Digital India Corporation

Ministry of Electronics and Information Technology
Government of India

Digital India Power To Empower

SEAIP **2018**

Digi **bunai**
Bunkar Advancement through ICT

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Open Source CAD Tool- for Weaving

Digital India Power To Empower

www.medialabasia.in

India @ Glance

India today riding on DIGITAL HIGHWAY

- Internet Users – 462.12 Million*
- Mobile Users – 730.7+ Million*
- Smart phone Users (340+ million)*
- 2nd largest (Internet Users) next to China
- fastest growing eCommerce market globally**

Vast Country

- Area - 3.3 Million sq. km
- Administrative Divisions – 29 States and 7 Union Territories
- Population- 1210.19 Million (2011 Census)
- Official Languages – 22
- Literacy – 74.04% (2011 Census)
- 70% in Rural Population across 6 Lacs+ Villages

FULL BENEFITS OF IT REVOLUTION YET TO REACH AT MANY PLACES

DIGITAL DIVIDE BETWEEN 'HAVES' AND HAVE NOTS' – Digital India Corporation (DIC)

Statistics-and-Analyses/?r=51

Population of various countries with that of states of India*

*** BNP Analyst

Digital India
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Digital India Corporation (Media Lab Asia)

DIC

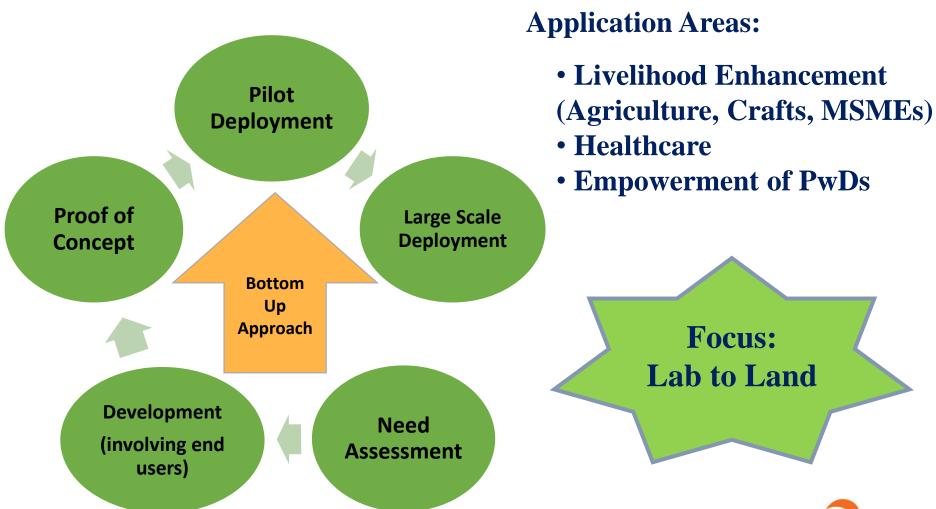|		
Vision	:	Innovating for Digital Inclusion
Objective	:	To bring benefits of ICT to the common citizen
Status	:	Set up as: Not for Profit Co. in 2001 by Ministry of Electronics and Information Technology (MeitY), Govt. of India
Board	:	Chaired by Hon'ble MeitY, Govt of India
Focus	:	Lab to Land
Areas	:	Livelihood Enhancement (Agri & MSME), Health, Education, EoD
Activities	:	Development & Deployment of ICT based applications for the benefit of common citizen
Collaborations	:	Works with & through other organizations, Govt. Depts., Research institutions, Academic institutions, NGOs, industries ….

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Activities

Development & deployment of ICT based applications for the benefits of common man

Application Areas:

- **Livelihood Enhancement (Agriculture, Crafts, MSMEs)**
- **Healthcare**
- **Empowerment of PwDs**

Pilot Deployment

Proof of Concept

Large Scale Deployment

Bottom Up Approach

Development (involving end users)

Need Assessment

Focus: Lab to Land

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Weaving Process
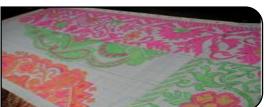
Design → → Chic™ (CAD)/ Other Design App

Graph → → Graph using Weaving Tool

Punching → → Computerized Card Punching

Weaving → → Weave filling using Weaving Tool
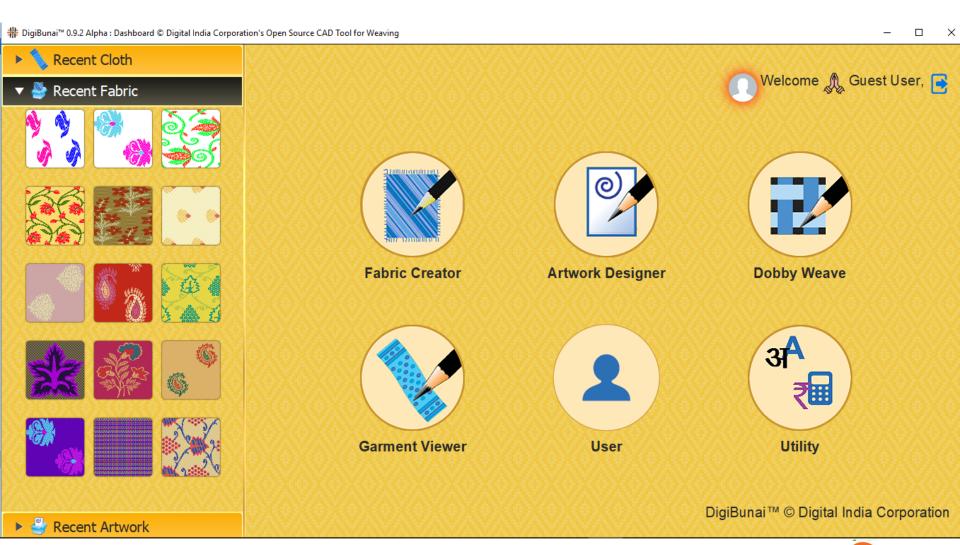
Final Saree → → Saree View using Weaving Tool

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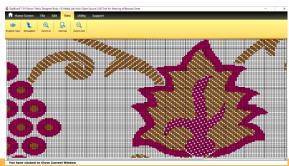
CAD Tool for Weaving

Demo-Video

DigiBunai™ - Weaving CAD Tool

DIC

Open Source CAD Tool for textile design to optimize the pre-loom process of design creation, graph generating, punching the punch cards.

- Display the complete Saree digitally before weaving
- Flexibility to change the size, repeats & orientation of artwork
- Provision to change the layout of the Garment
- Option for the front and back side view of the fabric
- Provision to print the graph and direct punching through CAM
- Seamless integration of 3rd party design tools
- Customized for local designs/weaves and garments-
  - *Local Language framework*
  - *Local Library of weaves, designs and garment layout*
  - *Digitised local colour catalogues*
  - *Customised Graph generation*

DigiBunai™ - Weaving CAD Tool

Pilot Tested at Varanasi (5 locations) with O/o Dc(Handloom)

- Conducted feedback session with the users and experts.
- Organised 2 users' workshops at WSC, Varanasi – 120+ participants
- Created more than 100 digital designs
- Created 10 fabric samples to test the output of application and punching M/c
- Phase I completed (development & pilot testing)
- DC (Handloom) reviewed application and showed interest in it's deployment
- Phase II considered by MeitY

Web Portal- *https://bunai.medialabasia.in/*

DIC

- Download the application
- Support an feedback
- Training material
- Showcase the digital library of designs, weaves and fabrics
- Developer zone for open source community

1st Usergroup Workshop on Digibunai at Varanasi

- Pilot Testing of the application started at Common Facility Centre (CFC), Lohta (Harpalpur), Varanasi from 20th March 2017
- Pilot Testing of the application started at Weavers Service Centre (WSC), Chowkaghat, Varanasi from 15th November 2016

TRAINING / SUPPORT
Contact Us for Support related to the software

DOWNLOADS
Download software / documentation / training materials

21
PEOPLE TRAINED

14
CENTERS COVERED

Pilot Deployment at Varanasi

DIC

- Pilot Tested at Varanasi supported by O/o DC(Handloom), Min. of Textile
  - ✓ Weavers Service Centre (WSC), Chowkaghat-Varanasi
  - ✓ Common Facility Centre(CFCC), Ramnagar-Varanasi
  - ✓ Common Facility Centre (CFC), Lohta-Varanasi
  - ✓ Common Facility Centre (CFC),Cholapur-Varanasi
  - ✓ Common Facility, Centre(CFC), Pindra-Varanasi
  - ✓ Indian Institute of Handloom Technology(IIHT), Varanasi
  - ✓ National Institute of Fashion Technology, Varanasi
- Organised 2 users' workshops at WSC, Varanasi – 120+ participants
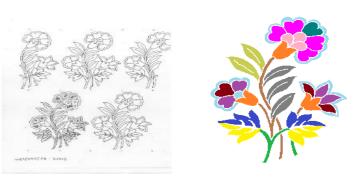- Made live demonstration to DC(Handloom) at WSC, Varanasi

Scheduled Deployment:

Weaving Clusters

1. Assam-Saulkuchi

2. Tamilnadu - Kanchipuram

3. Andhra Pradesh-Yemmiganur

4. Uttar Pradesh-Varanasi

5. West Bengal – Bisnupur

6. Orissa – Naupatna

Academic Institutes

1. Department of Textile Technology, IIT Delhi

2. Amity School of Fashion Technology, Noida

3. Department of Visual Art, BHU, Varanasi

4. The Technological Institute of Textile & Sciences, Bhiwani

Sketch

Solid Design

Design Graph

Digital Fabric

Actual Fabric

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Digital and Actual Sample

Location: Common Facility Centre, Pindra, Varanasi

Dress Material

Sketch

Solid Design

Graph Design

Digital Fabric

Fabric

Weaving Technique	Cut Work
Type of Yarn - Warp & Ground Weft - Extra Weft	Katan Silk Katan Silk
Fabric Density (EPI/PPI)	120/70
Yarn Count - Warp - Weft - Extra Weft	22 (Denier) 22 (Denier) 22 (Denier)
Artwork Weaves	Twill & Satin
Ground Weave	Plain

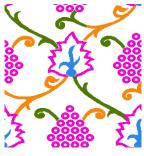|	
Design Parameters (Hooks x Picks)	200 x 286
Jacquard Used	200 Hook
Extra Weft Used	3
Background Colour	Reddish pink
Handloom Width	47"
Denting Order	2
Reed Count	112

Digital and Actual Sample

Location: Angika Hathkargha Sahkari Samiti, Ramnagar, Varanasi

Saree Body

| Sketch | Solid Design | Graph Design | Digital Fabric | Fabric |

Weaving Technique	Cut Work
Type of Yarn - Warp & Ground Weft - Extra Weft	Katan Silk Katan Silk
Fabric Density (EPI/PPI)	120/70
Yarn Count - Warp - Weft - Extra Weft	22 (Denier) 22 (Denier) 22 (Denier)
Artwork Weaves	Twills & Satin
Ground Weave	Plain

Design Parameters (Hooks x Picks)	240 x 298
Jacquard Used	248 Hook
Extra Weft Used	2
Background Colour	Light Green
Handloom Width	46"
Denting Order	2
Reed Count	112

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Challenges

- Digital illiteracy
- Piracy of designs
- Potential impact of employment on Graph makers and card punching staff
- Technology Infrastructure (IT, Jacquard, etc.)
- Standardization of pitch of jacquards
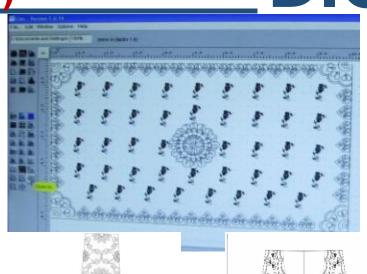- Preserving the weaving art forms

Chic™ (CAD tool for Crafts)

- Help artisans to create 2D designs of Embroidery, Zari, Zardozi etc.

- Digital designs & patterns can be created easily, effectively and precisely

- Saves time in creating complex designs using motifs library and designs' operations

- Digital designs can be transferred from computer to different mediums like clothes, paper etc.

- Digital Pen Tablet introduced to provide similar interface to artisans as making designs by pencil.

- Artisans get a look & feel of the complete design before taking print

Community Acceptance

Chic™ CAD – Deployments

- 3 Centres already setup with the support of MeitY:
    - Lallapura, Varanasi
    - Bithoor, Kanpur
    - Basani, Varanasi

- In past, a centre setup at Chanderi (MP) handed over to DEF

Questions