)	
	-	Release materials and supplies using First in First out (FIFO) method of inventory (≈10 mins)	
BOOKKEEPER —		Record material releases and monitor stocks (≈10 mins)	
		Prepare weekly summary of stock inventory (≈30 mins)	
		Prepare replenishment request of stock as the need arises (~30 mins)	SUPPLIES REQUEST FORM
		Prepare monthly inventory report (≈30 mins)	SUPPLIES INVENTORY

Title	RECORDING,	BOOKKEEPING AND REPORT GENERATION		
Objective	To facilitate rec	ording of facility transactions and generating status r	eports.	
Scope	This procedure	This procedure starts from client inquiry to service completion, payment and status reporting.		
Responsibilit	у	Activities	Interfac	
воокке	EPER	Record all inquiry forms in service logbook (≈10 mins)	CLIENT INQUIRY FORM	
		Record all service transactions in logbook (≈10 mins)	FABLAB SERVICE FORM	
		Post all billing statements in Journal (≈10 mins)	BILLING STATEMENT	
	_	Prepare monthly FABLAB service reports (≈60 mins)	SERVICE FORM	
CSU CAS	SHIER	Post all paid service transactions in Journal (≈10 mins)	OFFICIAL RECEIPTS	
	_	Post all expenses incurred in Journal (≈10 mins)	DISB. VOUCHERS	
		Prepare Monthly Revenue & Expense Report (≈60 mins)	GENERAL JOURNAL	
	_	Provide copy to FABLAB Management (≈10 mins)	MONTHLY REVEUE & EXPENSES REPORT	
	L	Safe keep O.R., Reports and Journal (≈10 mins)		