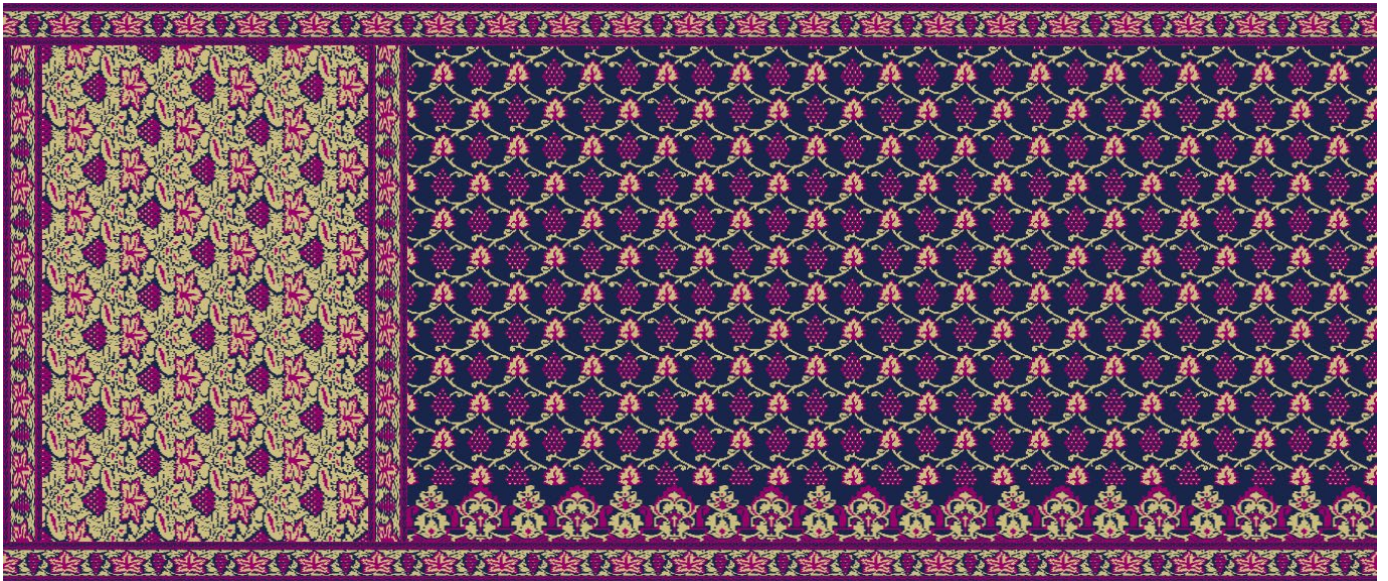


# User Manual

## *DigiBunai™ Ver-0.9.3*



Open Source CAD Tool for Weaving

Digital India Corporation  
Ministry of Electronics & Information Technology, GoI

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# 1. Introduction

## 1.1. Overview

This operational manual provides a general instruction of how to use a Software. The manual assumes that the user have a working knowledge of weaving, computer and its operating conventions, including how to use a mouse and standard menus and commands.

## 1.2. Usage and Warning

Digital India Corporation (formerly Media Lab Asia) is trying to enhance its product so that you can get the quality product. Therefore, it may happen that the user manual and program you are using are inconsistent. It means you will find some new features in the different version. We are trying to enhance the application and trying to make it as simple as we can. An online help is also being provided through [bunai.medialabasia.in](http://bunai.medialabasia.in). We would like to get comments, feedbacks, and suggestions from our users along with the report on malfunctioning. We will try to incorporate all of you feedback /suggestions but sometimes we will not be able to implement all your suggestions.

## 1.3. About software

This tool is used to make all over figured as well as weave based pattern fabrics such as Saree, brocades, dress material, stole, scarf, suiting & shirting etc. The fabrics are woven on a loom having Jacquard (s) attachment to control individual warps. Jacquard Design Fabrics are costly because of the time and skill involved in making the Jacquard cards, preparing the loom to produce a new pattern, and the slowness of the weaving operation. The Jacquard designs consist two or more basic weaves & different weaves used for the background. The software helps the user in design making & editing, assigning different weaves in the design and creating graph of the design. User can either take the printout of design or give the command to computerized jacquard card punching machine.

## 1.4. Application Requirements

### 1.4.1 <Hardware Requirement>

The software will work with the following configuration smoothly:

- Processor: Core i3 or above

- RAM: Minimum 4 GB or above
- Graphics- 2GB

## 1.4.2 <Software Requirement>

The minimum Software requirement for running Open Source CAD Tool is:

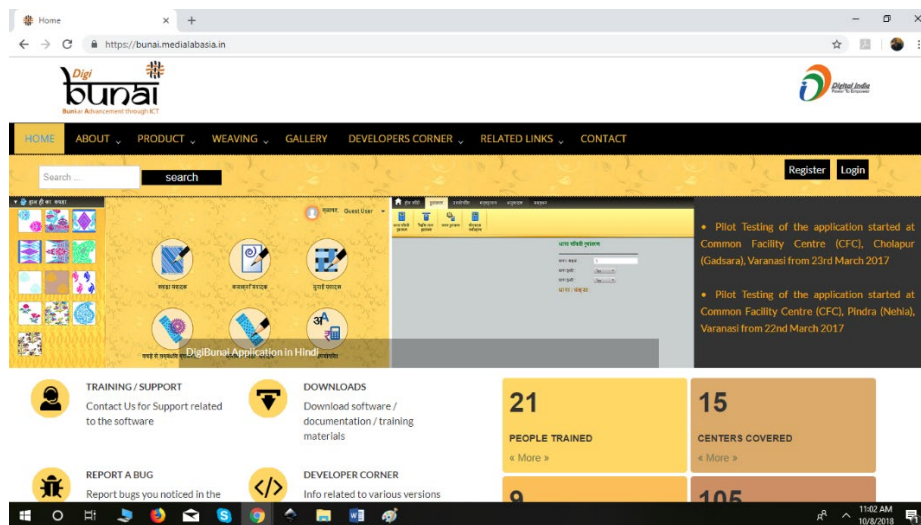
- Operating System: Windows 7, Windows 8, Windows 10.
- Java Runtime Environment: 1.7
- MySQL: 5.6 or above

## 1.5. Program Installation

### 1.5.1 User Registration

The DigiBunai™ needs user registration before installation. User can register on DigiBunai website (<https://bunai.medialabasia.in>) & follow the steps to download the DigiBunai CATD installer.

Open the Website <https://bunai.medialabasia.in> & click on 'Register'.



User can fill their registration details. The account activation link will be automatically send to user Email id after clicking on submit.

Register

https://bunai.medialabasia.in/index.php/register

**DigiBunai**  
Bunai Association of India

MANAGE PROFILE

Search ... search

WELCOME: RAM25  
Dashboard Logout

## Registration Details

Name\*: Ram

UserName\*: Ram25

Password\*: ..... Good

Confirm Password\*: .....

Email Address\*: ramkumar258791@gmail.com

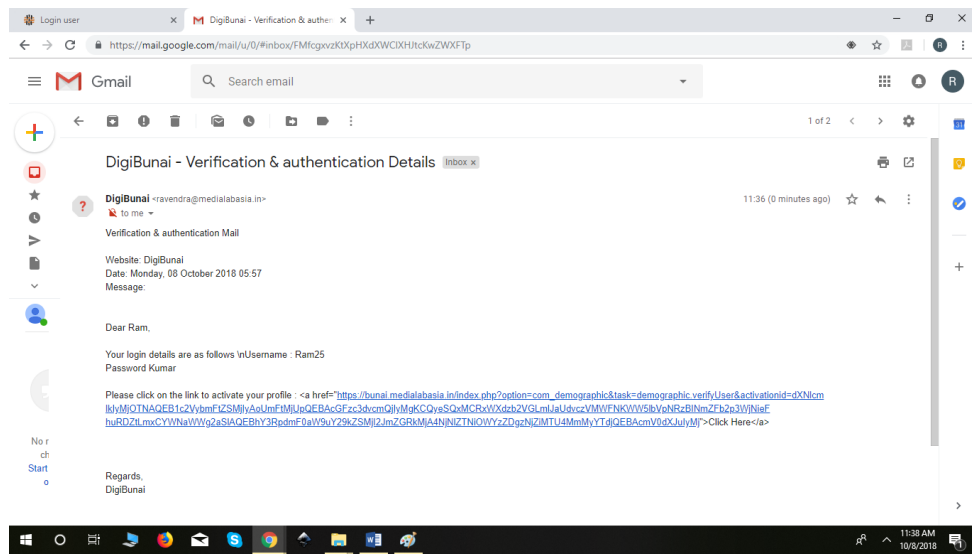
☒ I have read the Disclaimer

Submit

media Lab Asia  
Bunai Association of India

2:11 PM  
10/8/2018

Check the DigiBunai account activation on Email & click on the verification link



Fill the Login Details & click on **LOGIN**

LOGIN DETAILS

ram25

\*\*\*\*\*

LOGIN

Forgot the Password?  
Forgot your Username?

Click on the below tab

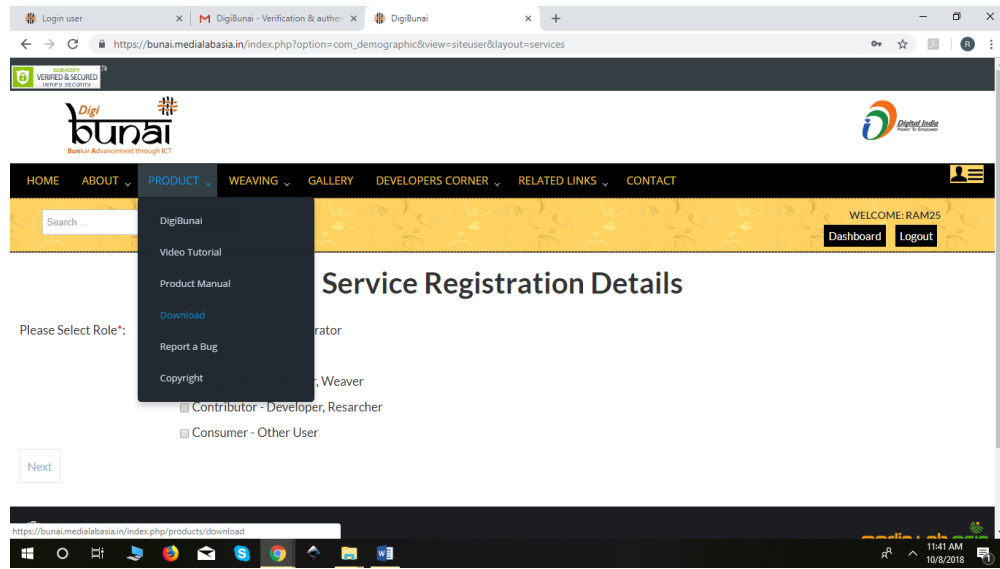
Service Registration Details

Please Select Role\*:

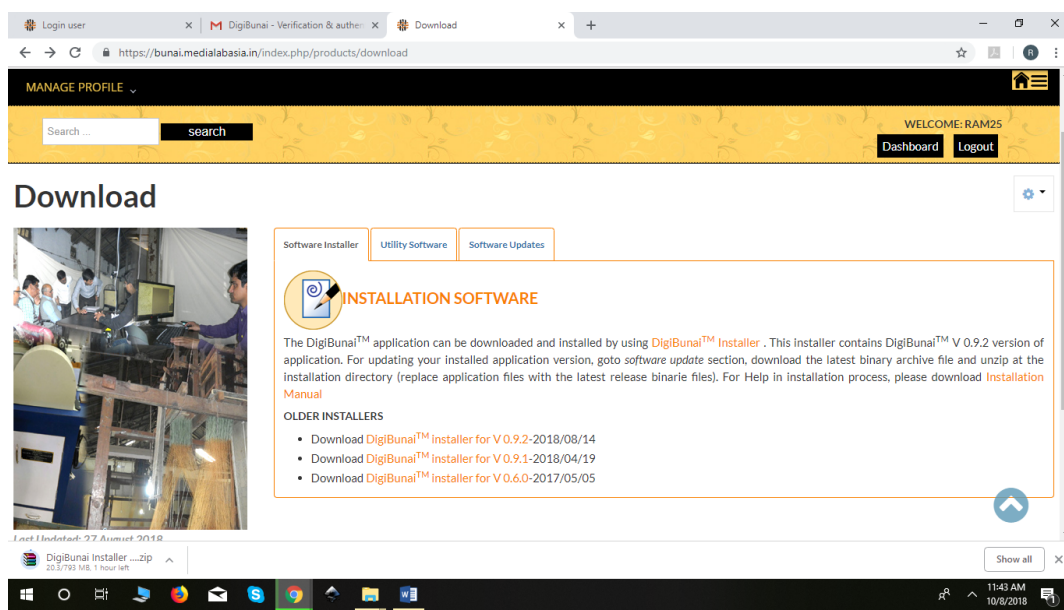
- ☐ Organization Administrator
- ☐ Punch Card Vendor
- ☐ Designer, Graph Maker, Weaver
- ☐ Contributor - Developer, Resarcher
- ☐ Consumer - Other User

Next

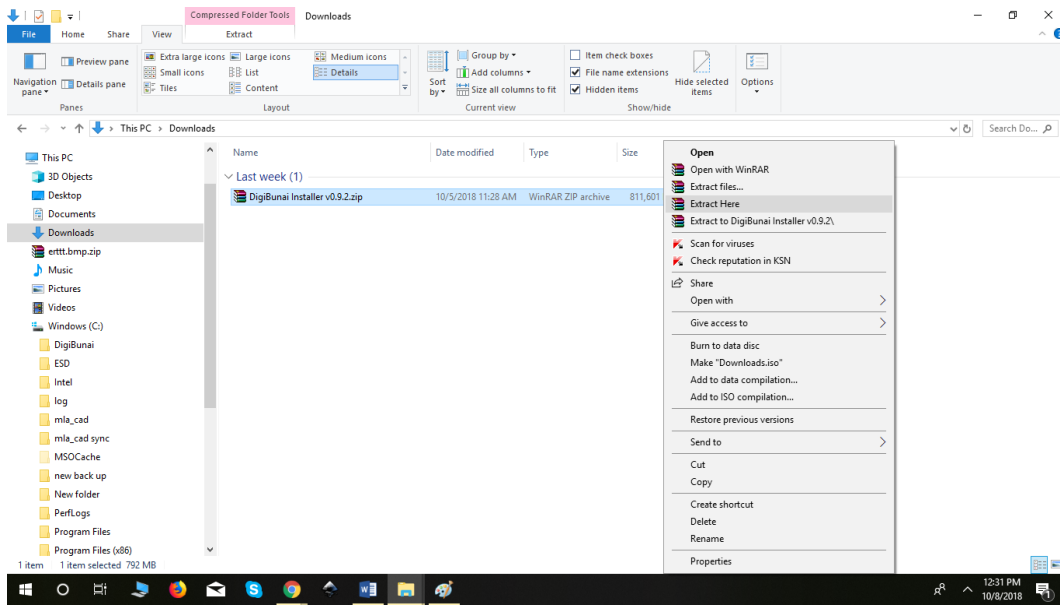
Click on **Download** in **PRODUCT**



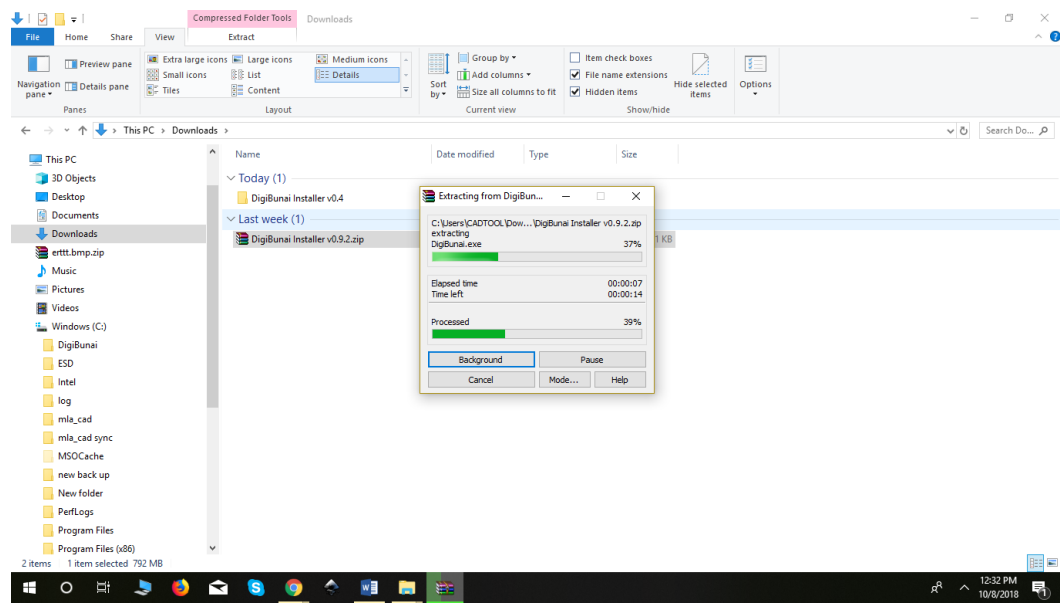
Click on **DigiBunai Installer** & see the installation at bottom of the window



Extract the installer from the zip file

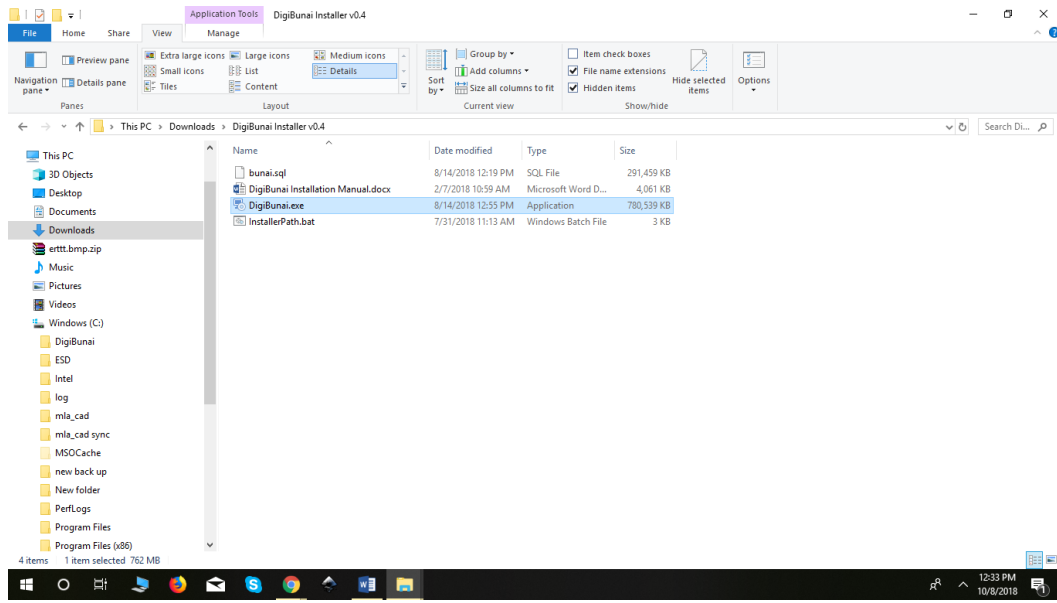


Extracted file created a 'DigiBunai Installer' folder & click on the folder after completing extraction process

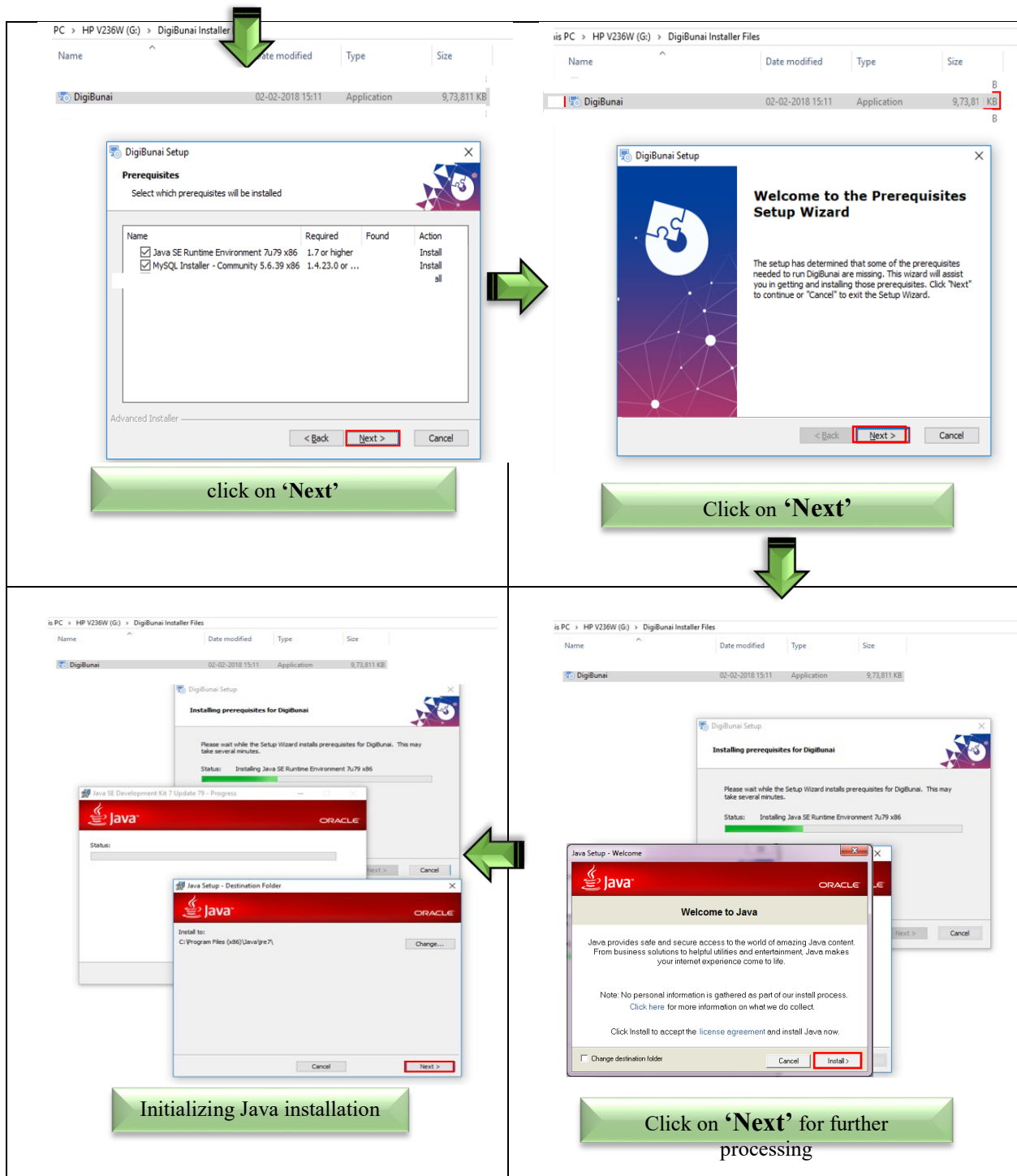


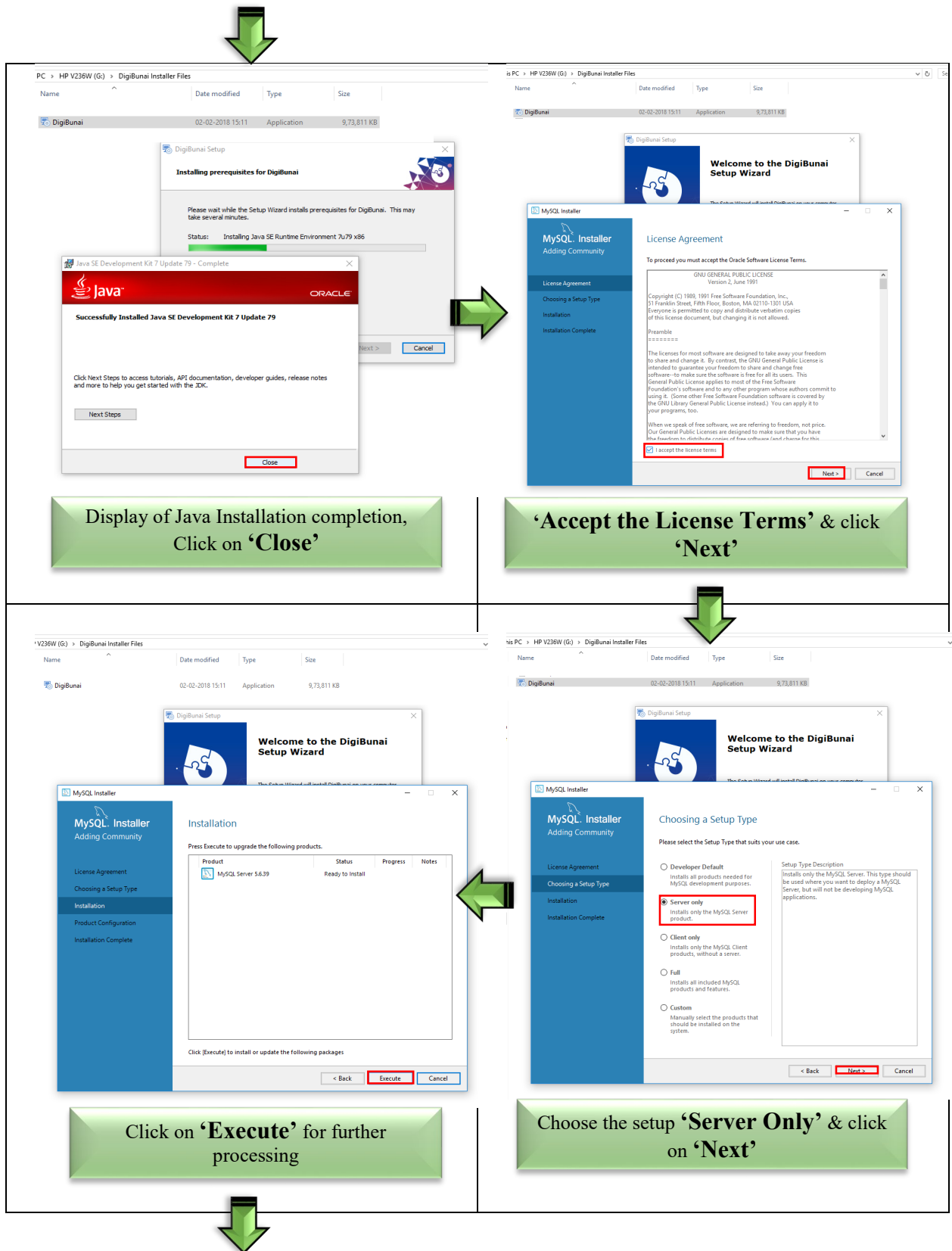


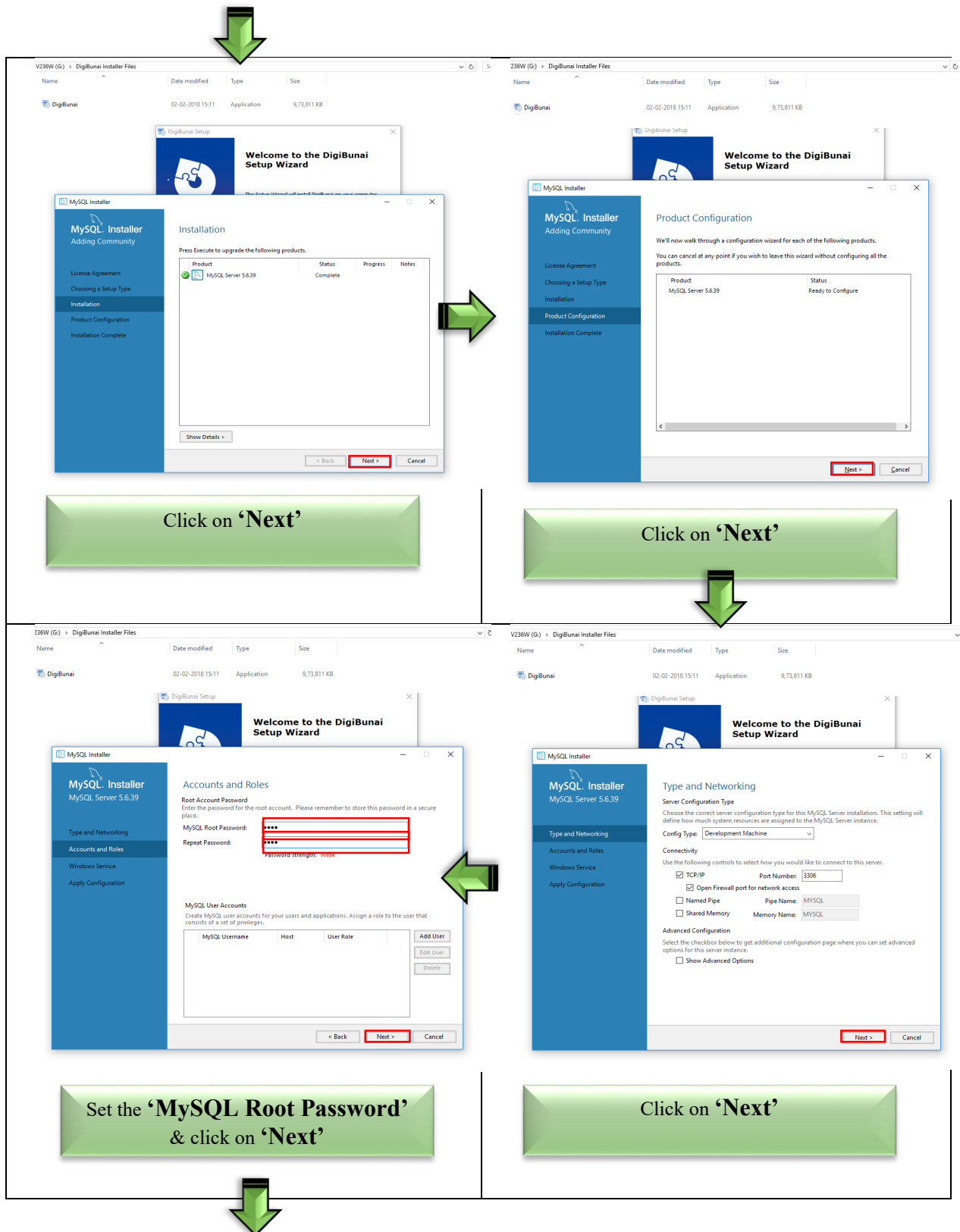
Click on ‘**DigiBunai.exe**’ to start installation process

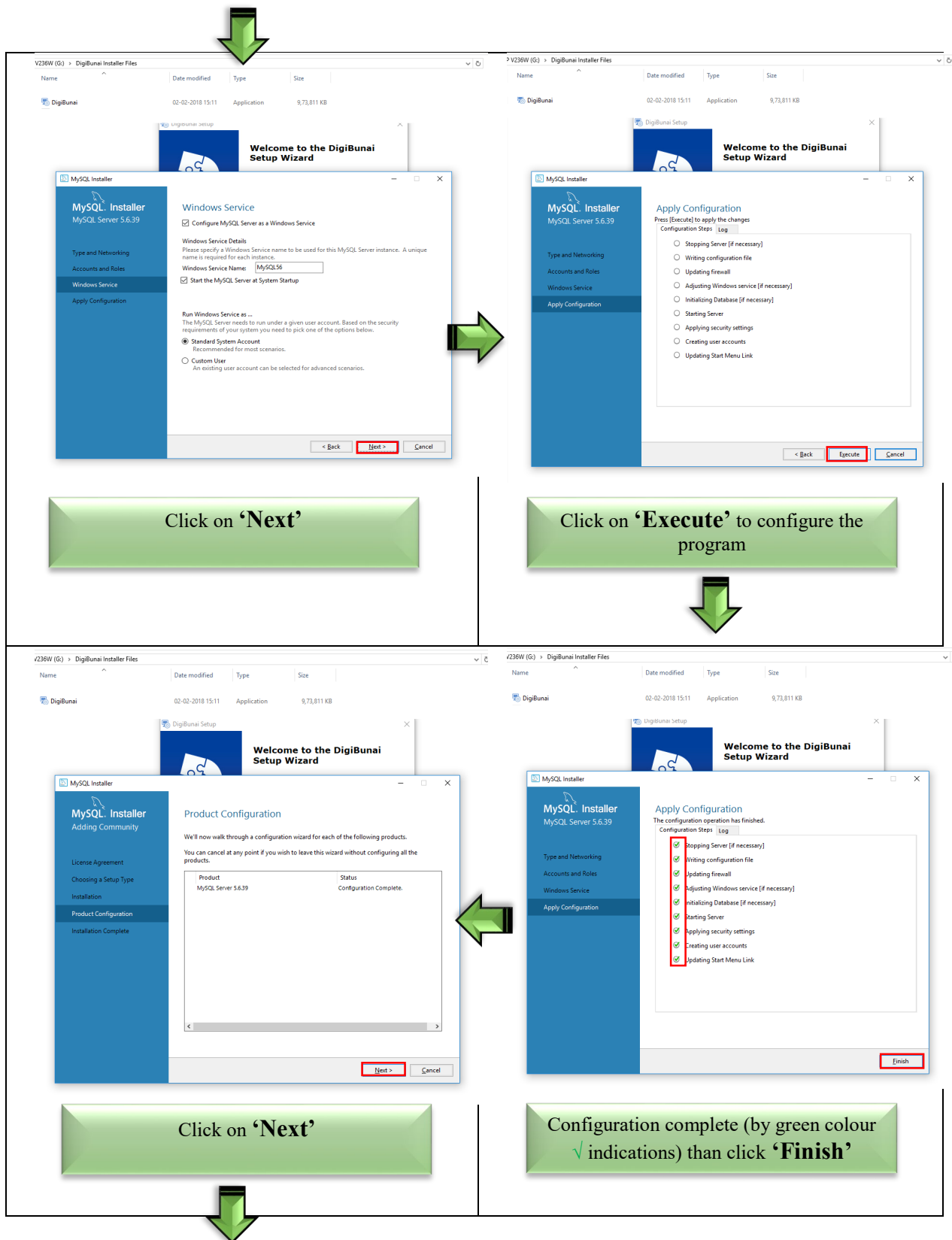


## 1.6. Installation of DigiBunai™













Put the password same as MySQL password then  
Click on **'Test Connection'**

Click on **'Next'**





DigiBunai™ 1.0.0 : Dashboard © Digital India Corporation's Open Source CAD Tool for W...

<- Back   **Next ->**

**Processes**

- ✓ System Configuration
- Database Configuration
- ✗ User & Subscription
- ✗ Complete Installation

**DB Host Address:** 127.0.0.1

**DB Port:** 3306

**DB Name:** DigiBunai

**Username:** root

**Password:** root

**DB SSL:** ☐ Secure My Connection

**Test Connection**

Connection Successful !  
Application data update done

See the message 'Connection Successful' then  
Click on 'Next'

DigiBunai™ 1.0.0 : Dashboard © Digital India Corporation's Open Source CAD Tool for W...

<- Back   **Next ->**

**Processes**

- ✓ System Configuration
- ✓ Database Configuration
- User & Subscription
- ✗ Complete Installation

**User Type:**

- ☐ Anonymous/Guest User Environment  
(Need no login & no data will be available for mobile users)
- ☒ Secure/Personal User Environment  
(A Multi-User environment : require login for every session)

**Import Licence:** ☐ Upload Portal Registration  
If you don't want to register again on application & want to continue with portal registration, then upload the licence file

**Upload File:**

**Subscription:** ☐ Subscribe for data synchronization  
If User subscribe for synchronization services then his/her data will be available on each & every login to other devices

Click on 'Next'

DigiBunai™ 1.0.0 : Dashboard © Digital India Corporation's Open Source CAD Tool for W...

<- Back   **Finish !**

**Processes**

- ✓ System Configuration
- ✓ Database Configuration
- ✓ User & Subscription
- Complete Installation

**Thank You for choosing DigiBunai !**

**DigiBunai Team**  
**Digital India Corporation**

Click on 'Finish'

## 1.6.1 Create New User - Sign Up

User need to fill the details and accept the Terms & Condition and click on the submit Button.



The image shows a registration form for 'DigiBunai™' with a yellow background and a black footer. The form is titled 'DigiBunai™' and 'Version 0.9.2 Alpha'. It contains two columns of input fields, each with a red 'X' icon to its right. The first column includes fields for Name, Password, Service Password, Email-ID, Address, State (a dropdown menu), and Pincode. The second column includes fields for Username, Confirm Password (two instances), Contact Number, Country (a dropdown menu), and City/District (a dropdown menu). Below these fields is a checkbox labeled 'I have read the Disclaimer !'. At the bottom right are 'Submit' and 'Back' buttons. The footer contains icons for help, close, info, and a phone. A green callout box at the bottom center contains the text: 'Fill the details for Registration & click on 'Submit''.

**DigiBunai™**  
Version 0.9.2 Alpha

Name: Please enter your name X

Password: Please enter your password X

Service Password: Please enter service password X

Email-ID: Please enter your email-id X

Address: Please enter your address X

State: Select X

Pincode: Please enter your pin code X

Username: Please enter your username X

Confirm Password: Please re-enter your password X

Confirm Password: Please re-enter your password X

Contact Number: Please enter your contact nun X

Country: Select X

City/District: Select X

☐ I have read the Disclaimer !

Submit Back

Fill the details for Registration & click on 'Submit'

## 1.6.2 Login the Existing Users – Sign In

User need to enter the user name and password and click on Sign In Button.

## 1.6.3 <Forget Password>

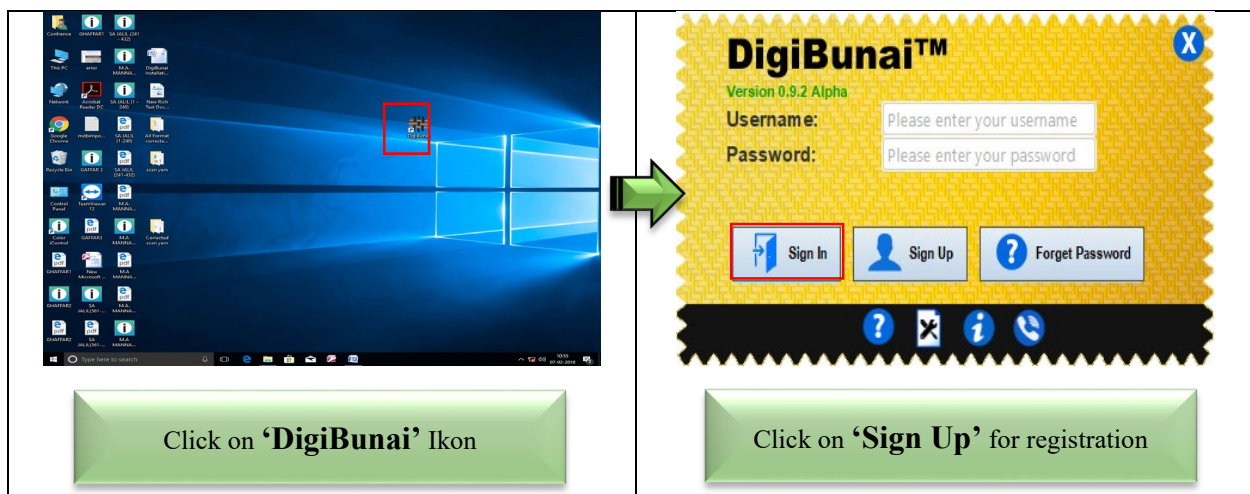
- In case user forgot the password, he/she needs to click on the Forgot Password Button and the below screen will appear.
- User needs to enter username and email and a new password will be sent to the registered email ID.



Forget Password

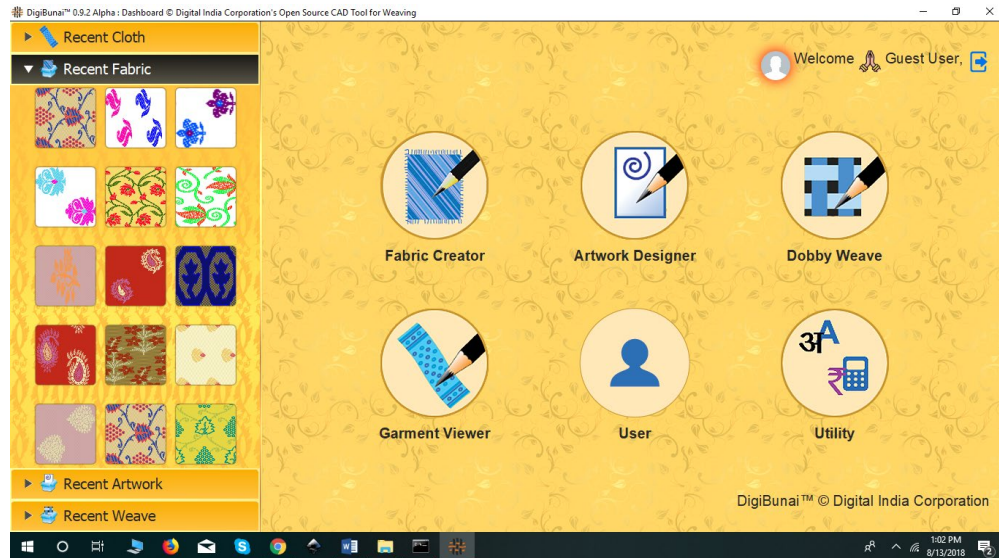
## 1.7. Running the Application

- Click on the DigiBunai Shortcut Icon



## 1.8. Dashboard

After the Login, a dashboard screen will appear as below:



### DigiBunai Dashboard

The dashboard shows the recent work done by the user in the form of recent artwork, weaves and fabrics. There will be the name of the user on the screen i.e. Welcome 'User Name'.

### 1.8.1 Fabric and Artwork Size

User need to enter the size of the different component of Saree viz. Border, Cross Border, Pallu (Anchal), Body (Pot), Konia and Skirt. Different parameters for fabric weaving required to fill in this section like Reed Count (Stockport), Thread per dent, Ends per inch, Picks per inch, Fabric length & Fabric Width.

**Fabric Configuration**

Fabric/Artwork	Miscellaneous	Weft Thread/Yarn	Warp Thread/Yarn
Cloth Type : Body			Hooks : 240
Fabric Type : Plain			Ends : 240
Fabric raw length (inch) : 256.0			Picks : 288
Fabric width (inch) : 47.0			Reed Count : 112
			Dents per Inch : 56
			Thread Per Dents : 1
Artwork length (inch) : 3.973			Picks Per Inch : 75
Artwork width (inch) : 4.266			Hooks Per Inch : 56
Graph Size : 12x16			Ends Per Inch : 56

Apply Cancel

Welcome TO DigiBunal™ CAD Tool

## 1.8.2 Warp thread

User need to enter the yarn properties viz. type, color, count, twist etc.

## 1.8.3 Weft thread

User need to enter the yarn properties viz. type, color, count, twist etc.

## 1.8.4 Miscellaneous

User need to specify the, repeat, maximum float, binding, protection, color palette, & Maximum Artwork Color.

**Fabric Configuration**

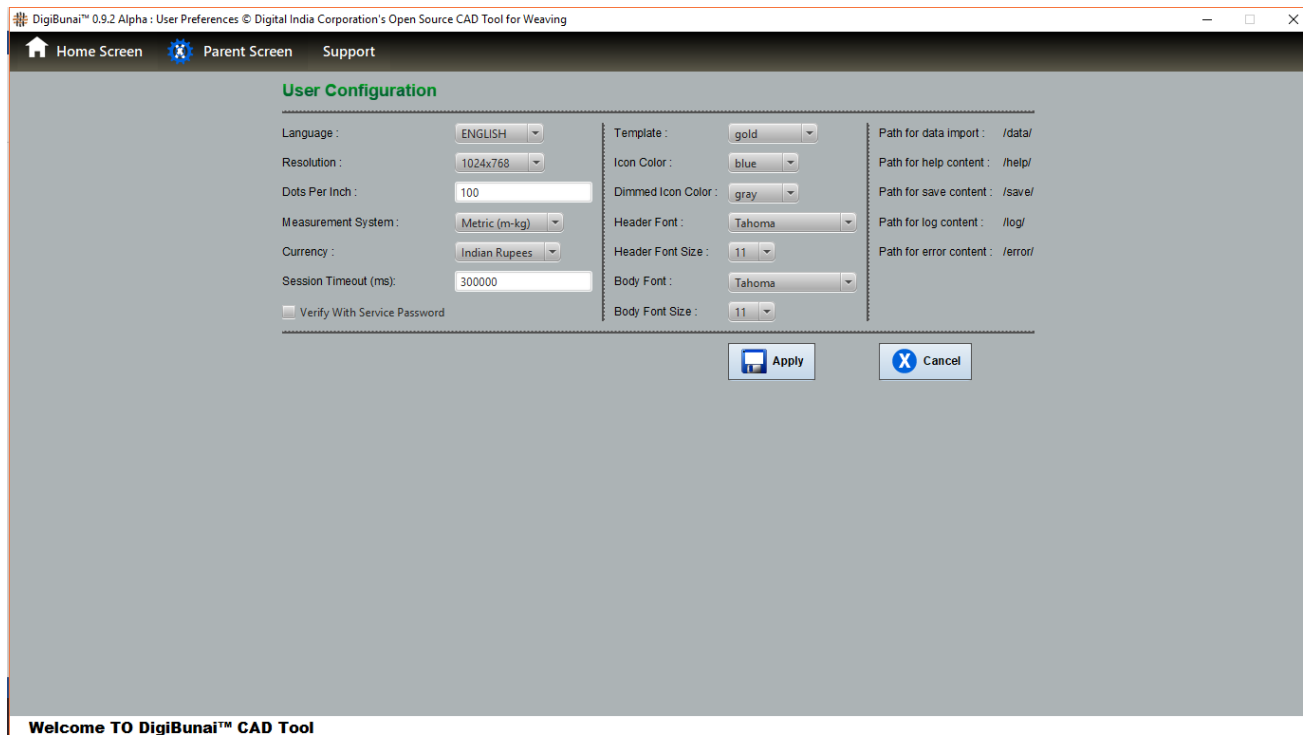
Fabric/Artwork	Miscellaneous	Weft Thread/Yarn	Warp Thread/Yarn
Multiple Print : <input type="checkbox"/> Print multi-page graph			Color Palette : PALETTE2USER:new test
Punch Card : <input type="checkbox"/> Show graph for m/c			Designing charge (rupees) : 0.0
Floating Error : <input type="checkbox"/> Show Floating Error on graph			Punching charge (rupees) : 0.0
Rectify Graph : <input type="checkbox"/> Bind Float on graph			Property charge (rupees) : 0.0
Float Size : 3			Wages charges (rupees) : 0.0
Protection : 3			Overhead charges (%) : 0
Binding : 3			Profit (%) : 10
Max Artwork Color : 6			

Apply Cancel

Welcome TO DigiBunal™ CAD Tool

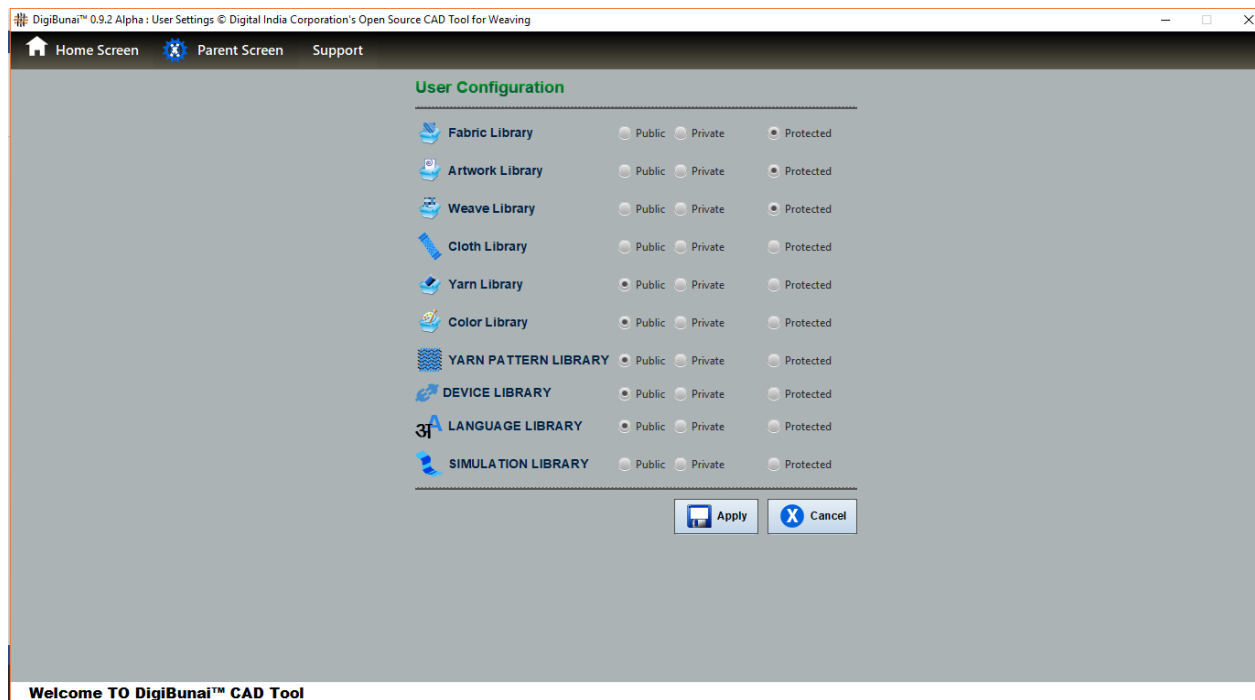
## 1.8.5 User Settings

User need to set the language, resolution, Dots Per Inch, measurement system, currency, theme, font of the header and path for saving the different files viz. export, import, log etc.



## 1.8.6 User Preferences

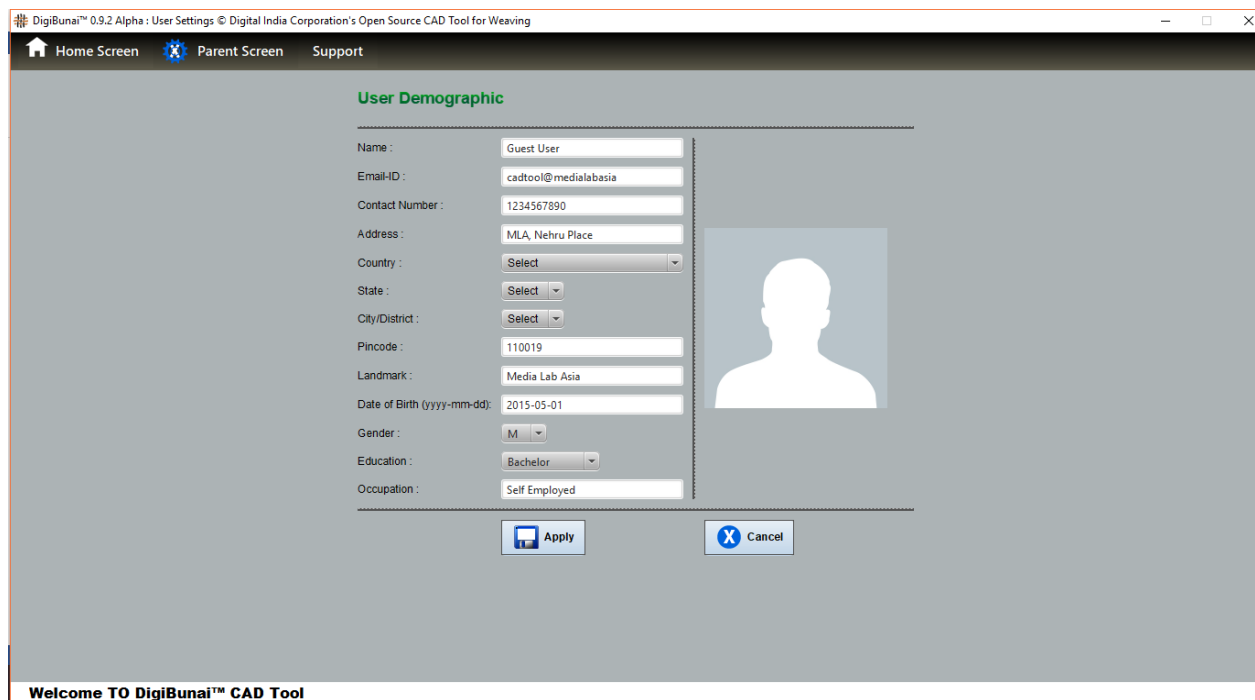
User need to specify the preferences to authenticate the data (work done) i.e. public, protected or private. Based on the authentication, data will be shared to other users.



Welcome TO DigiBunai™ CAD Tool

## 1.8.7 <User Profile>

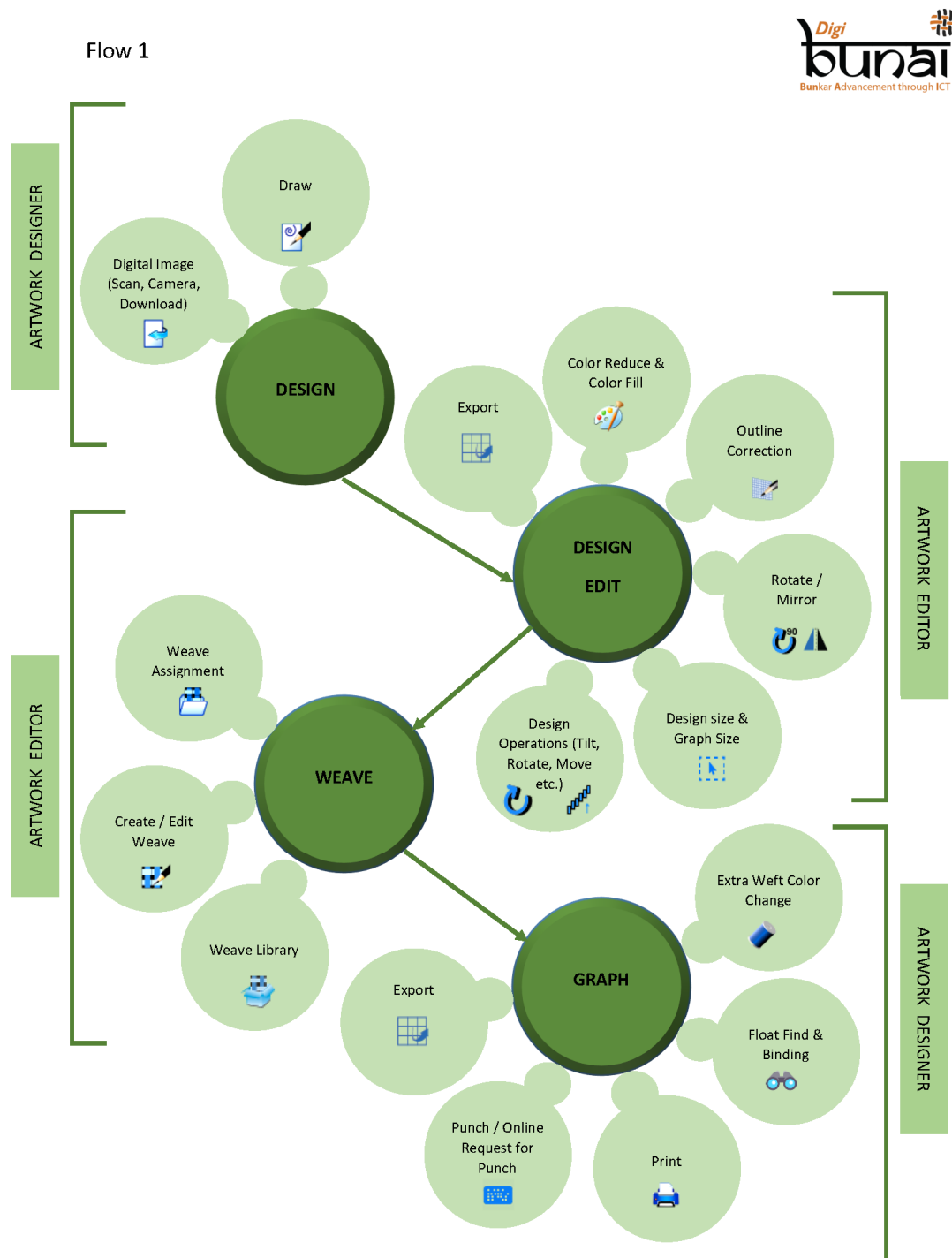
User can edit his/her profile by User Profile menu.



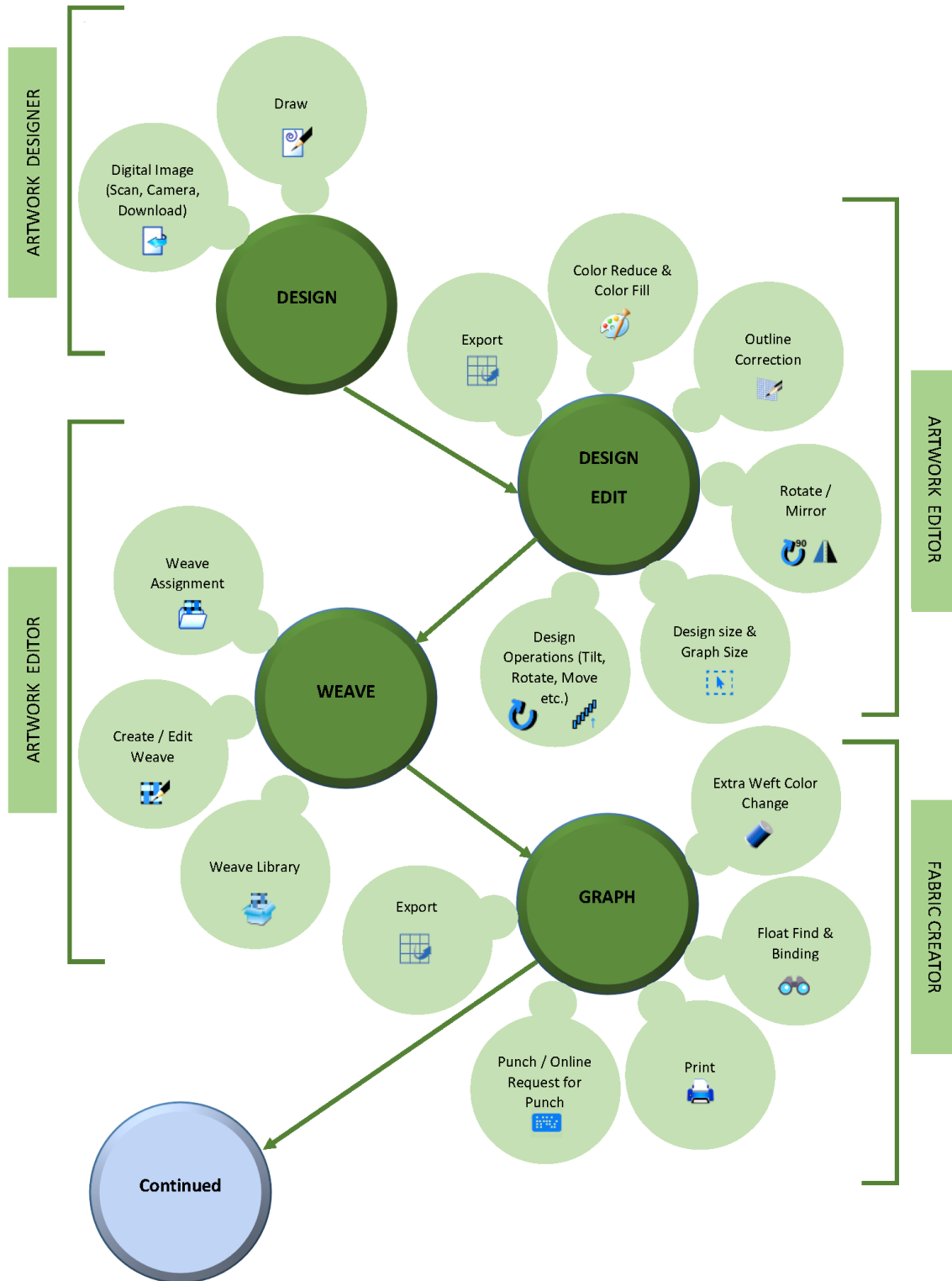
Welcome TO DigiBunai™ CAD Tool

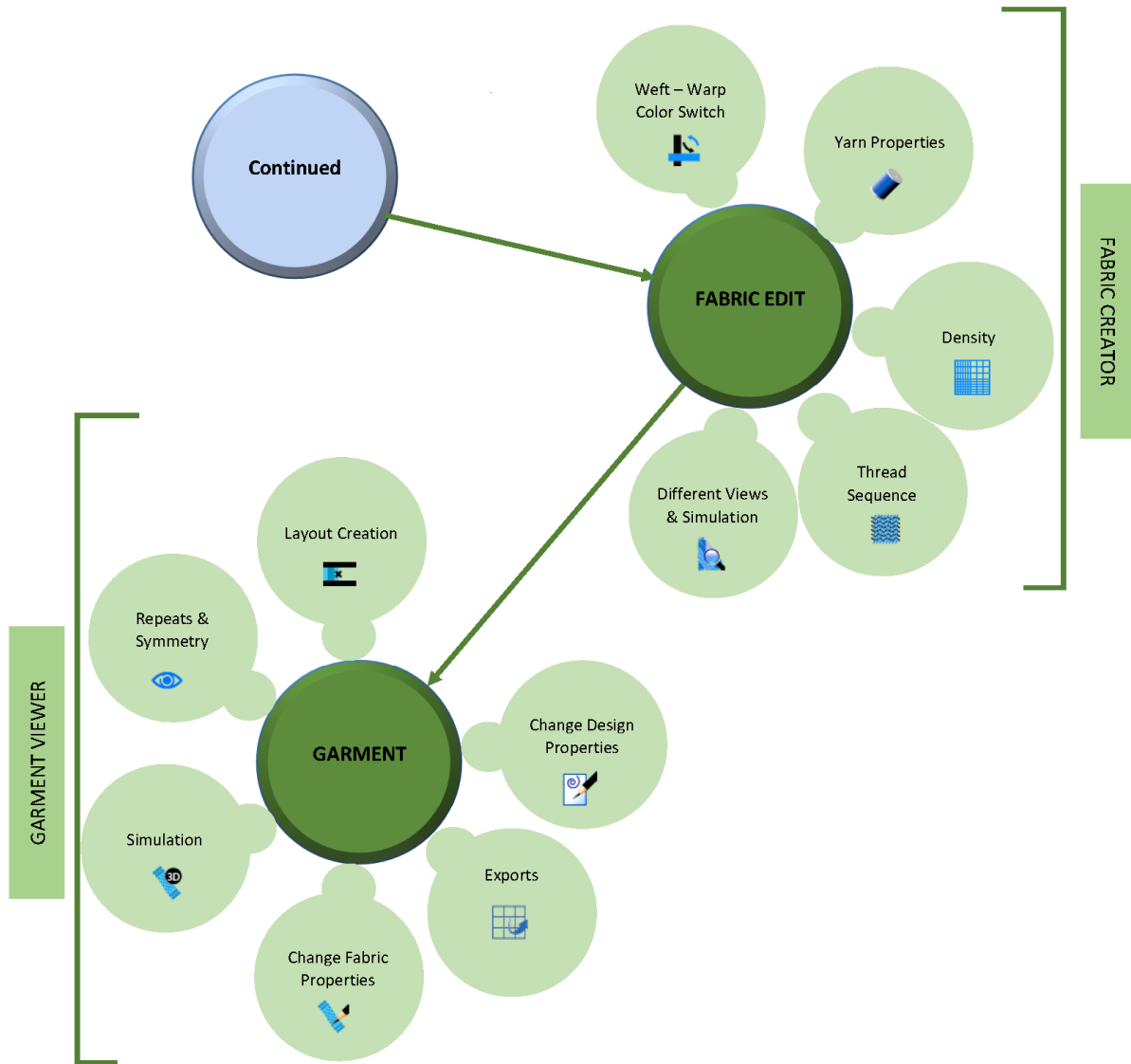


## 1.8.8 Information flow in the Application



## Flow 2

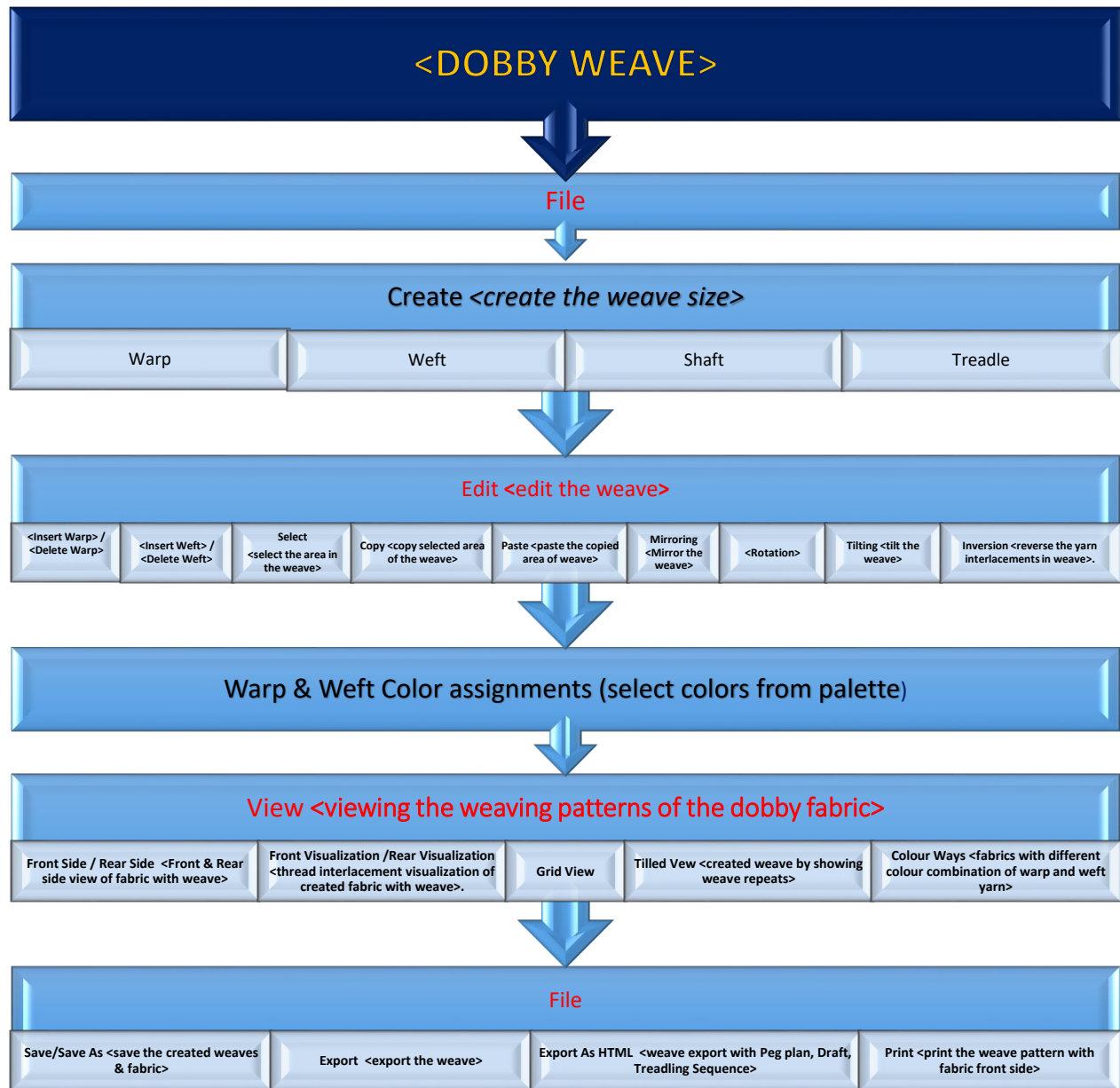




## 1.8.9 Creating a Digital Fabric

### 1.8.9.1 Dobby Weave

Dobby module of DigiBunai™ is the initiation of Weave designing. Before making any design in DigiBunai™ CAD software, different types of weave prepare in this module. In this module, first of all, size of the weave design is determined by going into the 'File' menu, after that weave is filled with different colors of threads. The complete view of fabric is ready to visualize, we can see different views of the fabric by click on 'View' menu.

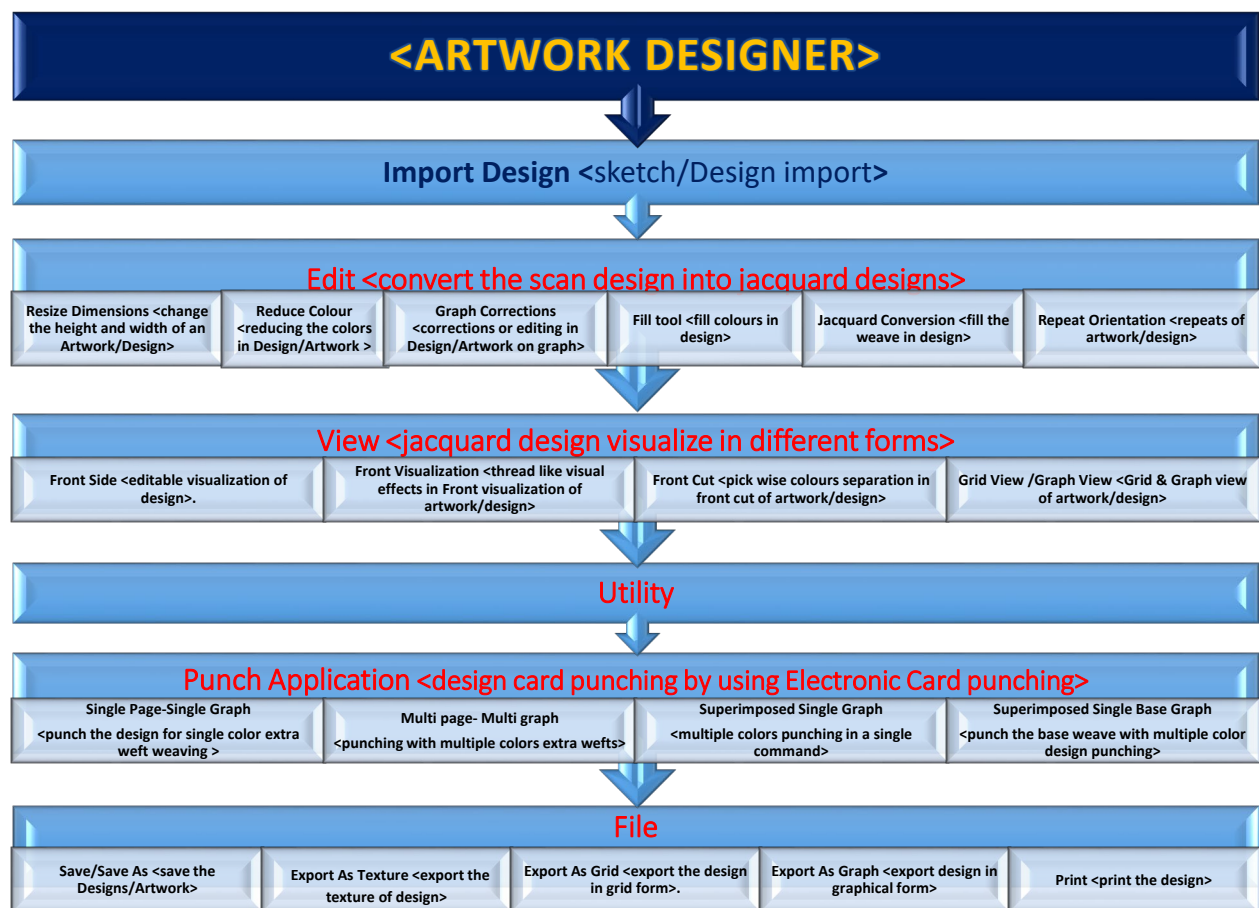


## The Creation of Jacquard Designs:

DigiBunai™ has two modules to prepare jacquard designs. These are Artwork Designer & Fabric Creator. Both of the modules has functionality to create graph & punching support for manual as well as automatic punching mode. It also produces the yarn split image for weaving by using Electronic Jacquard. User can visualize the fabric (which generate from the created design) from different angles (Front/Rear/Flip) in Fabric Creator.

### 1.8.9.2 Artwork Designer

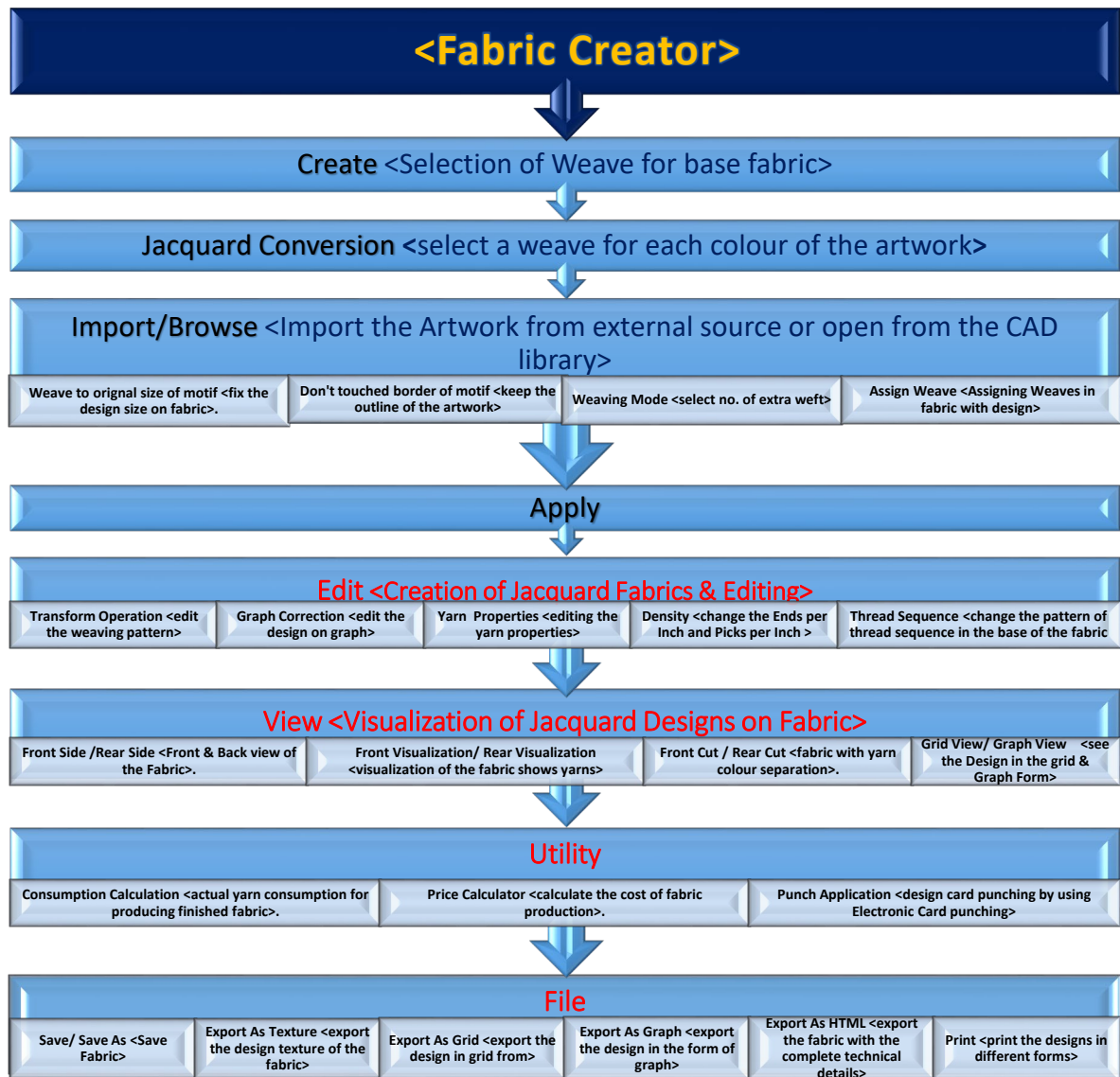
AD works on *Sketch to Graph* mode. It use to convert the sketches in to workable artworks or designs. For this purpose first Import' the sketch (scanned image) by going into the File menu and click on 'Edit', to perform different functions like Resize the dimensions, Reduce colors, Design Editing, Weave Filling & Graph Corrections etc. Now we can see different views of designs after clicking on 'View Menu'.



### 1.8.9.3 Fabric Creator

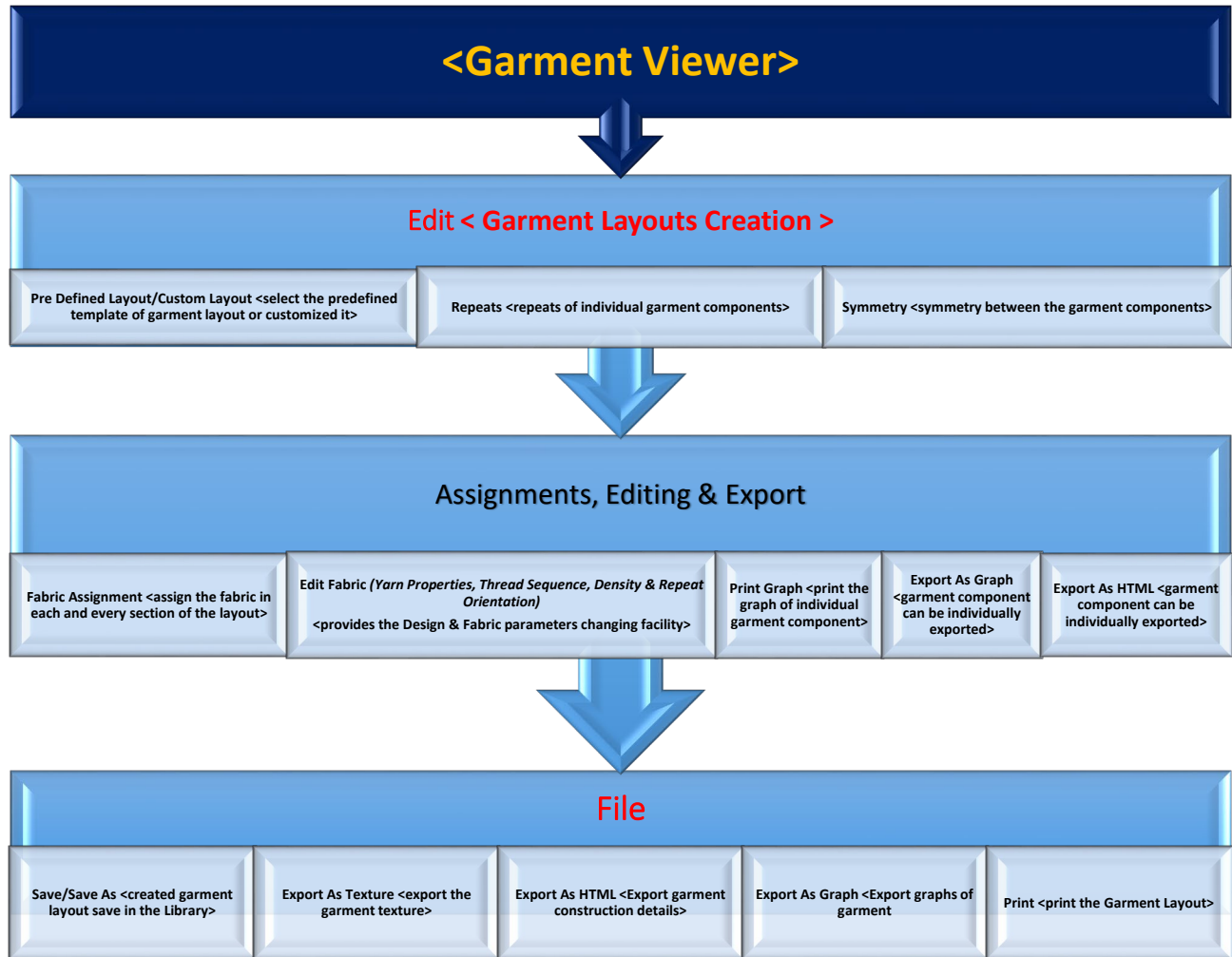
FC works on *Artwork to Fabric* mode. Different types of weaves fills in Artwork on color bases and distortion of design boundaries during weave filling are secured by click on 'Don't touched border of motif'.

In this module, we can do various types of improvements and selections such as Weaving patterns, Graph corrections, Yarns color change, Yarn colors sequencing, etc. This module facilitates different views of created fabrics. By going into the 'utility' of this module, we can calculate the consumption of yarns as well as cost of production.



### 1.8.9.4 Garment Viewer

This module is used to see different garment layouts & also facilitates different orientations of design on fabric. We can save & export of these layouts according to the requirement.

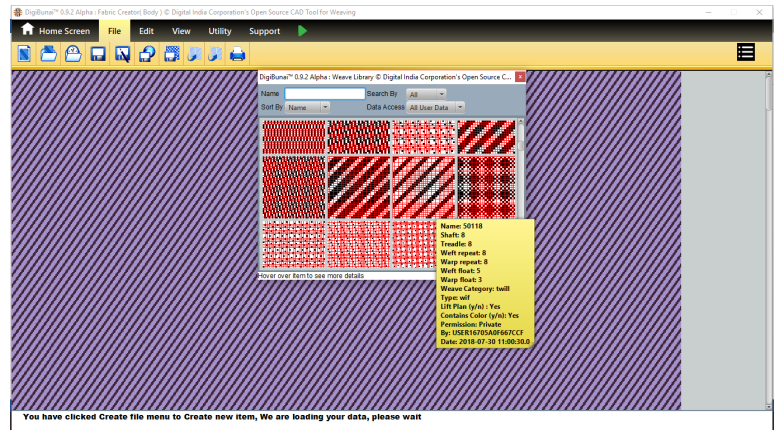


## 2 Fabric Creator Module

### 2.1 <New fabric creation> (<Selection of Weave for base fabric>)

You can create new fabric by clicking on **Create** icon in the **File** Menu. To create a fabric user need to select base weave first from the library. On clicking on Create icon in the File Menu, an image browser Window will pop showing the weave library for the base of the fabric

User need to select at least one weave and this will reflect on the fabric as base weave. If required weave is not available in the library, user need to take the help of weave editor module to create the weave & also user can create weave during assignment in artwork. This weave can be changed or modified during the weave assignment to the artwork.

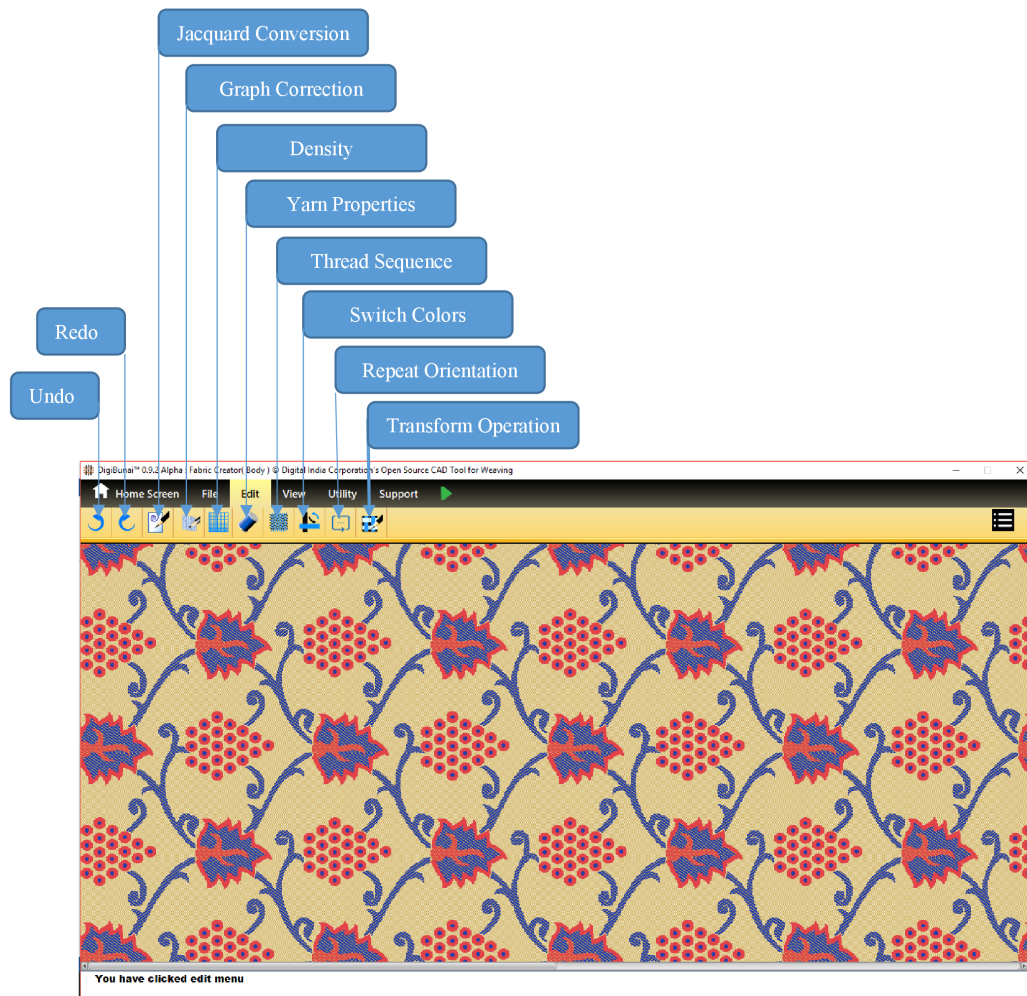


After selecting the base weave, a base fabric will be reflected on the window.

## 2.2 <Creation of Jacquard Fabrics & Editing> (Edit)

To prepare the Jacquard designs for weaving, user can go to edit & perform different functions to develop Jacquard based digital fabric. The fabric & Design can be from different aspects like weave, pattern, yarn, density, thread sequencing, etc.

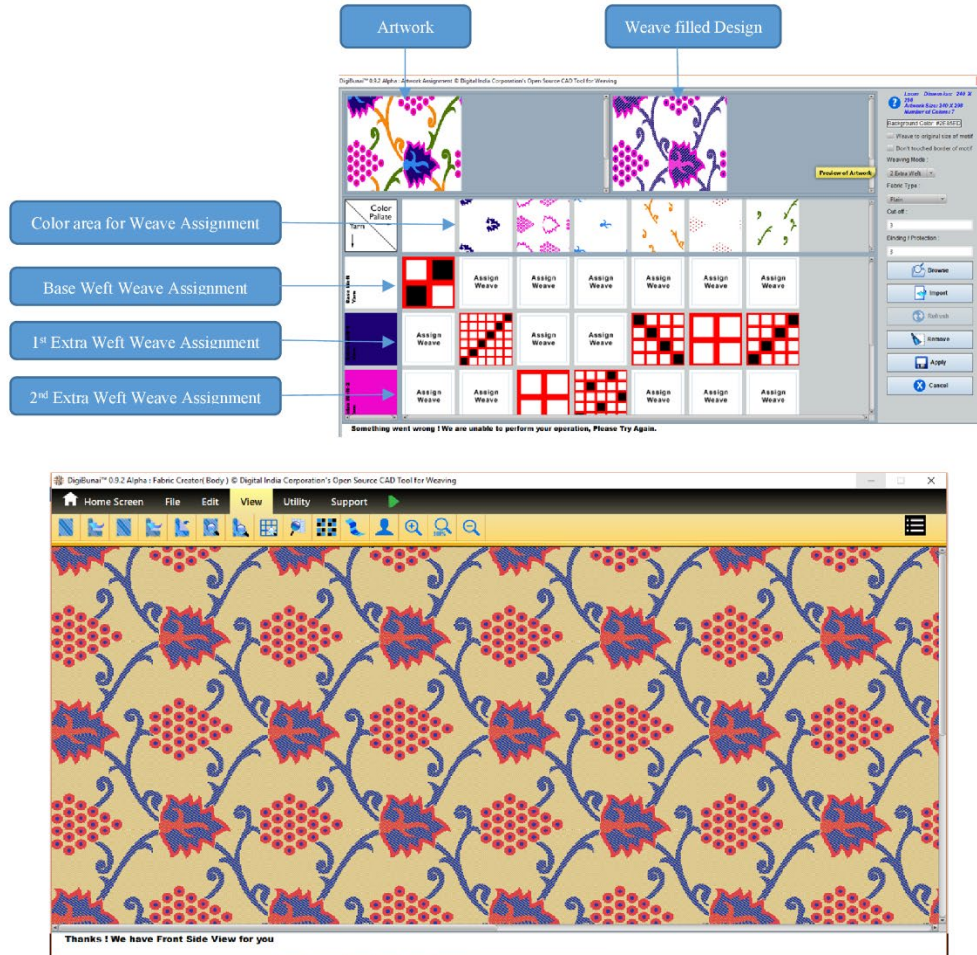




## 2.2.1 Jacquard Conversion

To assign an artwork in the base fabric, user can either select Artwork Assignment icon in the Edit Menu or user need to right click on the fabric and Jacquard conversion option may be selected.

User can <Import the Artwork from external source or open from the CAD library> by **Import Browse**. In the artwork assignment section, the artwork will be displayed in the different colours. Each colour of the artwork reflects a weaving pattern. User need to <select a weave for each and every colour of the artwork.>



### 2.2.1.1 <Assigning Weaves in base and Artwork (design)>

When user will select the artwork, two rows of boxes will appear if the 0 Extra wefts are selected in the Weaving Mode. Number of boxes in the row will depend on the number of colors in the artwork. In the first row, all the boxes will be filled with the colors of the artwork. The second row (base weft yarn) of boxes is for the <base weave> of the fabric. By default base weave of the fabric will be assigned to the first box. User can assign the weaves in the other boxes by clicking on the box. This way is also use to assign weaves with extra wefts in design.

### 2.2.1.2 Assigning Extra Weft for Design

In case of extra weft user needs to **<select no. of extra weft>** in the weaving mode. If user select 1 extra weft, 1 row will be added, in case of 2 extra wefts, 2 rows will be added.

### 2.2.1.3 Assigning less extra wefts than colors of Artwork

If user wants lesser extra wefts than artwork colors then user can select the lower value of extra weft in weaving mode for example there are 4 colors in the artwork and user wants to use only 1 extra weft in that case user needs to assign the base wave in the second row, **<weaves for extra weft>** in the third row of the boxes.

### 2.2.1.4 Removing the weave

**In case user needs to **<remove the weave>** from the box, alt+ click on the box.**

### 2.2.1.5 Fabric Type

In the fabric type, user can select type of the fabric in the form of kadhua, fekuwa-with float, fekuwa-with cutwork, tanchoi, float binding-regular, float binding-irregular. Based on the selection, backside view of the fabric will be changed.

### 2.2.1.6 Weave of Original Size of Artwork

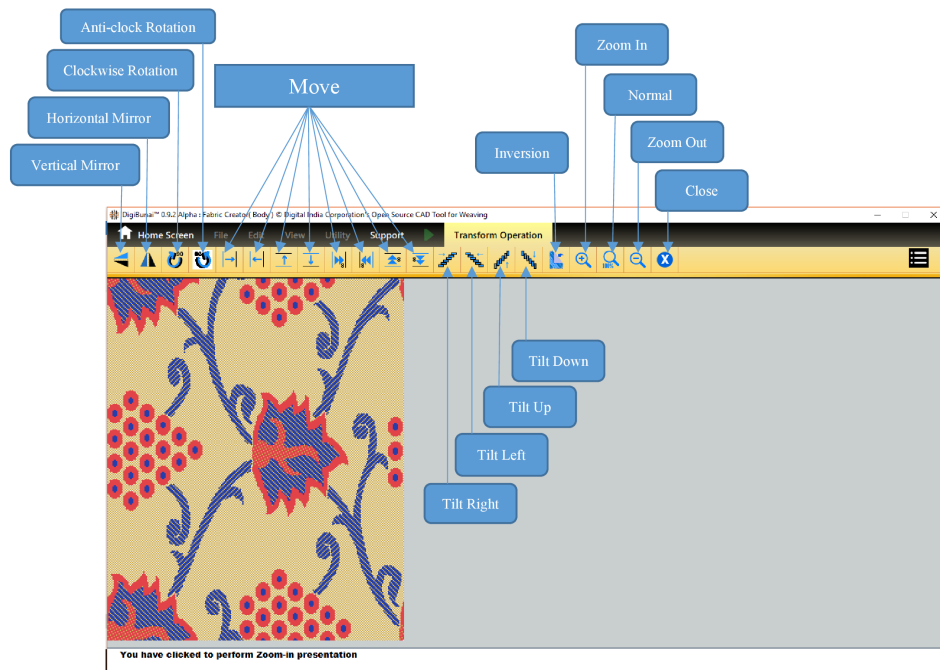
The user has to option to **<fix the design size on fabric>**. First based on the fabric preferences, the size of the motif will be calculated; second based on the original size of the motif. User need to select option to keep the original size of the artwork.

### 2.2.1.7 Don't touch border of Motif

This option is to **<keep the outline of the artwork>** smooth. User need to select the option of Don't touch the border of Motif.

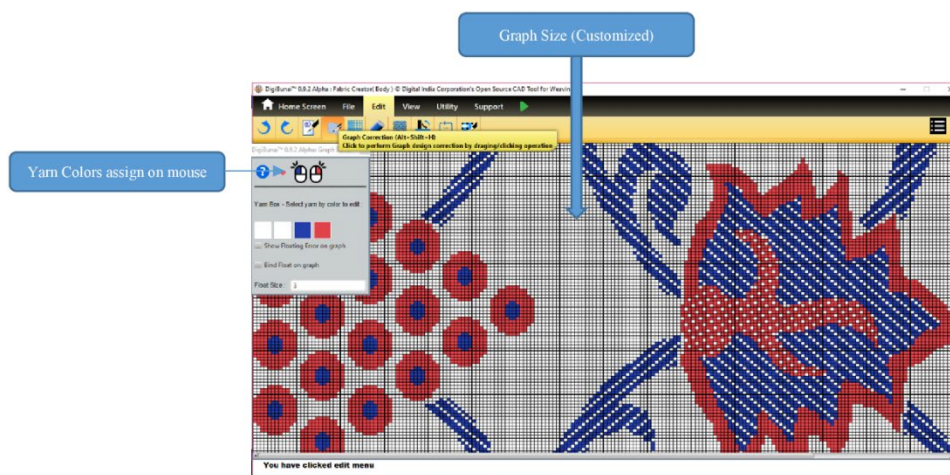
## 2.2.2 Transform Operation

User can **<edit the weaving pattern>** as and when needed, all the changes in the weaving pattern will be reflected in the graph as well as Fabric.



### 2.2.3 Graph Correction

User can <edit the design on graph> manually to give the finishing touch for the artwork. There will be the boxes for warp, weft and extra wefts which user need to select the box (color selection) wherever changes are required.



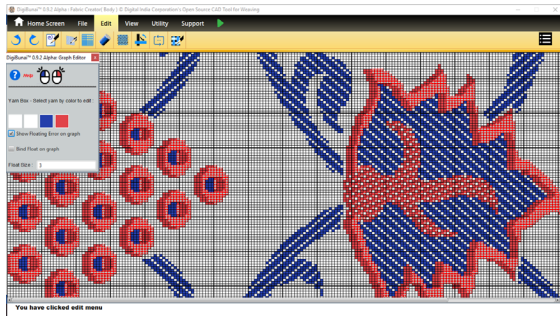
### Graph Corrections



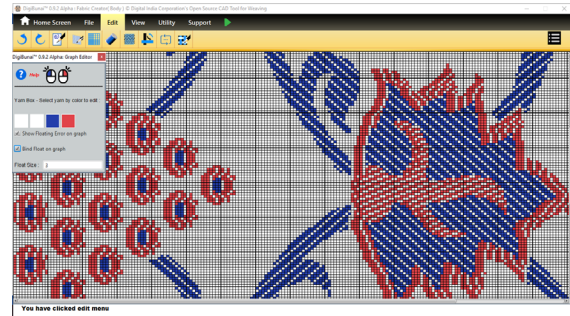
### 2.2.3.1 Float finding & Binding

If user wants to find the maximum <float size> in the fabric then user need to enter the maximum float value in the text box and select the box Show <Floating Error on Graph>.

User has two options for float binding, one is manually where user can edit the floats manually and second one is automatically where user needs to select the box of <Bind Float on Graph> by assigning the maximum float value.



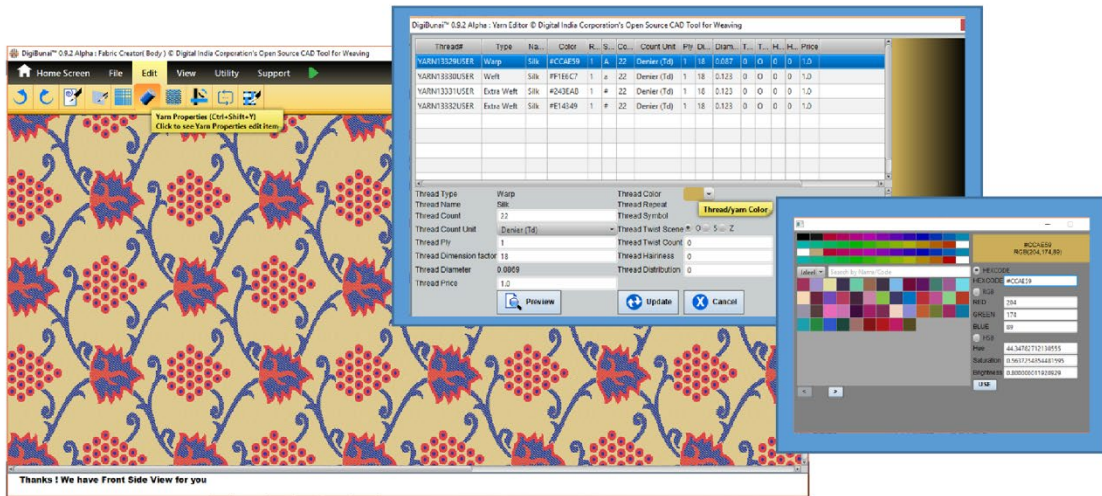
**Float Finding**



**Float Binding**

### 2.2.4 Yarn Properties

For <editing the yarn properties>, user need to select the option of Yarn Properties. User can change the colour of Warp, Weft or Extra weft yarns. The effect of other parameters like, thread count, ply, diameter factor, twist (count & sense), hairiness will reflects in Fabric Simulation (Further releases).



## 2.2.5 Density

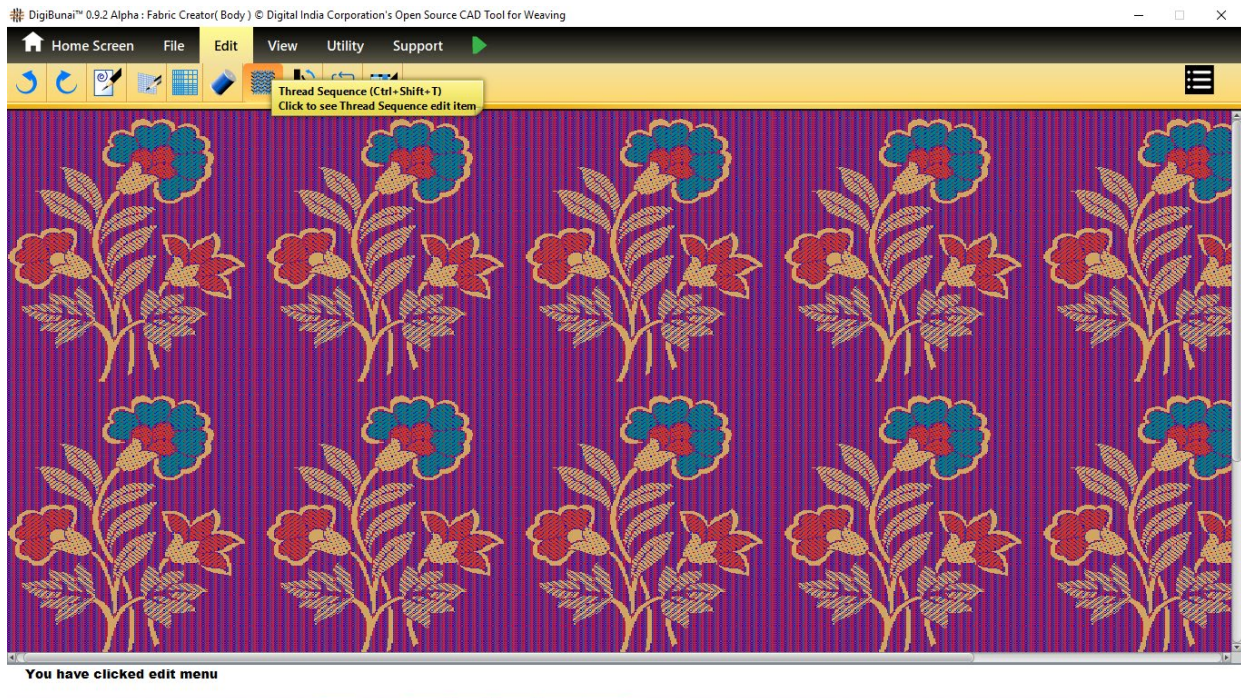
In the density user can <change the Ends per Inch and Picks per Inch> of the fabric.



## 2.2.6 Thread Sequence

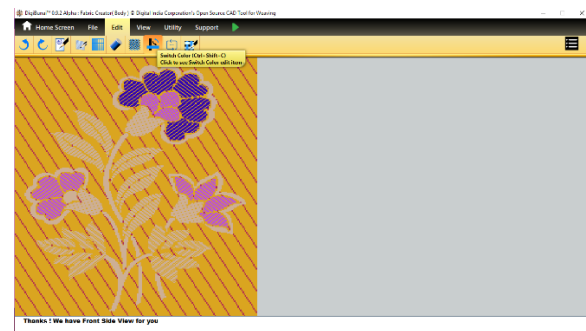
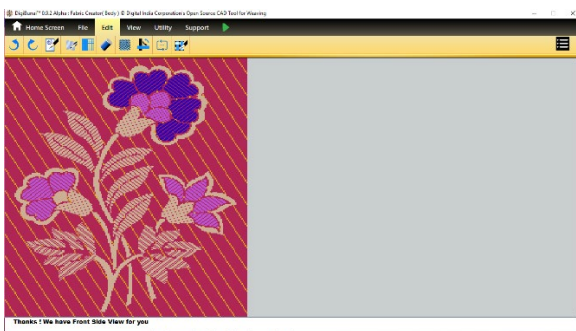
User can <change the pattern of thread sequence in the base of the fabric>. The new thread sequence can be saved and used further as and when required.





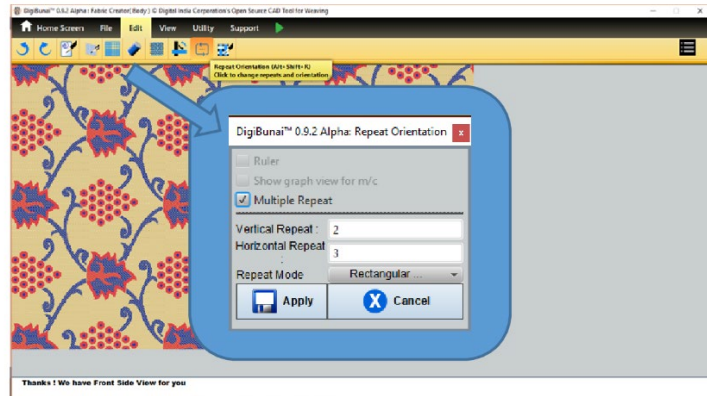
## 2.2.7 Switching Colours

Switch color option <interchange the color of warp and weft yarns>. Use need to click on Edit - > Switch Color Option.



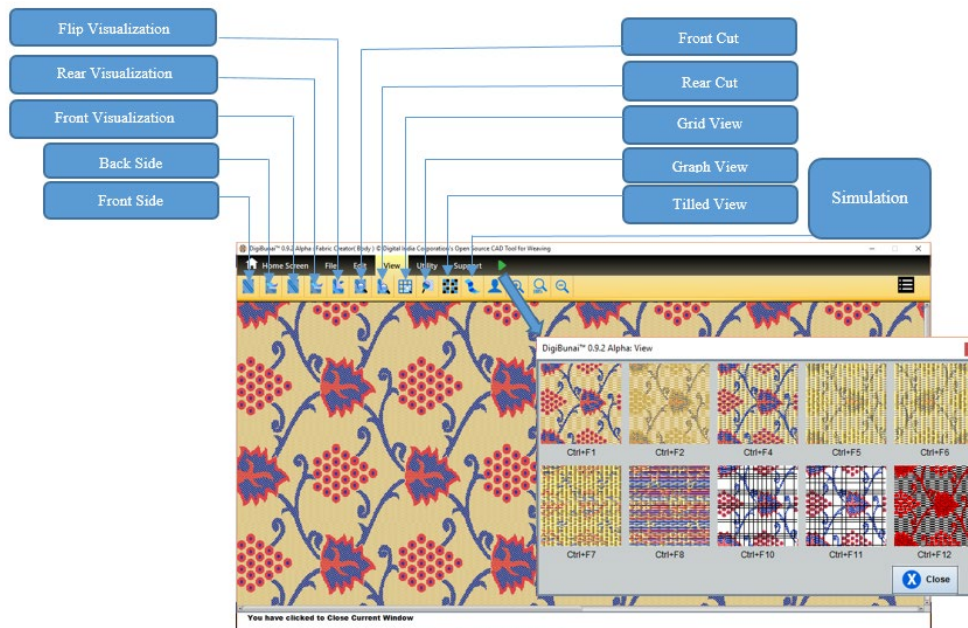
## 2.2.8 Repeat Orientation

To visualize the <Design repeats>, click on Repeat Orientation & define the repeats (Vertical & Horizontal) of the design to visualize after check the Multiple Repeat.



## 2.3 <Visualization of Jacquard Designs on Fabric> (View)

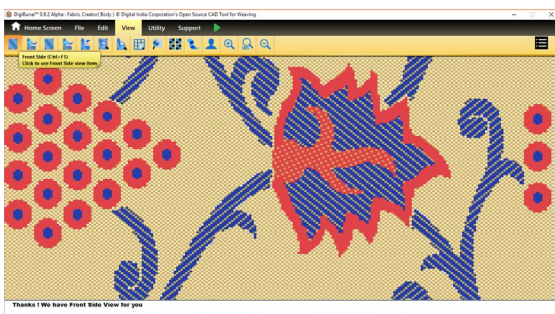
It offers to visualize the fabric from various aspects like Front side look for fabric aesthetics, manner of yarn interlacements for fabric texture & strength, Back side for Yarn float visualization for durability aspects, Front cut for the order of arrangement of different yarn colors in fabric, Graph view for design dimension & aesthetic aspects, etc.



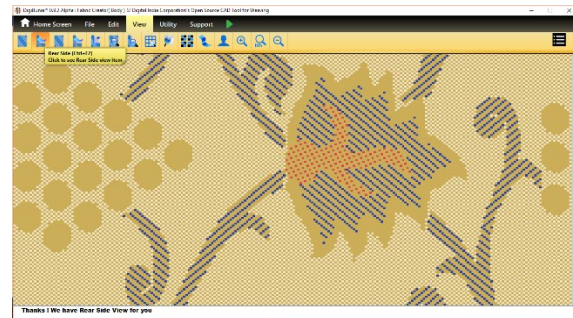


### 2.3.1 Front/Rear Side View

This view shows the threads of warp, weft and extra weft in single pixel. The base and artwork (on the base) are represented as solid. It provides the <Front & Back view of the Fabric>.



Front Side

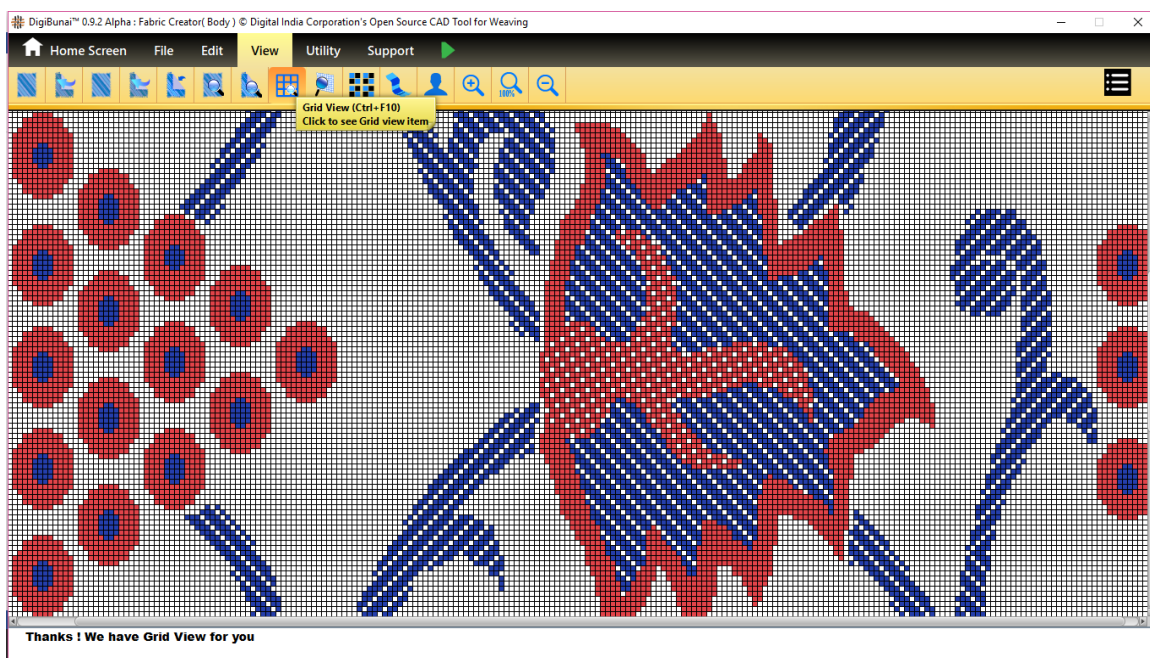


Rear Side

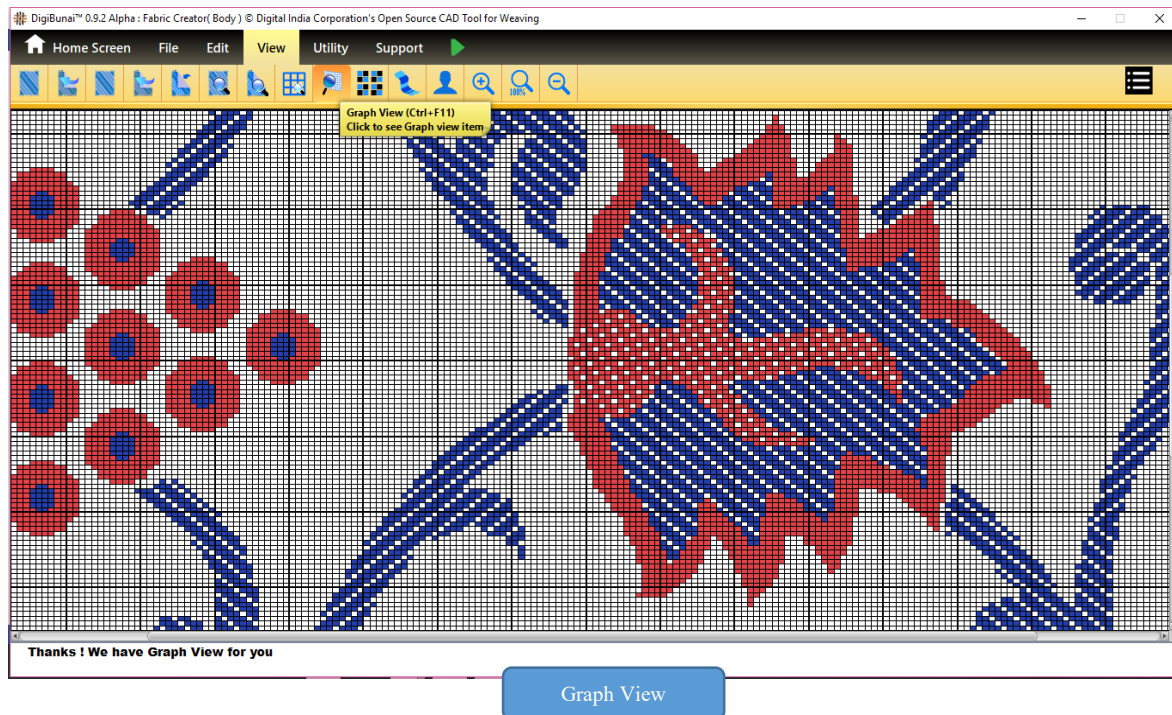
### 2.3.2 Grid & Graph View

This view is to <see the Design in the grid & Graph Form>. Grid does not influence by the loom parameters i.e. Reed, Density, Chauk size, etc.

The graph view of the artwork depict all the weaves used in artwork along with the size of graph. The size of the graph is represented in the form of chauks. Suppose a design is created in 200 hook, it means 50 chauks. In Varanasi, the graph is calculated based on EPI and PPI.



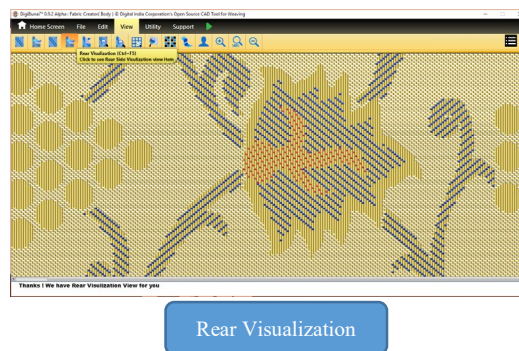
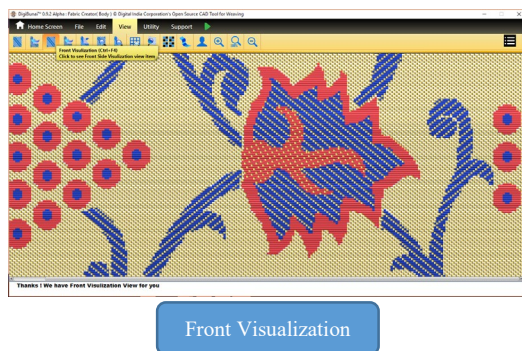
Grid View



### 2.3.3 Front & Rear Visualization

The front <visualization of the fabric shows yarns> in 3 pixels with the shading effect. This view gives a fabric look to the design. User can see all the yarns separately.

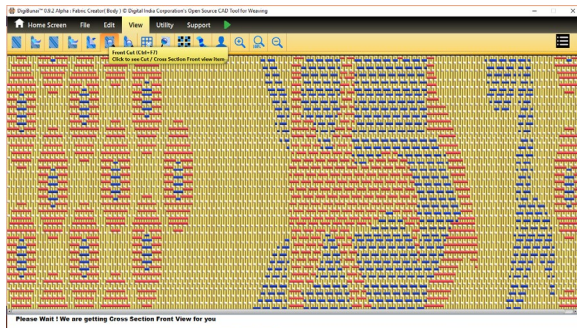
Flip view shows the backside view of the fabric. This view shows the interlacement of the threads in the back side of the fabric.



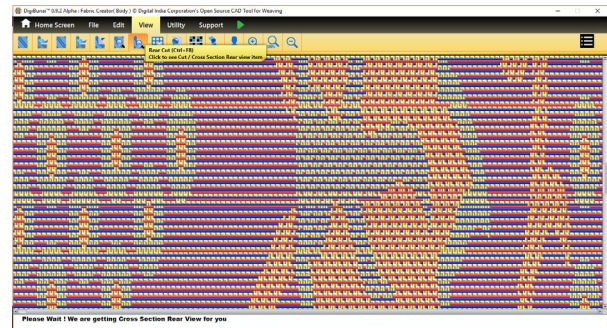


### 2.3.4 Front & Rear Cut

Front cut is use to see front side of the <fabric with yarn colour separation>. Rear cut is use to see back side of the fabric with yarn splitting. This view is also the representation of floating length of weft yarns.



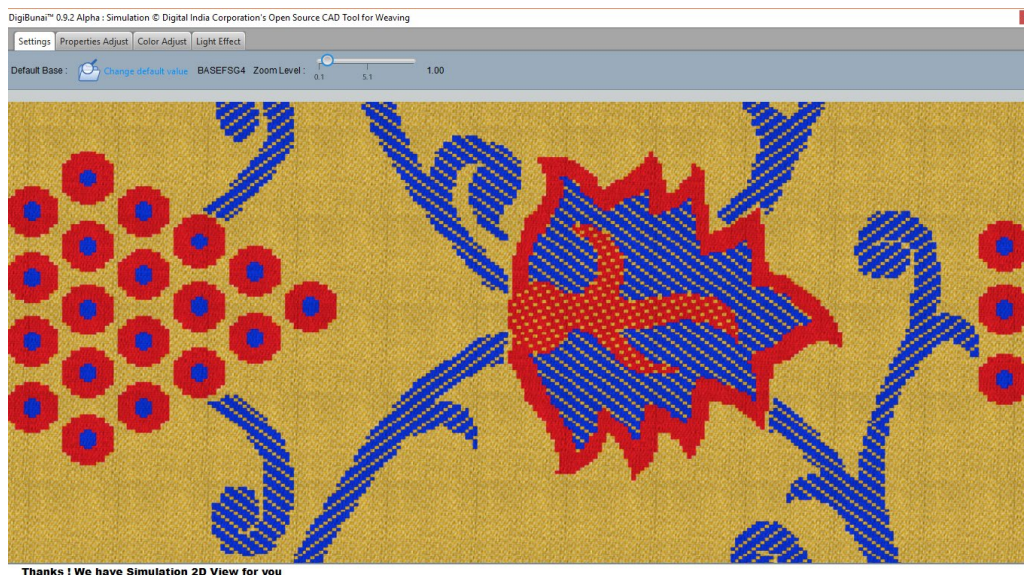
Front Cut



Rear Cut

### 2.3.5 <Simulation>

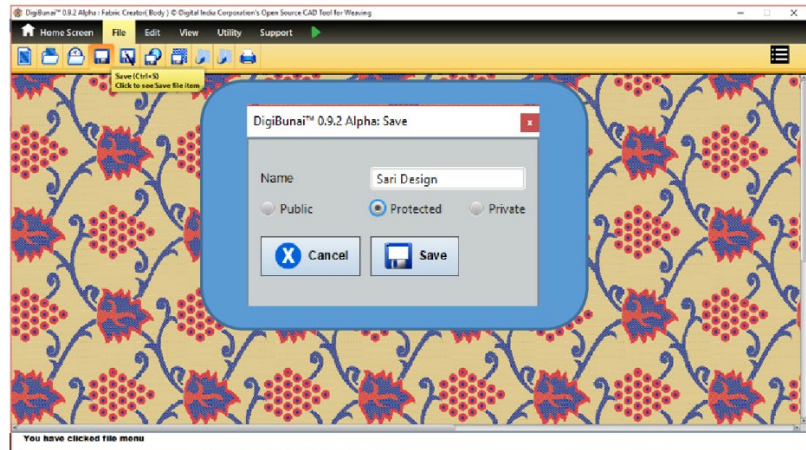
The application has one, very basic model of simulation where artworks are superimposed on the scanned images of the base fabric. The images of the base fabric with the different parameters are saved in to library. User can chose the type of base fabric and set the other parameters of simulation i.e. brightness, contrast, hue, saturation, etc.



## 2.4 Save Fabric Creations & Outputs (File)

### 2.4.1 <Save Fabric>

After creating, editing the fabric there is the provision of saving the fabric into database.



#### 2.4.1.1 Public

Public option to save the fabric which will be synchronized with central server and available for use to other users.

#### 2.4.1.2 Protected

In the protected option to save, the fabric which will be synchronized with central server but other user will not be able see.

#### 2.4.1.3 Private

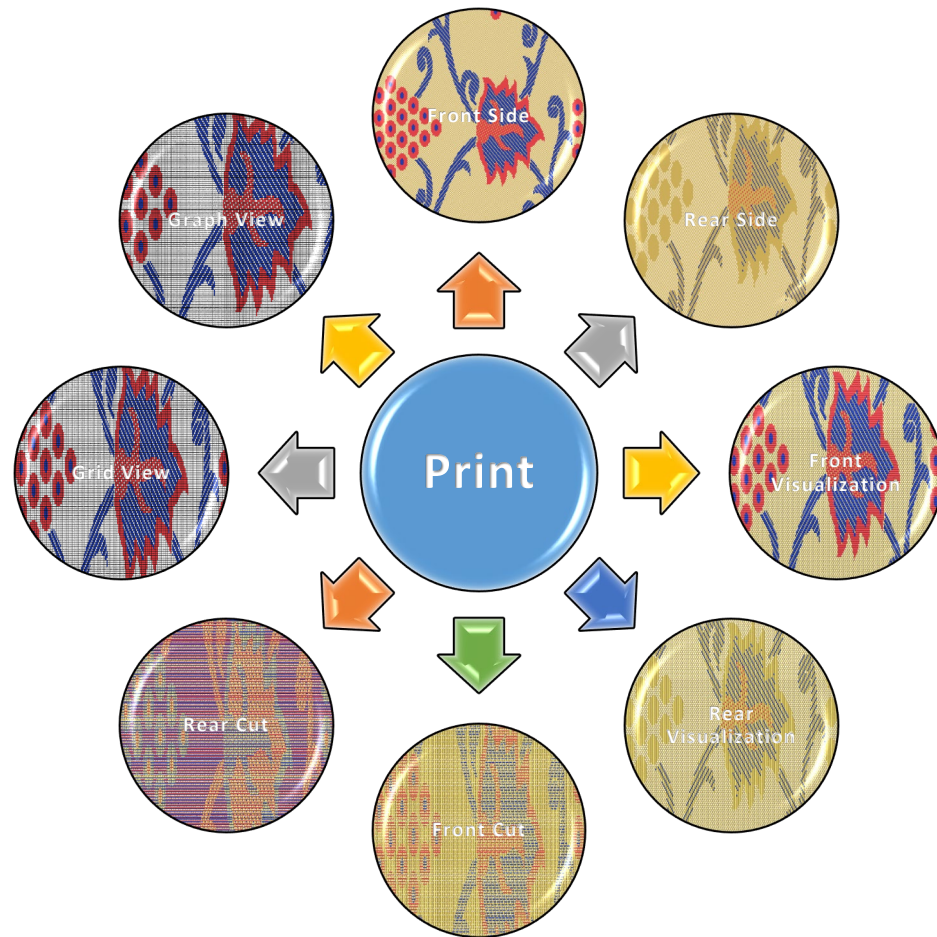
In the private option to save, the fabric which will not be synchronized with central server. The work done by the user will be kept at local machine only

### 2.4.2 Save As

There is Save As option where user can provide different name of the fabric and authentication as per need.

## 2.4.3 Printing

The print module offers to <print the designs in different forms> with customized printing facility.



### 2.4.3.1 Print Grid

Print grid option <prints the design in the form of grid>.

### 2.4.3.2 Print Graph

Print graph option is use to <print the design in the form of graph> after assigning weaves. This will be a one page graph.



### 2.4.3.3 <Print Fabric> Visualization

In case user wants to share the digital copy of the fabric. This option helps to take the print of texture (Fabric views & visualizations) of the fabric in the form of one repeat.

### 2.4.3.4 <Print Front & Back View of Fabric>

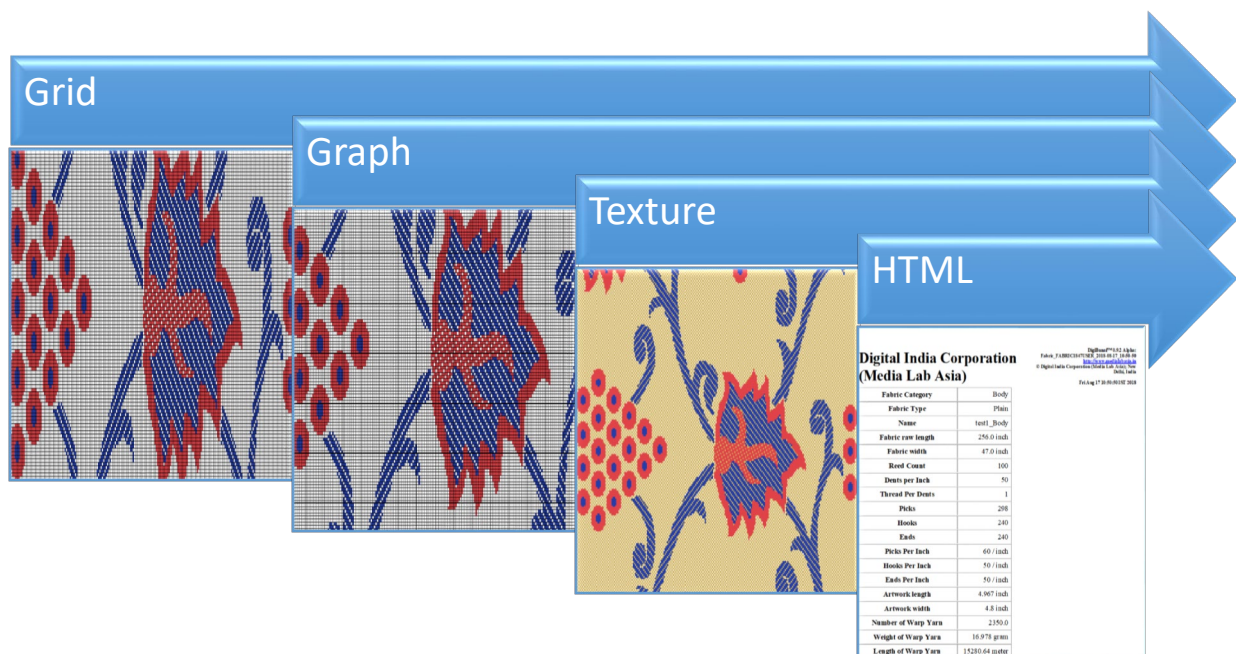
It provides facility to print a unit repeat of created design with background fabric.

### 2.4.3.5 <Print Front & Rear Cut of Fabric>

It Provides facility to print a unit repeat of created design with background fabric in actual ordering view of different colors of yarns.

## 2.4.4 Exports

User can export various forms of Creation with construction parameters.



#### 2.4.4.1 Export as Grid

It offers to <export the design in grid from> without background weave.

#### 2.4.4.2 Export as Graph

User can <export the design in the form of graph> after assigning weaves. This will be image file .bmp on one single page.

#### 2.4.4.3 Export as Texture

Using this option, user can <export the design texture of the fabric> (Front side view image file .png) in one repeat.

#### 2.4.4.4 Export as HTML

User can <export the fabric with the complete technical details> including size, EPI/PPI, warp, weft and extra weft details as follows:

# Digital India Corporation (Media Lab Asia)

Fabric Category	Body
Fabric Type	Plain
Name	test1_Body
Fabric raw length	256.0 inch
Fabric width	47.0 inch
Reed Count	100
Dents per Inch	50
Thread Per Dents	1
Picks	298
Hooks	240
Ends	240
Picks Per Inch	60 / inch
Hooks Per Inch	50 / inch
Ends Per Inch	50 / inch
Artwork length	4.967 inch
Artwork width	4.8 inch
Number of Warp Yarn	2350.0
Weight of Warp Yarn	16.978 gram
Length of Warp Yarn	15280.64 meter
Number of Figured/Weft Yarn	15360.0
Weight of Figured/Weft Yarn	20.374 gram
Length of Figured/Weft Yarn	18336.768 meter

Warp Thread Pattern 1A

Warp	Name	Thread Type	Thread Repeat	Thread Count	Thread Count Unit	Thread Ply	Thread Dimension factor	Thread Diameter(mm)	Thread Weight(kg)	Thread Price(kg)	Thread Twist Count/inch	Thread Twist Scene	Thread Hairiness	Thread Distribution	Thread Color
A	Silk	Warp	1	22	Denier (Td)	1	18	0.087	-	1.0	0	O	0	0	#CCA5E9

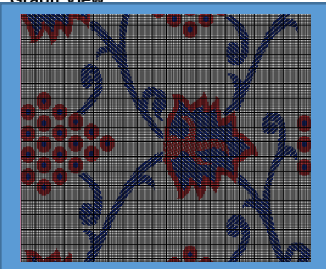
Weft Thread Pattern 1a

Weft	Name	Thread Type	Thread Repeat	Thread Count	Thread Count Unit	Thread Ply	Thread Dimension factor	Thread Diameter(mm)	Thread Weight(kg)	Thread Price(kg)	Thread Twist Count/inch	Thread Twist Scene	Thread Hairiness	Thread Distribution	Thread Color
a	Silk	Weft	1	22	Denier (Td)	1	18	0.123	-	1.0	0	O	0	0	#F1E6C7

Extra Weft

Extra Weft	Name	Thread Type	Thread Repeat	Thread Count	Thread Count Unit	Thread Ply	Thread Dimension factor	Thread Diameter(mm)	Thread Weight(kg)	Thread Price(kg)	Thread Twist Count/inch	Thread Twist Scene	Thread Hairiness	Thread Distribution	Thread Color
#	Silk	Extra Weft	1	22	Denier (Td)	1	18	0.123	-	1.0	0	O	0	0	#243EAB
#	Silk	Extra Weft	1	22	Denier (Td)	1	18	0.123	-	1.0	0	O	0	0	#E14349

Graph View



This is computer generated, So no signature required



## 2.5 <Design Punching> & Calculations

After completing the design part, user need to punch the cards to start the weaving. There are three options for punching the punch cards

### 2.5.1 <Manual or Piano Card Punching>

In the manual punching process, user needs a printed graph, punch and punching plate. The punching plate decide the size of the card which match the punch plate of the cylinder mounted on jacquard. User manually reads the graph and punch the hole on the card. This process is very time consuming.

Piano is the mechanical machine to punch the cards. In the piano punching also user needs a printed graph. User manually reads the graph and punch the hole on the card. This process is little bit faster than manual punching.

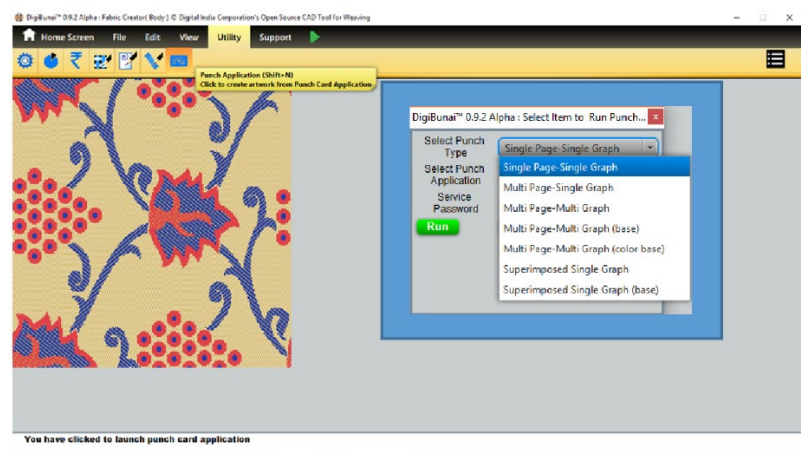
In the both way of punching can be done by application generated printed graphs (File).

### 2.5.2 Automatic Card Punching (Utility)

The <design card punching by using Electronic Card punching> machine is much lesser time consume for punching. It also produce efficient outputs than manual methods (due to human errors). Users do not need to carry the printed graph, a soft copy of the design is required to give the command to punching machine. This application supports any punching machine. To give the punching command user need to go to Fabric Creator/Artwork Creator Module -> Utility Menu -> Punch Application and then select the following options as per requirement.

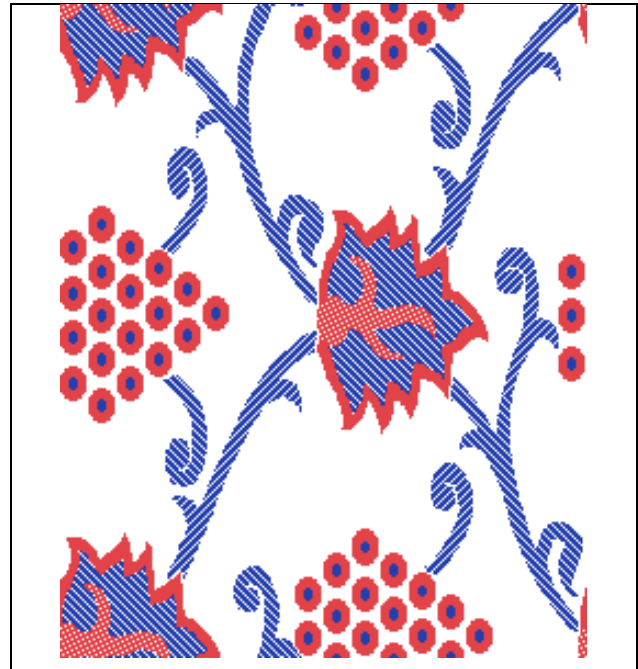
#### 2.5.2.1 Select <Punch Type>

Usually punching machine takes the input of the design in two colors only. So we need to convert the multi colored design on two colors only and these two colors are counted as black and white.



- **Single Page-Single Graph**

If user wants the complete (with all the colors) in one page then he/she needs to select this option. This option use to <punch the design for single color extra weft weaving >.

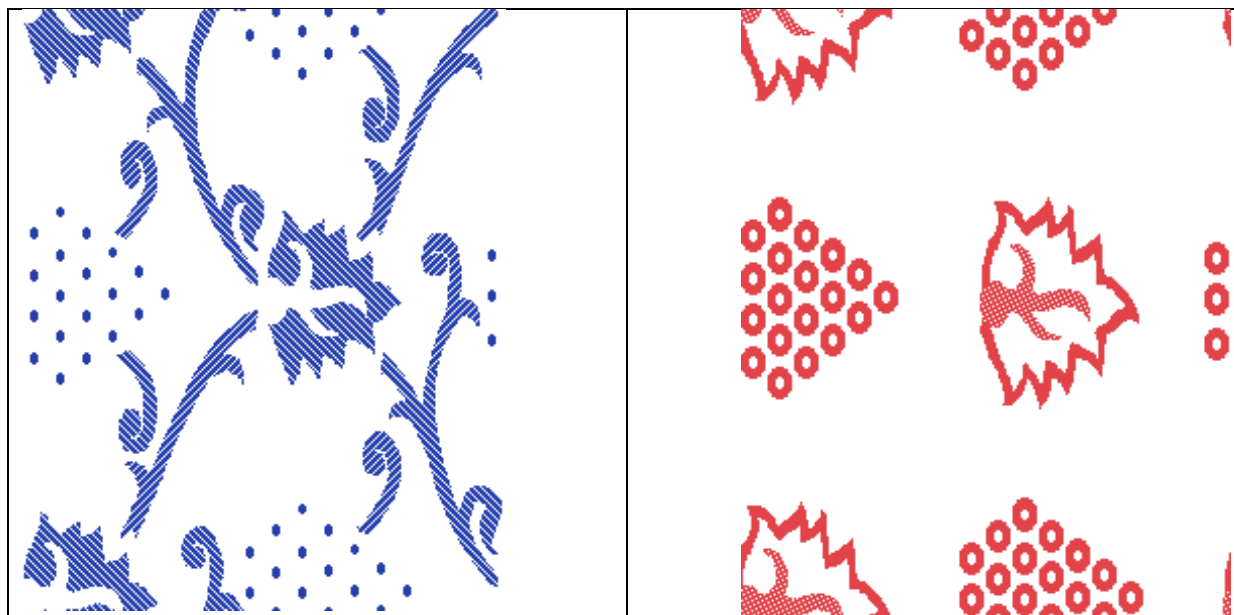


- **Multi Page-Single Graph**



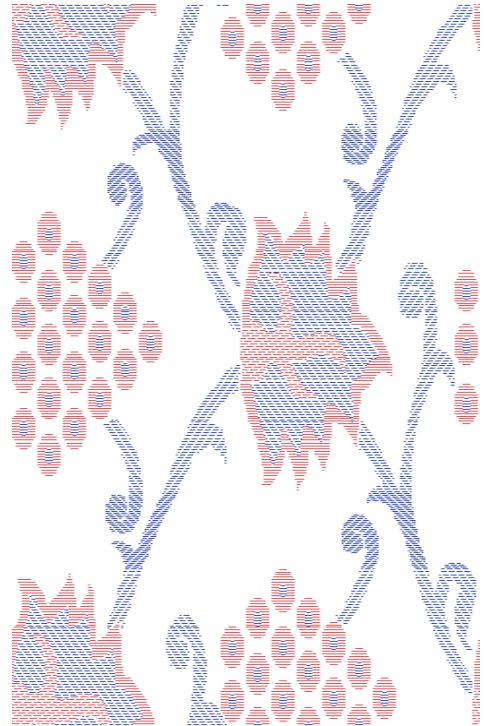
- **Multi Page-Multi Graph**

The punching image generated from this option use for <punching with multiple colors extra wefts> (as colors in design). All the colors in design will be separately punch & different punch cards sequentially arrange after punching.



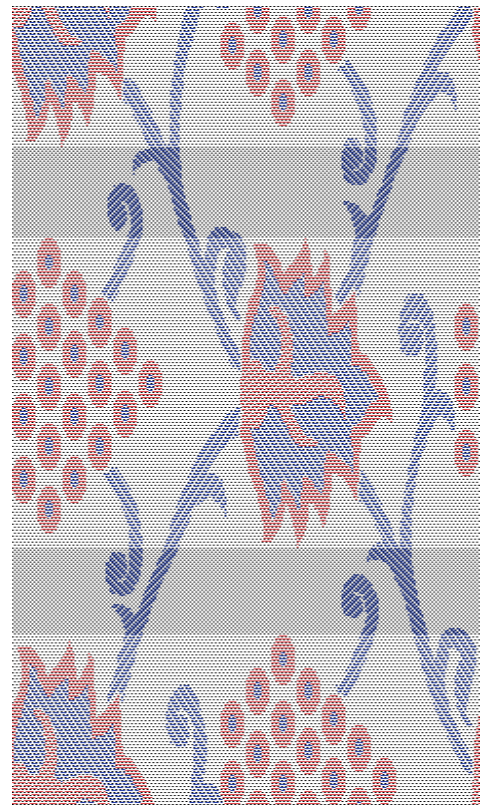
- **Superimposed-Single Graph**

If the design has more than two colors and user wants to give the punching in single command then super imposed single graph is the option where both the colors of the design merged together. There is no need to give color wise punching of the cards separately. This mode provides **<multiple colors punching in a single command>**.



- **Superimposed-Single base Graph**

If the design has more than two colors and user wants to give the punching in single command then super imposed single graph is the option where both the colors of the design merged together. It also provides facility to **<punch the base weave with multiple color design punching>**.



### 2.5.2.2 Select Punching Machine

User need to select the Punching machine application i.e. driver of the punching machine connected with the computer. This option can directly <transfer the design from application to punching machine>.

### 2.5.2.3 Service Password

User need to enter the service password to give the command of punching from the security and authentication aspect.

### 2.5.3 Consumption Calculation

User can calculate the <actual yarn consumption for producing finished fabric>.

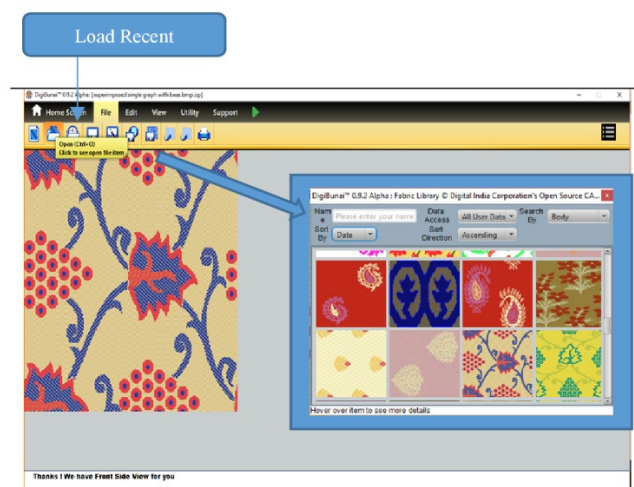
### 2.5.4 Price Calculator

It provides facility to <calculate the cost of fabric production>.

## 2.6 <Library of Fabrics> (File)

User can open an existing fabric from the library through File -> Open

When user will click on the Open, an image browser window will pop up which shows the fabrics in library. It also provides searching and sorting options based on the following parameters viz. Name, Date, Type. User can <open the saved fabric> by selecting fabric from library..



Load Recent option provides to open the recent created saved file on window after closing & reopen the module.

### 2.6.1 Search

User can <search the fabric> by name. User need to enter the starting character of name of the fabric, the list of fabrics will automatically be displayed.

### 2.6.2 Sort

- **Sort by Date**

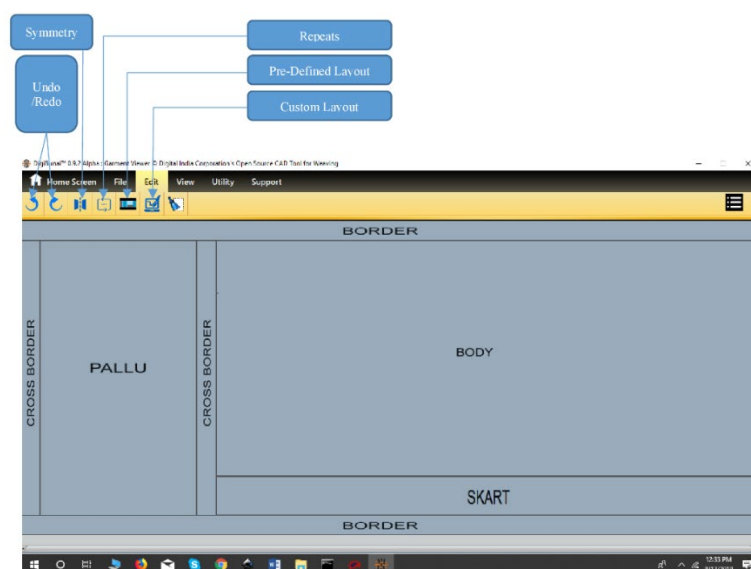
User has the option to <sort the fabric by date> (ascending order)

- **Sort by Name**

User can <sort the fabric by Name > (ascending order alphabetically)

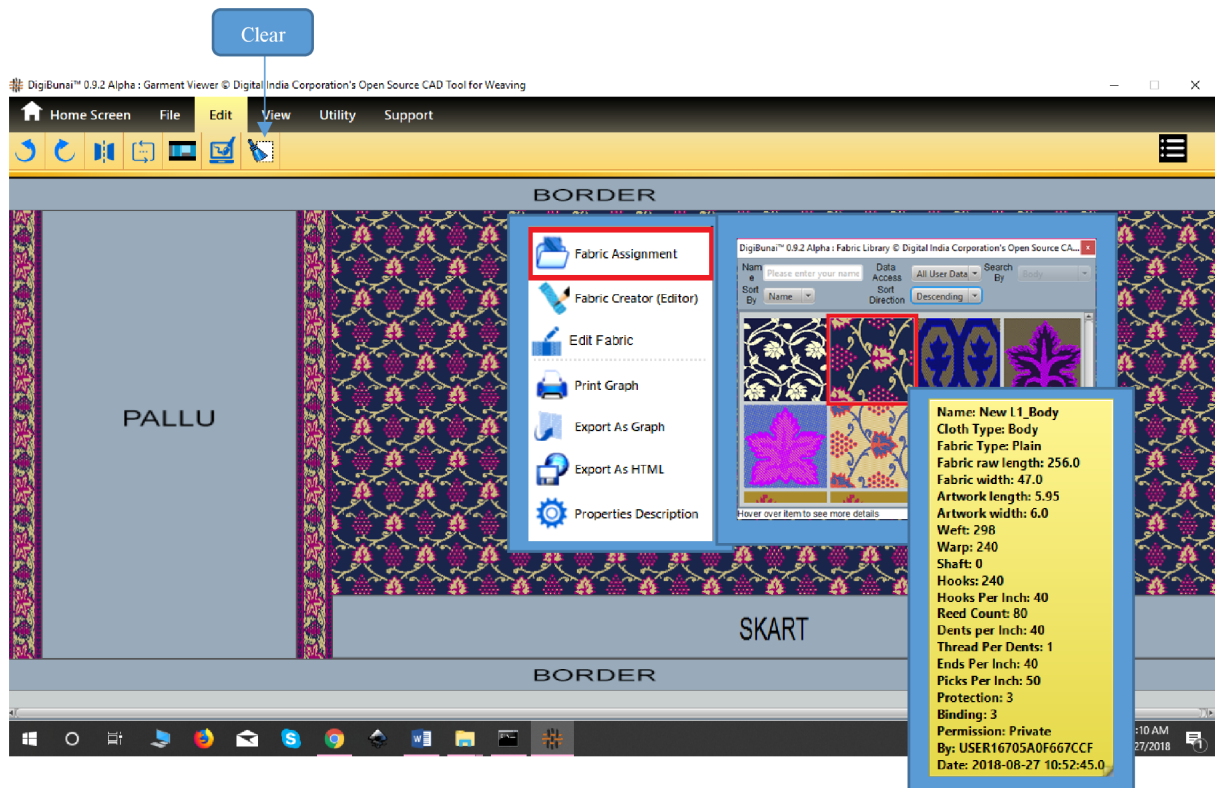
## 3 Garment Layout

Garment Viewer module is the play area for designer where they can see the design in the form of complete garment layout. User can try different combinations of designs, colors & design editing functions. In **Edit** menu user can <select the predefined template of garment layout or customized it> as per requirements.



## 3.1 Fabric Assignment

In this section user need to <assign the fabric in each and every section of the layout>. By right click of the specific section, user can select the fabric from the library. If user clicked on the body, an image browser will be opened with the library of designs where user can chose the design for garment section.

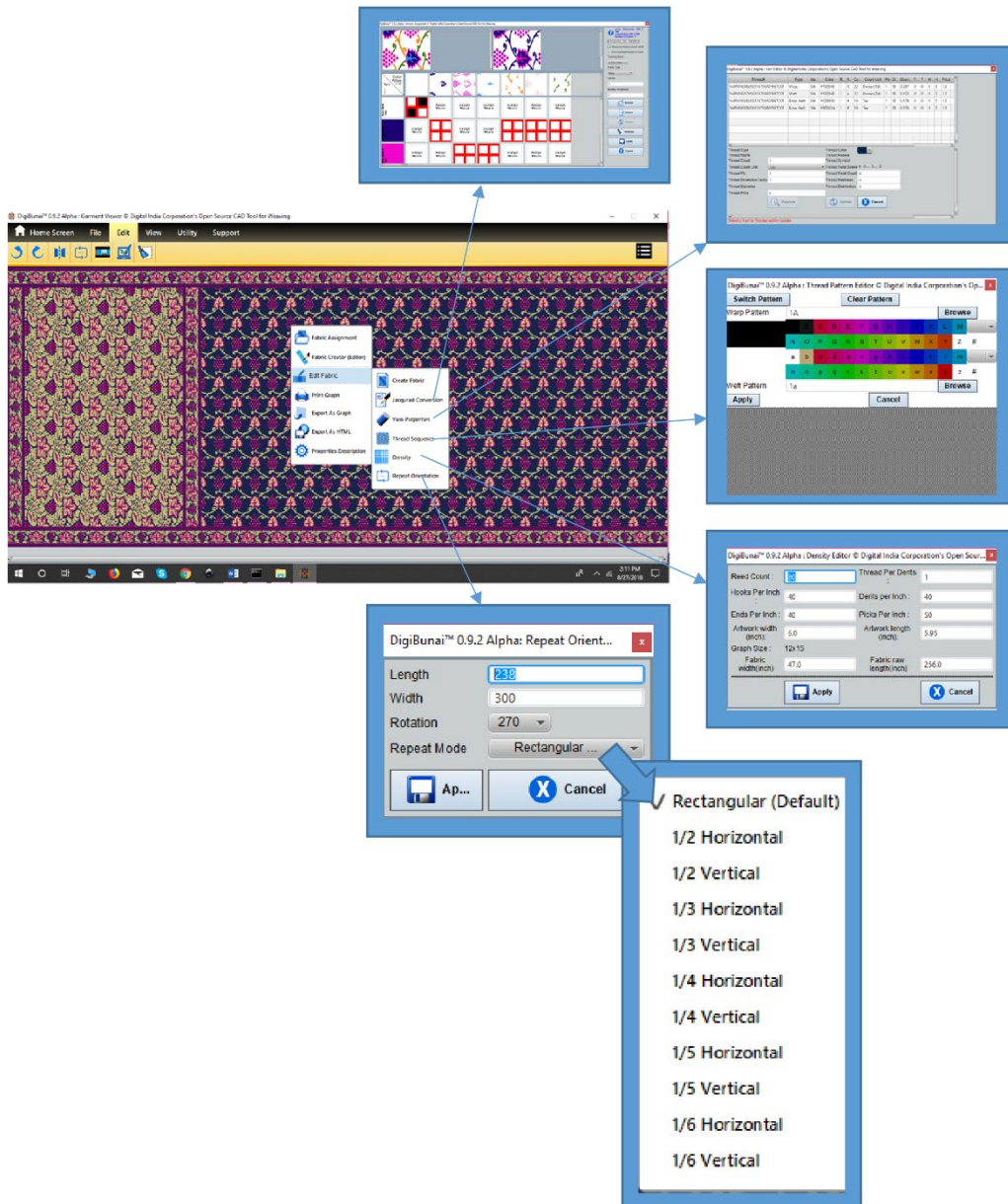


### Fabric Assignments

## 3.2 Edit Fabric

This mode is provide to do changes or edit in assigned Fabric in Layout. The editing option <provides the various design & Fabric parameters changing facility> to visualize the garment in different ways.





### 3.2.1 Jacquard Conversion

This function is useful to <modify the weaves & extra wefts in design>. After modification user can save it & changes will be reflect on Garment Layout.



### 3.2.2 Yarn Properties

This feature gives the flexibility to the user for <changing the warp, weft and extra weft yarn properties (currently colour of the yarn) on layout>. Later on count of the yarn, ply, twisting, hairiness factor will be editable.

### 3.2.3 Thread Sequence

This function provides the flexibility to users for various <yarn color pattern generation on base fabric & visualize that effect on garment layout>.

### 3.2.4 Density

Density parameters reflect the <yarn density effect on layout> with corresponding dimensions of the design.

### 3.2.5 Repeat Orientation

With this feature, user can change the <repeat pattern of the design on layout> i.e. ½ drop, 1/3 drop etc. User can <rotate the artwork on layout> by selecting the angle.

### 3.2.6 Clear

Clear function is to <clear the fabric from the layout>.

## 3.3 < Garment Layouts Creation > (Edit)

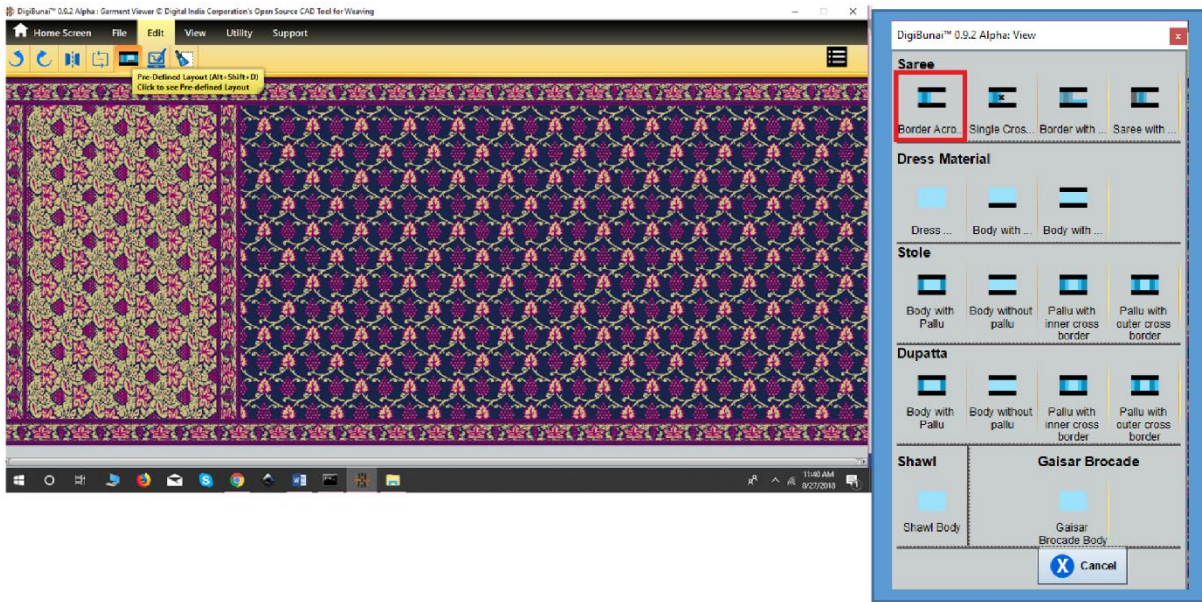
### 3.3.1 Saree

In Varanasi, Saree has the different layouts in the form of various components of the Saree i.e. border, cross border, pallu, body.

#### 3.3.1.1 Pre-Defined Layout

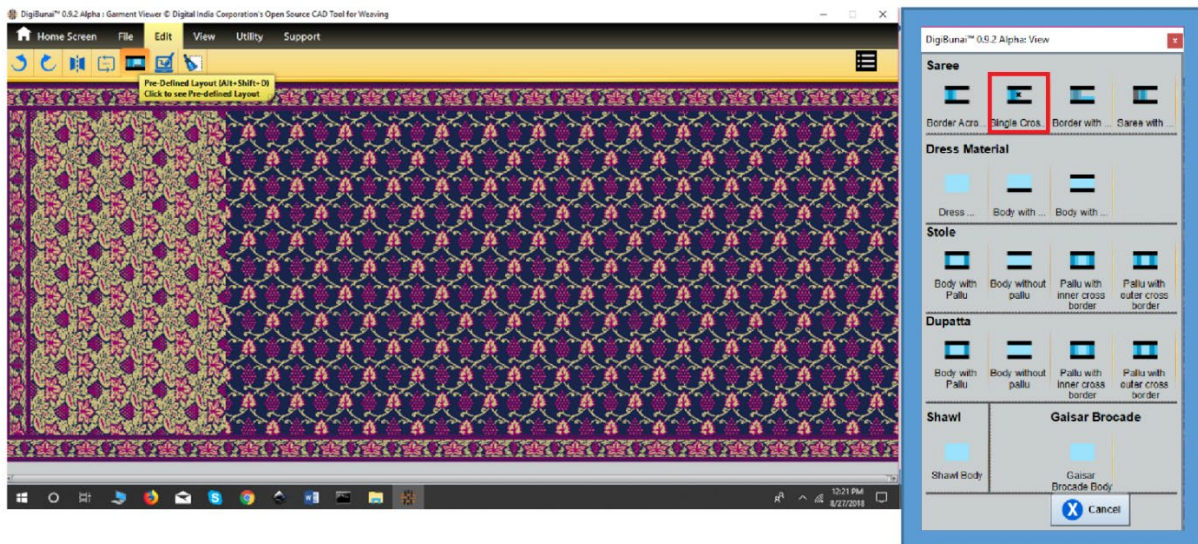
- **Border across Body and Pallu**

In this layout, border goes across the cross border. The cross border limits up to the border only.



## - Single Cross Border

Some of the Sarees have only one side cross border, body part start just after pallu.





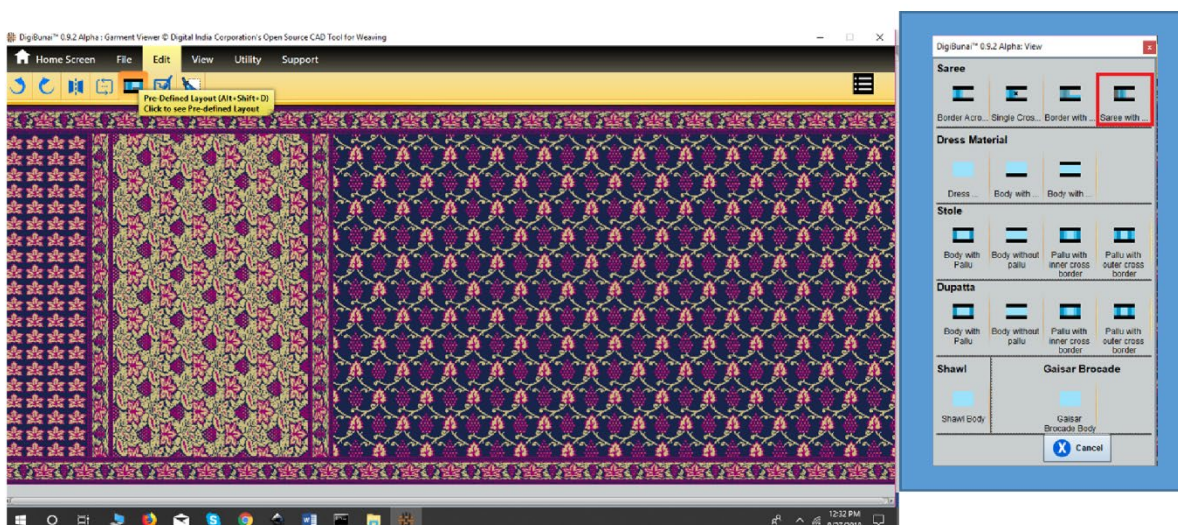
- **Border with Skirt border**



In this layout, a skirt is extra component along with border, cross border, pallu and body part of Saree.

- **Saree with Blouse**

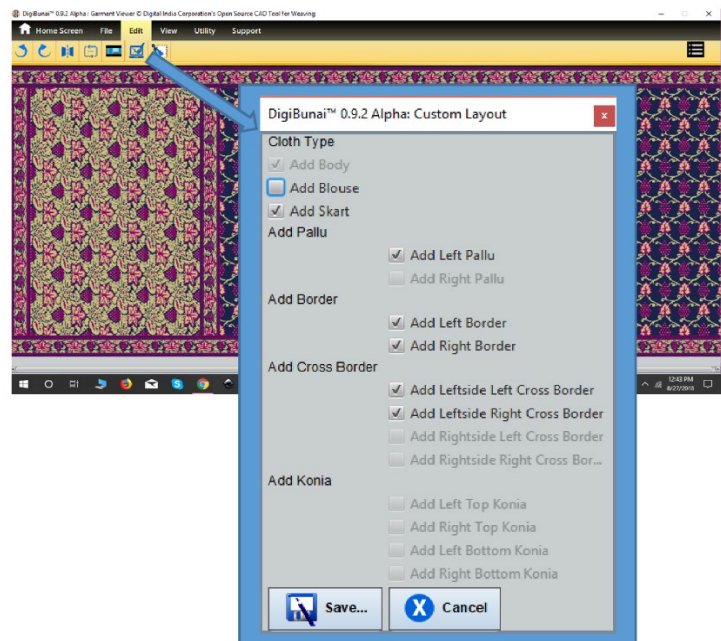
This layout of the Saree is with Border Cross Border, Pally, Body and blouse piece.



User can also prepare the layout of different garments like Dress Material, Dupatta, Stole, Shawl, etc.

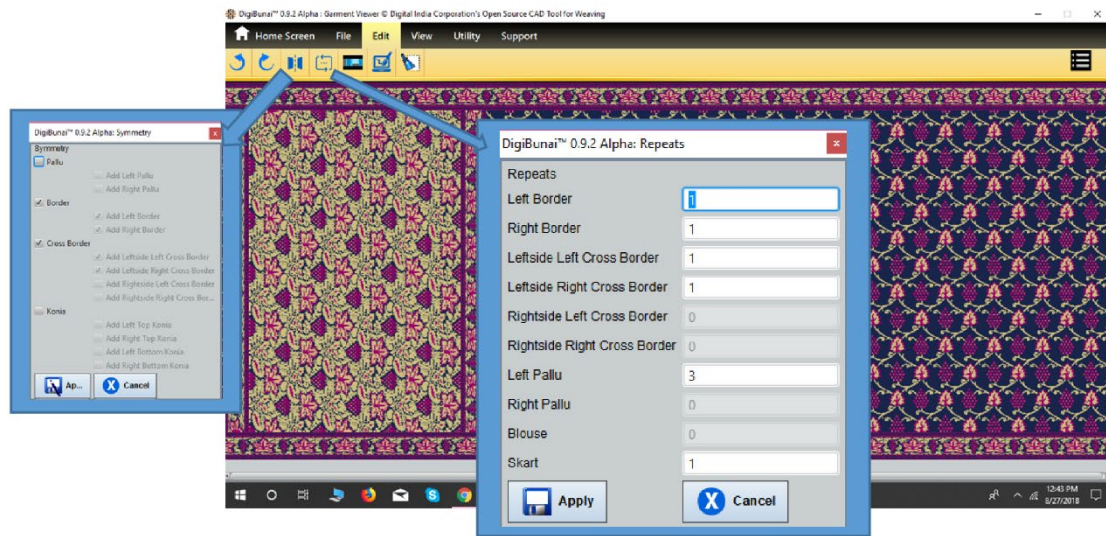
### 3.3.1.2 Custom layout

User can <customize the components of garments> by Custom Layout.



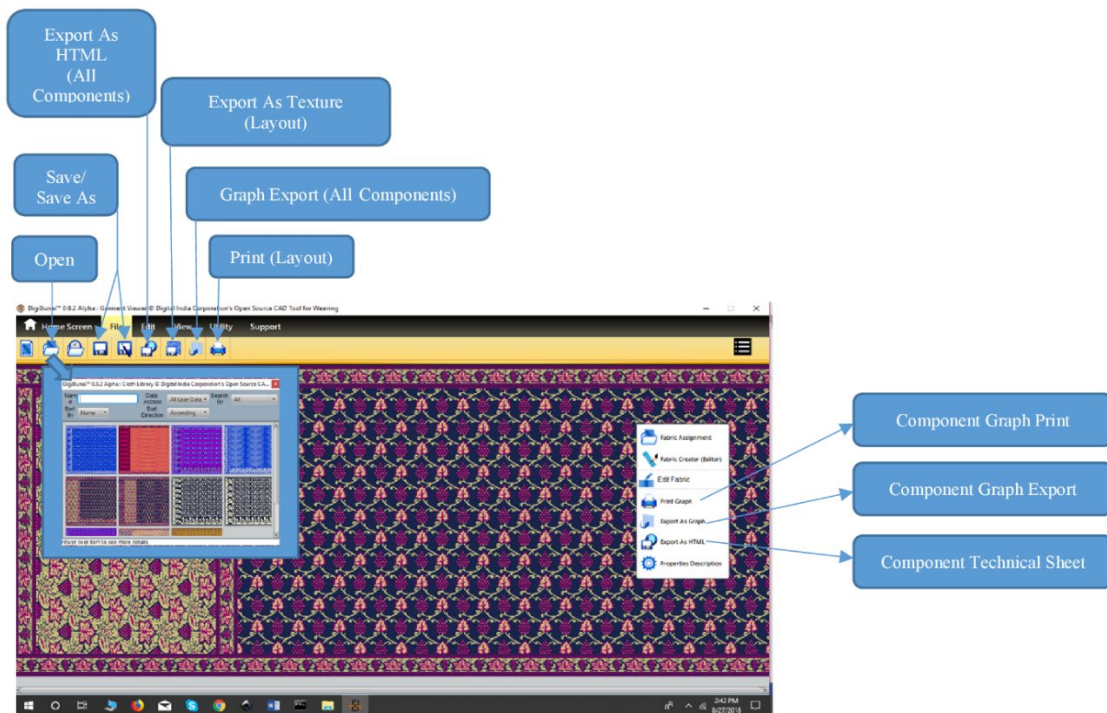
### 3.3.1.3 Repeat & Symmetry Setting

User can select the <repeats of individual garment components> by Repeats option. The <symmetry between the garment components> can be set by symmetry.



### 3.4 Secure Garment Layout & Outputs (File)

This can provide the functionality to secure the created Layout in Library of Garment Viewer module. User can Export or Print the layout with supporting construction files.





### 3.4.1 Print

User can <print the Garment Layout> by clicking on Print. It also provides the facility to <print the graph of individual garment component>. For this purpose take the mouse pointer on design & right click. The option displayed on the screen 'Print Graph'.

### 3.4.2 Export

User can <export the garment texture> by **Export As texture**, <Export garment construction details> by clicking on **Export As HTML** & <Export graphs of garment> by **Export As Graph** on the top menu bar of Garment Viewer. The <garment component can be individually exported> by right clicking on individual sections of Layout.

### 3.4.3 Save

The <created garment layout save in the Library> of Garment viewer by Save/Save As.

### 3.4.4 Open

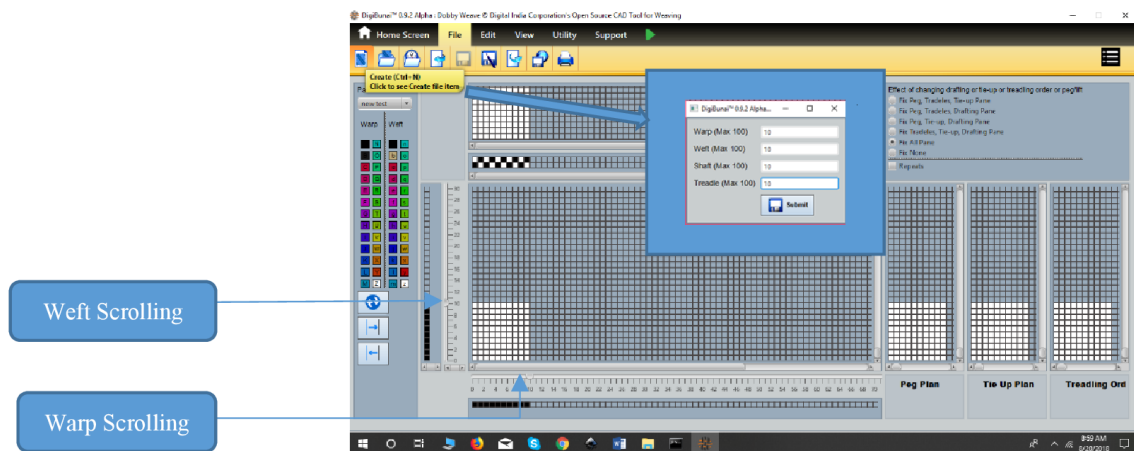
The saved Garments Layouts can be seen in Library by clicking on 'Open'.

## 4 Dobby Weave

Dobby Weave help users to create different weaves which will be used during the weave assignment to the artwork.

### 4.1 Create Weave

To create one repeat of the weave, user need to enter number of warp, weft, shaft and treadles. After assigning the above parameters, 4 grid will be appeared to the user i.e. design grid, drafting grid, ti-up grid and peg plan grid. There are two options to <create the weave size> (other is by scrolling) and select warp colour and weft colour form colour palette.



#### 4.1.1 Design to Drafting

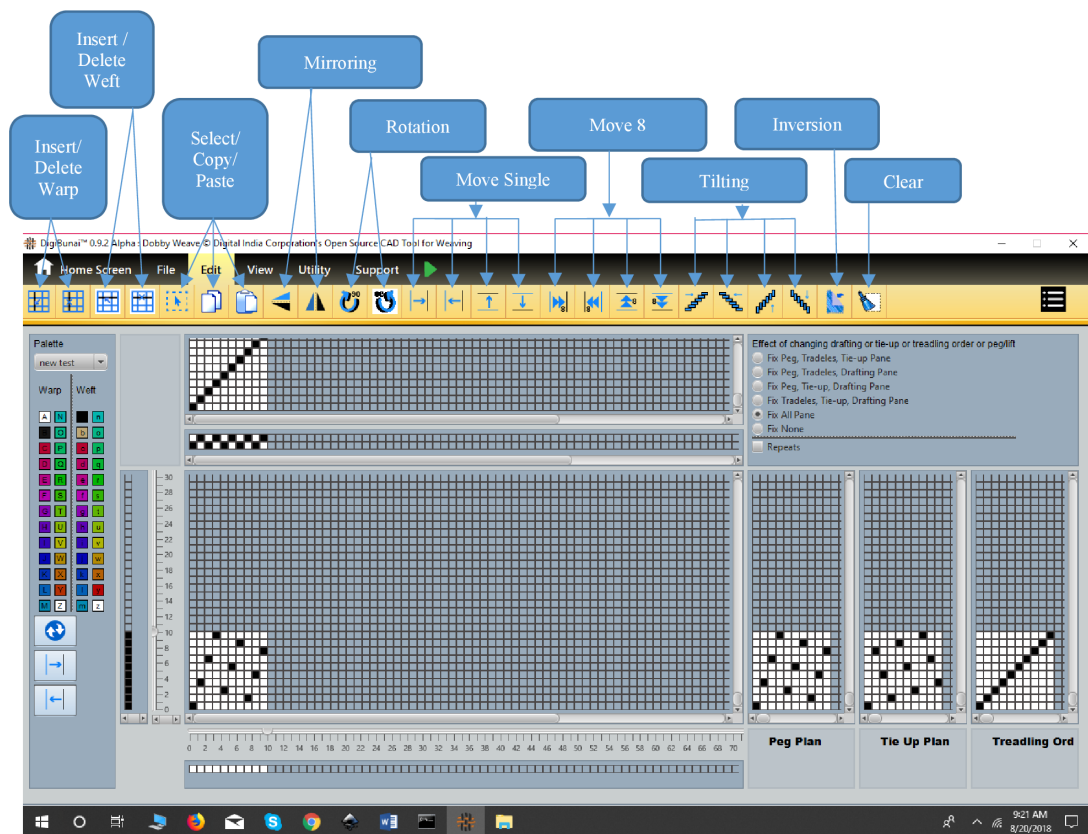
User need to create the weave by filling the design grid. Rest of the three grids will be calculated automatically.

#### 4.1.2 Drafting to Design

If user knows the drafting the design then he/she needs to fill the drafting, ti-up and peg plan grid, design will automatically reflect in the design grid.

## 4.2 Edit

To <edit the weave> pattern, user can do the following operations.



## 4.2.1 Insert Warp

There is provision to <insert warp> in the existing weaving pattern. The new warp will be inserted at the right side of the selected warp.

## 4.2.2 Delete Warp

To delete a warp, user need to select the warp first and then click on the <delete warp> option.

## 4.2.3 Insert Weft

There is the provision to <insert a weft> in the existing weaving pattern. The new weft will be inserted below the selected weft.



#### 4.2.4 Delete Weft

To <delete a weft>, user need to select the weft first and then click on the delete weft option.

#### 4.2.5 Select

To <select the area in the weave> design, user need to click on the select option and drag to select the portion. The selected area will be represented in red colour.

#### 4.2.6 Copy

User can <copy selected area of the weave> which can be used on any place in the weave area.

#### 4.2.7 Paste

User can <paste the copied area of weave> on anywhere in the weave. The paste will start from the selected point.

#### 4.2.8 Mirroring

User can <Mirror the weave> pattern (either vertically or horizontally).

- **Horizontal Mirror**

For <mirroring the specific weave portion horizontally> user will have to click on the Mirror Horizontal icon in the Edit menu bar.

- **Vertical Mirror**

For mirroring the <mirroring the specific weave portion vertically> user will have to click on the Mirror Vertical icon in the Edit menu bar.

#### 4.2.9 Clear

User can <clear the weave> window by clicking on the clear option. After clicking on the clear, all the windows i.e. drafting, peg plan, ti-up and design window will be blank (except one point in design window).

### 4.2.10 Move

User can move weave pattern one unit or 8 unit in Left, Right, Up and down.

- **One Move by 1**

User click move one unit Move left, move Right, Move Up, Move Down. <Weave pattern move by one unit> in desire direction.

- **Move by 8**

User click move eight unit Move left, move Right, Move Up, Move Down . . <Weave pattern move by 8 unit> in desire direction.

### 4.2.11 Tilt

The tilt tool shifts every next line (or column) of the weave for one thread to the desired direction. The most common use is for fast creation of satin weaves. This function is use to <tilt the weave> in different directions.

- **Right**

<Tilt right the weave> (transforms vertical line to right diagonal).

- **Left**

<Tilt left the weave> (transforms vertical line to left diagonal).

- **Up**

<Tilt up the weave> (transforms vertical line to up diagonal).

- **Down**

<Tilt down the weave> (transforms vertical line to down diagonal).

### 4.2.12 Rotation

- **Clock Wise Rotation**

User can <rotate whole weave pattern in clock wise direction>.

- **Anti-Clockwise Rotation**

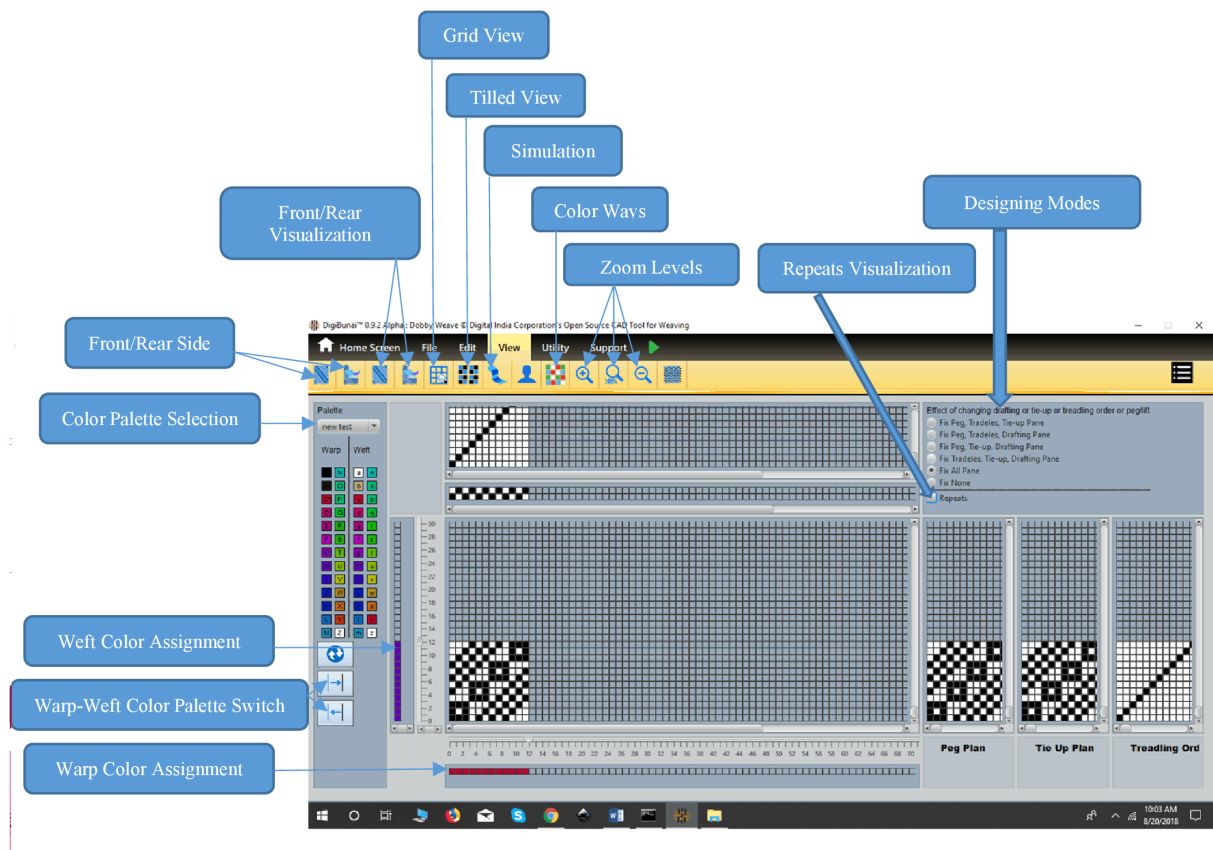
User can <rotate whole weave pattern in anti-clock wise direction>.

### 4.2.13 Inversion

For inverting the weave pattern user will have to click on the inversion icon in the Operation menu. It can <reverse the yarn interlacements in weave>.

## 4.3 View

The View Menu option of the Dobby Weave Window will provide certain operations for <viewing the weaving patterns of the dobby fabric> at different view mode.



### 4.3.1 Zoom-In

Zoom-In can be obtained by clicking on the icon under the View menu. **<Weave Zoom In>** increases the size of pixel which represents the thread on the screen this allows the user to see the weave with more precision and accuracy.

### 4.3.2 Zoom-Out

Zoom out Mode can be obtained by clicking on the icon under the View menu. .

**<Weave Zoom Out>** decrease the size of pixel which represents the thread on the screen this allow user to inspect the detail of the large weave.

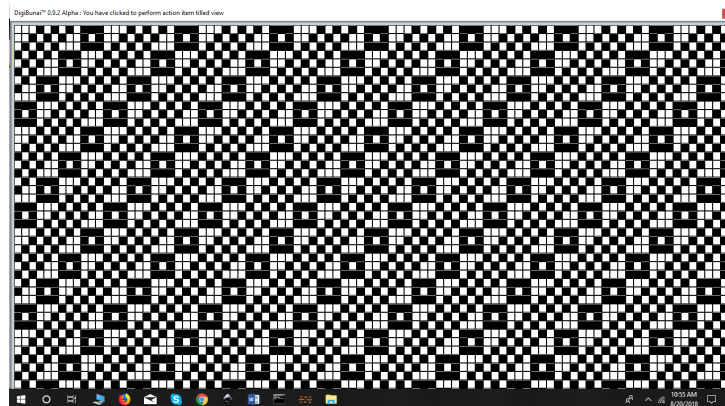
### 4.3.3 Normal

Normal Mode can be obtained by clicking on the icon under the View menu. This

Facilitates the user to retain the **<weave zoom at normal level>** at its default setting.

### 4.3.4 Tiled View

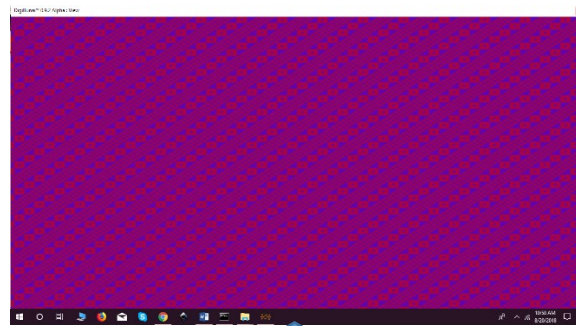
User can see fabric view of weave in tiled view under View menu. User can assure about the **<created weave by showing weave repeats>** in Tilled View.



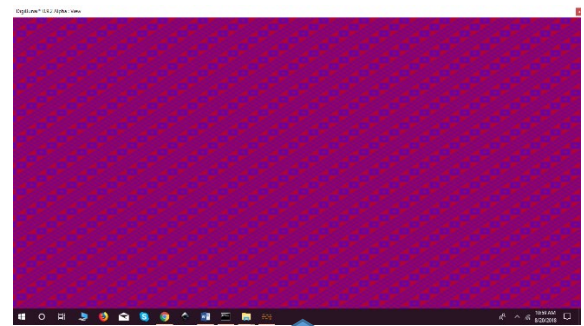
Tilled View

### 4.3.5 Front & Rear side View

User can see **<Front & Rear side view of fabric with weave>** in view under View Menu.



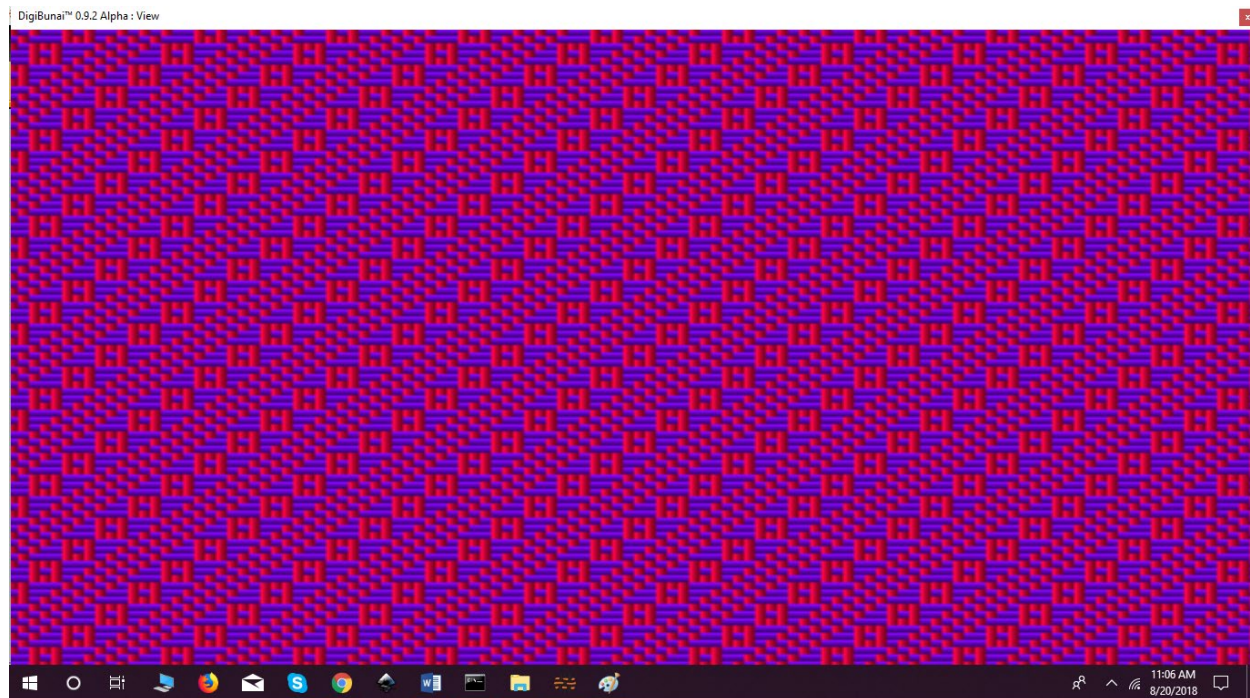
Front View



Rear View

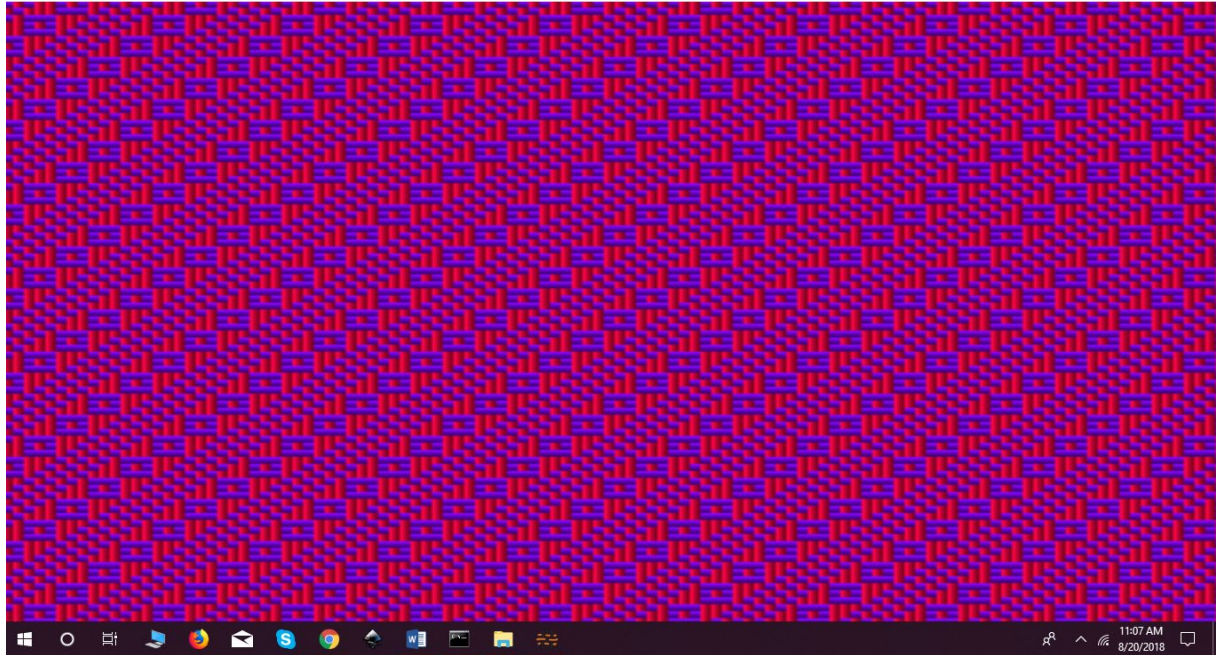
### 4.3.6 Front & Rear Visualization

User can see the <thread interlacement visualization of created fabric with weave>.



Front Visualization

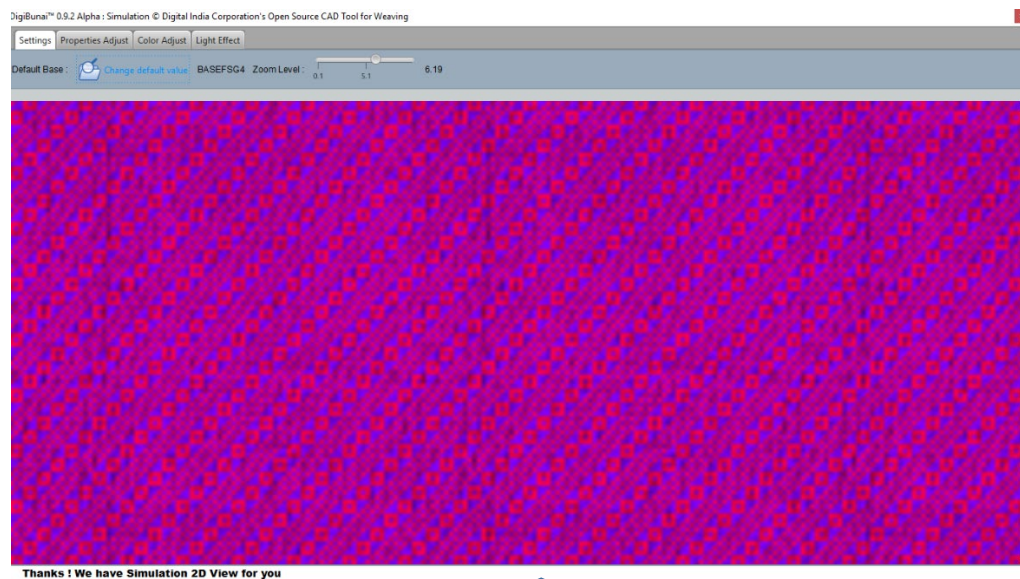




Rear Visualization

### 4.3.7 Simulation View

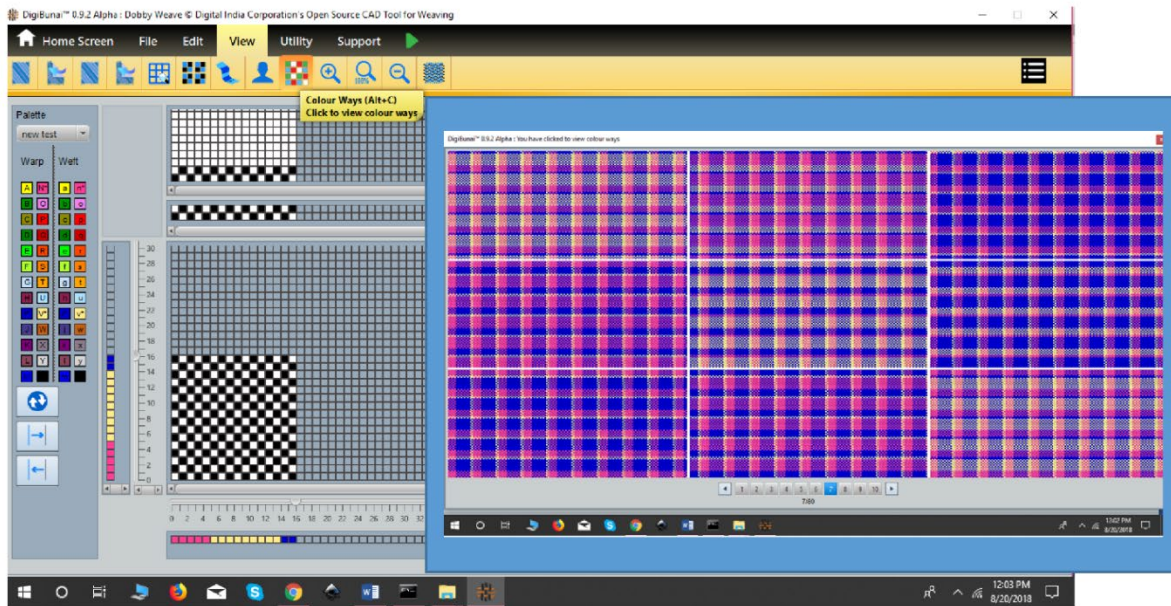
User can see <simulation view of fabric> in View Menu.



Fabric Simulation

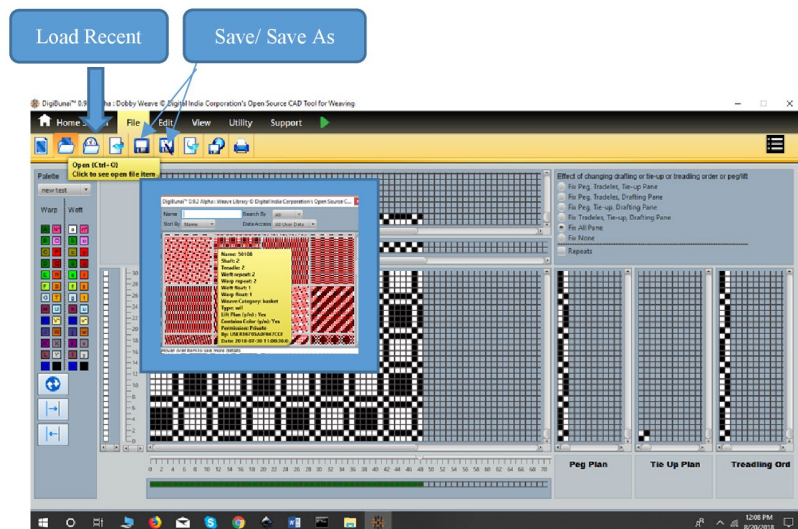
### 4.3.8 Colour ways

User can see <fabrics with different colour combination of warp and weft yarn> under view menu in dobby weave.



### 4.3.9 Secure the Weave creations & Weave Library (File)

The function provides the facility to <save the created weaves & fabric> in Dobby Weave Library.





### 4.4.1 Save/Save AS

For <saving the existing weave with new name> > into the library user has to click on **Save As** icon in the File menu, this will save the weave with new name inside the library.

For saving an existing weave into database library with modification user will have to click on Save icon under the File Menu.

### 4.4.2 Open & Load Recent

User can <open an existing created saved weave> weave from the library by clicking on **Open** icon in the File Menu. After clicking on Open icon a Window will pop up which shows the weave to the user.

Open Weave window that provides different searching and sorting options for user to search the weave & Sorting allows to sort the weave file on the basis of factors such as :-

- **Name** –This helps a user to <sort the weaves by name bases>..
- **Date** – This option helps user to <Sort the weaves by Date> updated or last saved.

For e.g., if user last saved the weave file yesterday then with this option he can directly open the file without searching for particular one in library.

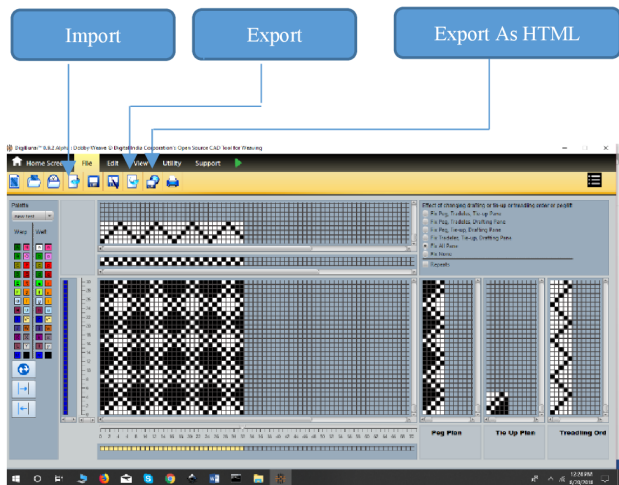
User can see previous saved weave in load recent menu bar.

## 4.5 Import & Export

Dobby Weave provides the facility to the user to <Import the weave> ‘wif’ file that contains all the weaving related information. By clicking on Import icon under the File Menu. After clicking on Import icon, a file open dialogue box will appear for selecting a specific **WIF** file.

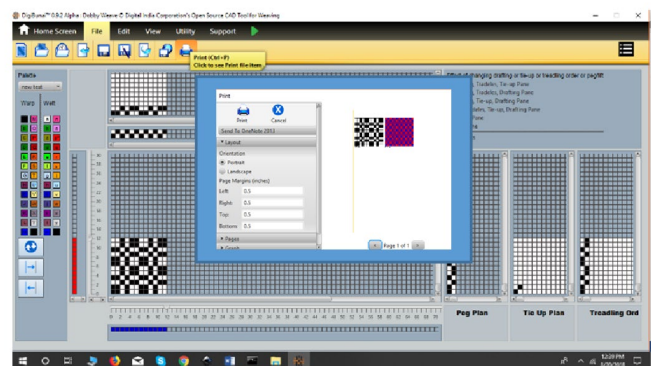
Dobby Weave provides the facility to the user to <export the weave> in ‘wif’ format. The constructed <weave export with Peg plan, Draft, Treadling Sequence> by clicking on ‘Export As HTML’.

User can export the weaving information by clicking on Export icon in the File menu.



## 4.6 Print (File)

User can <print the weave pattern with fabric front side>, by clicking on ‘Print’.

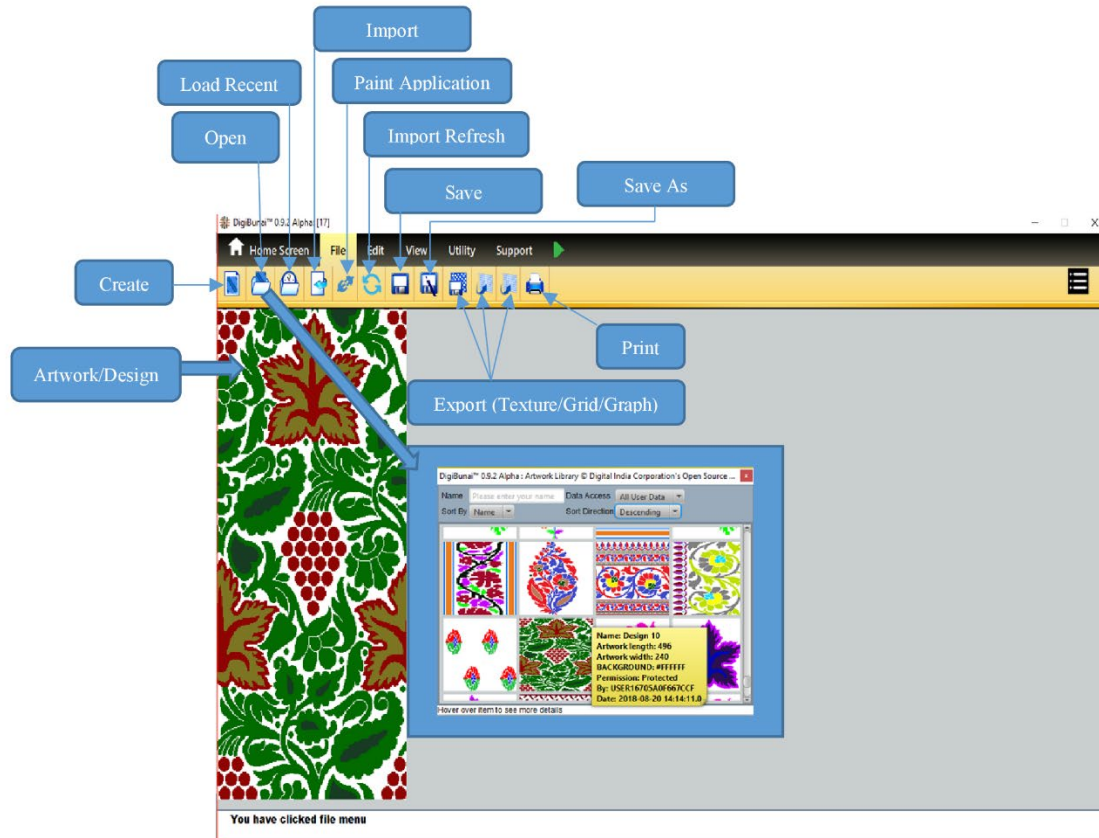


## 4.7 Entering into Fabric creator

In case user <move doobby weave to fabric Creator> the selected weave will be assigned to the base of the fabric.

## 5 Artwork Designer

The artwork editor helps users to create and edit the artwork. The basic functionality has been given in the artwork, for the advanced CAD features user need switch to the design editor. The basic feature are as follows:



### 5.1 Create size

If user wants to <create a new artwork>, a design editor window will be opened by right clicking on 'Create'. A workable area will display on screen for design creation.

## 5.2 Sketch/Design Import

If user have a hard copy of sketch/Design than **<sketch/Design import>** in application after scanning. Artwork Designer provides the facility to the user to import the png and jpg file that contains all the image related information. By clicking on Import icon under the File Menu. After clicking on Import icon, a file open dialogue box will appear for selecting a specific png and jpg file format. Now this design can be ready to convert into workable design for weaving.

## 5.3 Design Secure & Library

### 5.3.1 Save/Save AS

User can **<save the Designs/Artwork>** in to library through save & Save As option.

### 5.3.2 Open

After clicking on Open icon in the File Menu a Window will pop up, which shows the saved designs in Artwork Designer module. **<Open design/artwork>** window provides different searching and sorting options for user to search the artwork Filtering on file name displays the artwork which matches the search filter. Sorting that allows to sort the artwork file on the basis of factors such as -

- **Name** –this helps a user to **<sort artwork on the name basis >**.
- **Date** – This option helps user to **<sort artwork on the basis of Date>** updated or last saved.

For e.g., if user last saved the artwork file yesterday then with this option he can directly open the file without searching for particular one in library.

### 5.3.3 Load Recent

User can **<open the recent saved artwork/design>** in load recent in File menu.

## 5.4 Paint Application

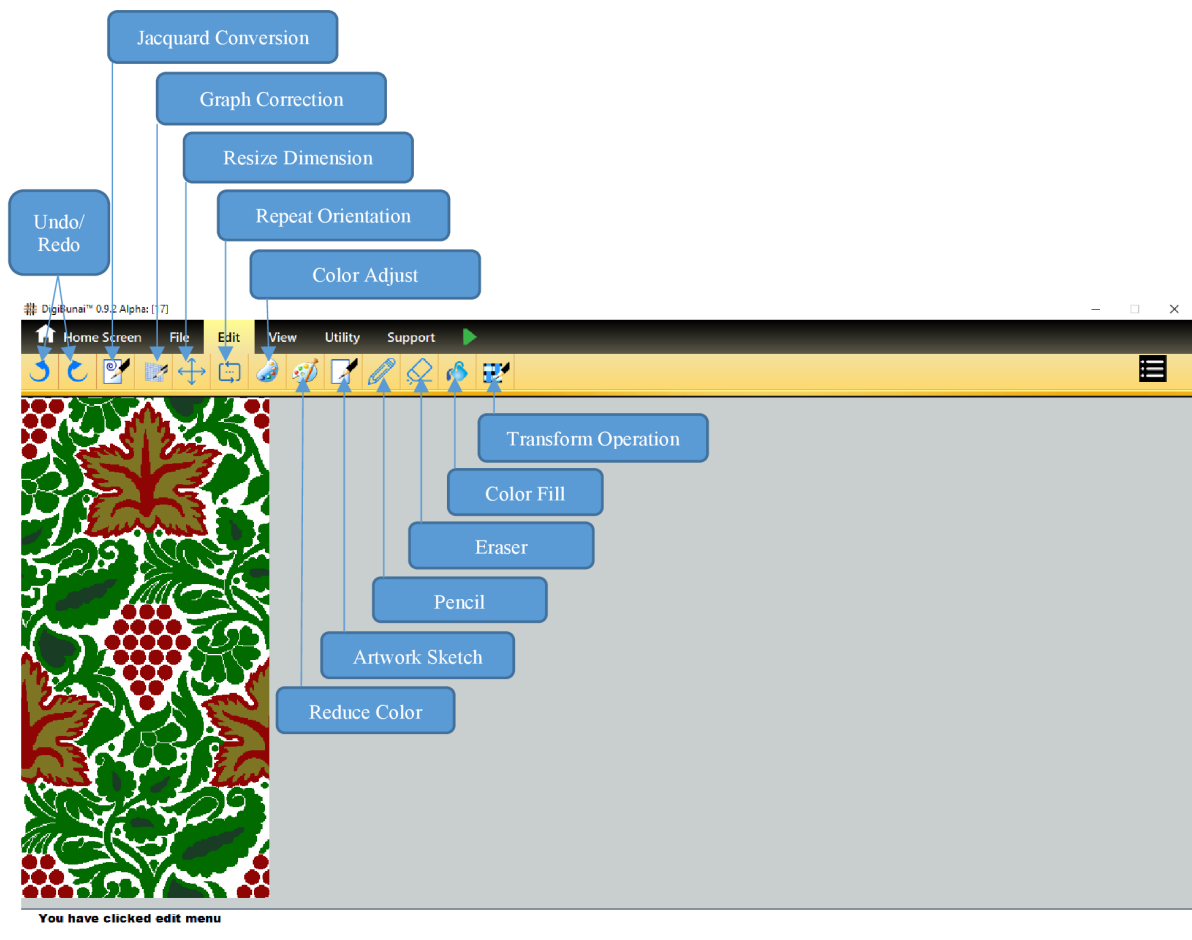
Artwork Designer provides the facility to the user to **<edit design/artwork in paint>** software's (integrated).

## 5.5 Import Refresh

User can edit design/artwork by Arahne paint or MS paint save and click import refresh icon on Artwork Designer. It is open edited design/artwork. After clicking Import Refresh, <artwork open with all paint editing work> in DigiBunai.

## 5.6 Edit

The Edit menu provides the different function to <convert the scan design into jacquard designs>.

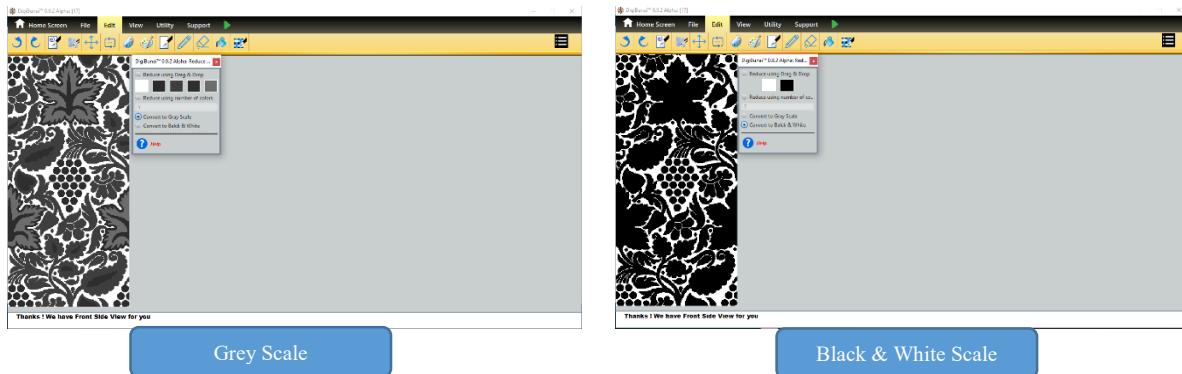




### 5.6.3 Convert to Grey Scale/ Black & White

User can <convert the Artwork/Design into grey scale> format by check on Grey scale icon/button. For Applying changes after check convert to grey scale icon.

User can <convert the Artwork/Design into black and white> format by check on Convert to Black & White button. For Applying changes after check convert to grey scale icon.



### 5.6.4 Undo & Redo

User can undo the edit operation performed by user on the artwork designer to reach its previous stage.

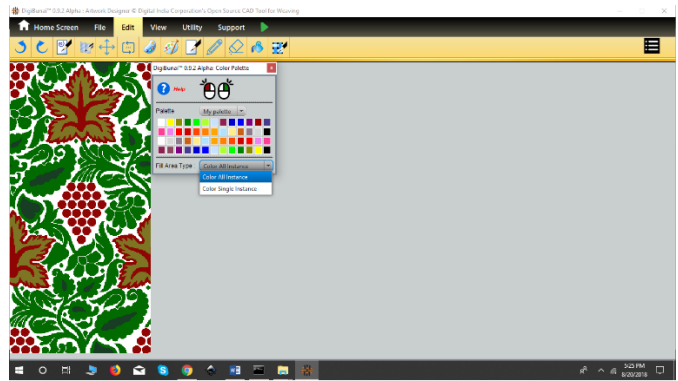
User can Redo the removed operation performed by user on the artwork editor to reach its previous stage.

### 5.6.5 Colour Fill

User can <fill colours in design> on close area or existing design color bases.

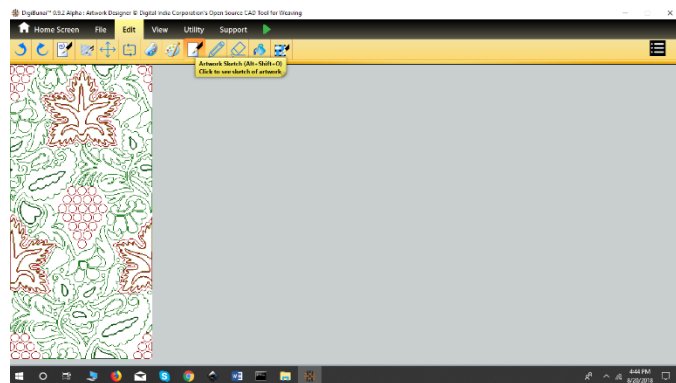


For this purpose use by ‘Single Instance’ for <close area base color filling in Artwork/Design> or ‘Color All Instances’ is use for existing <Artwork/Design color replacements>.



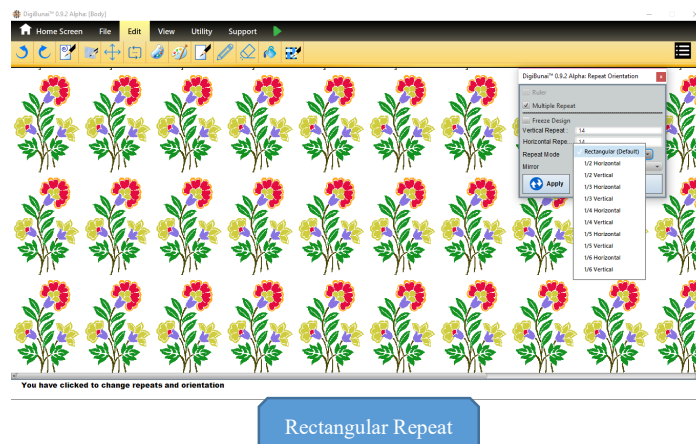
### 5.6.6 Artwork sketch

User can <convert artwork or color filled design in to boundary sketch> by clicking on Artwork Sketch.

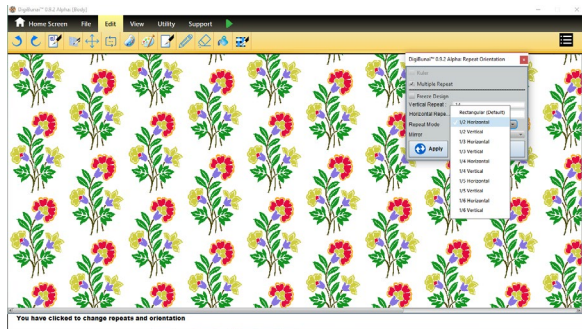


### 5.6.7 Repeat orientation & Modes

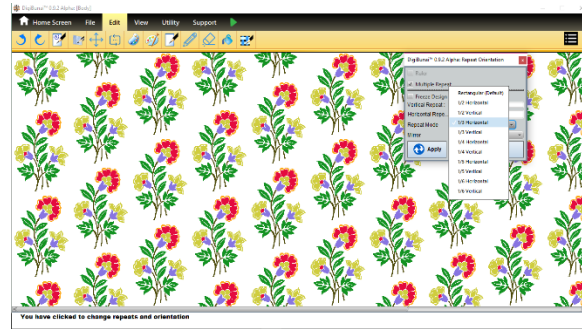
User can see the <repeats of artwork/design> by using of Repeat Orientation (number of vertical and horizontal). Here use can see the design with different repeat modes.



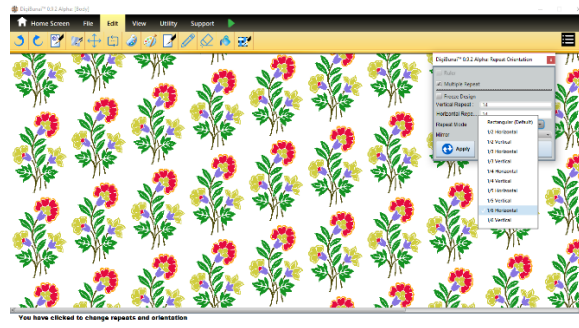
### 5.6.7.1 Horizontal Modes -



1/2 Horizontal Repeat

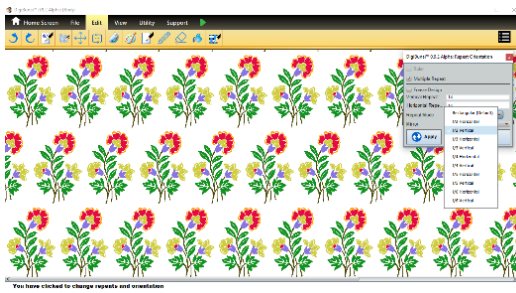


1/3 Horizontal Repeat

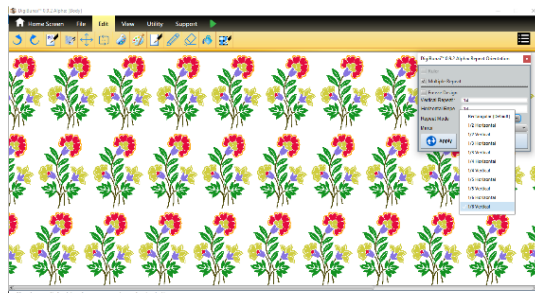


1/6 Horizontal Repeat

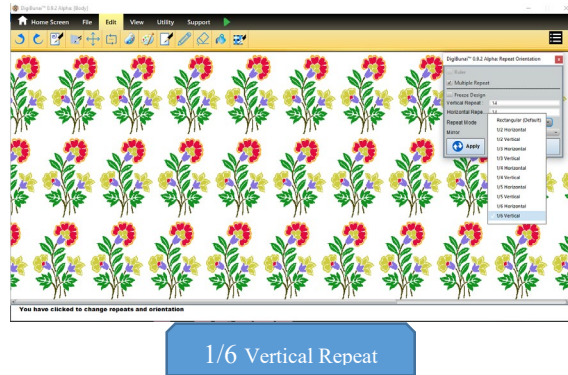
### 5.6.7.2 Vertical Mode-



1/2 Vertical Repeat



1/3 Vertical Repeat

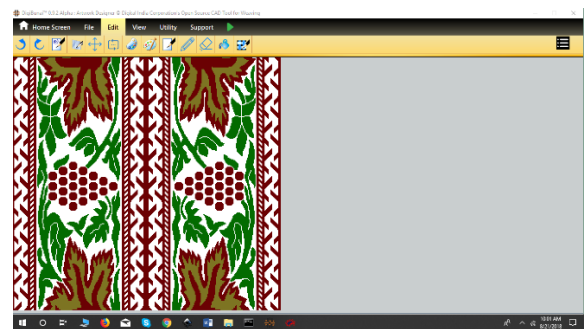
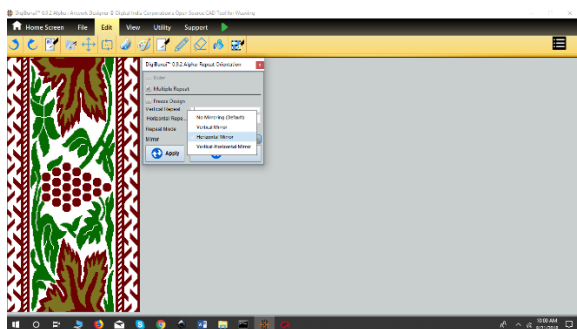


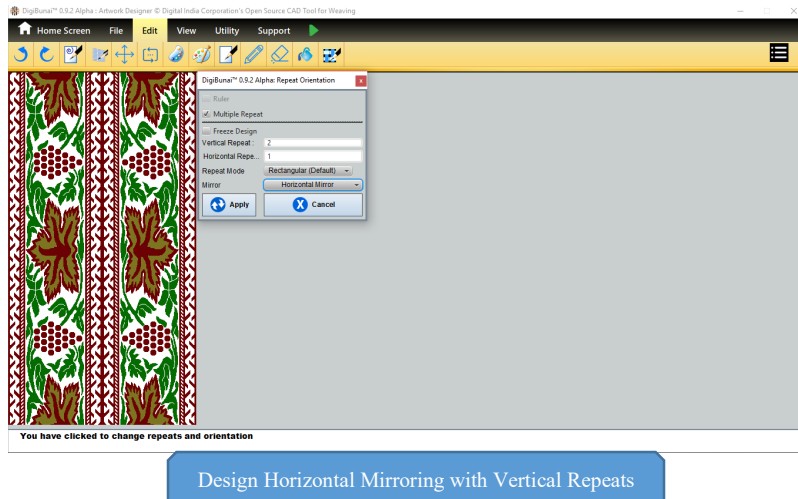
## 5.6.8 Design Mirroring with Repeats

User can <Mirror the Artwork/Design> either vertically or horizontally.

- <Horizontal Mirroring with Design Repeats>

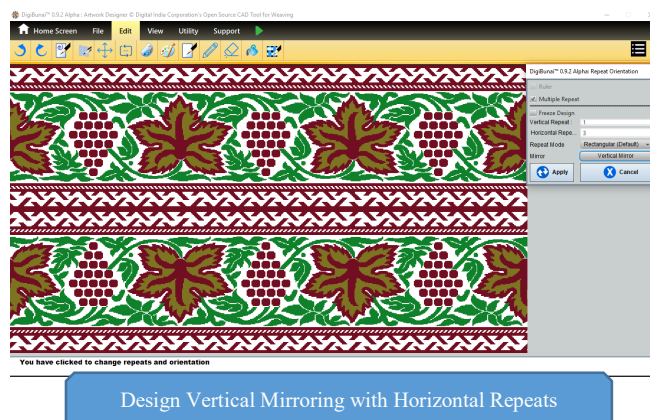
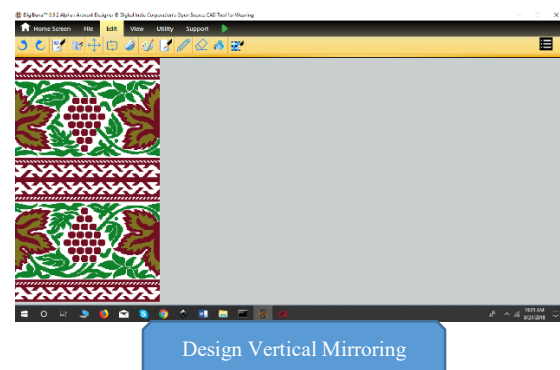
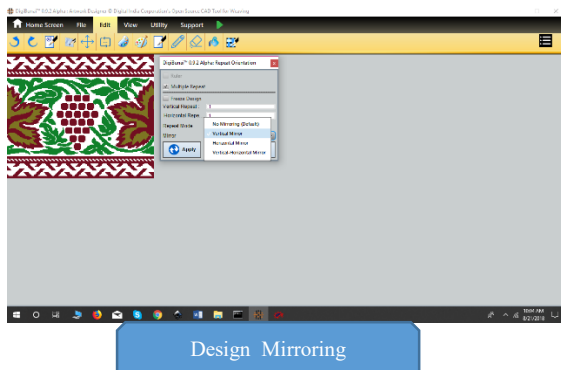
For mirroring the specific artwork horizontally user will have to click on the Mirror Horizontal icon in the Edit menu bar.





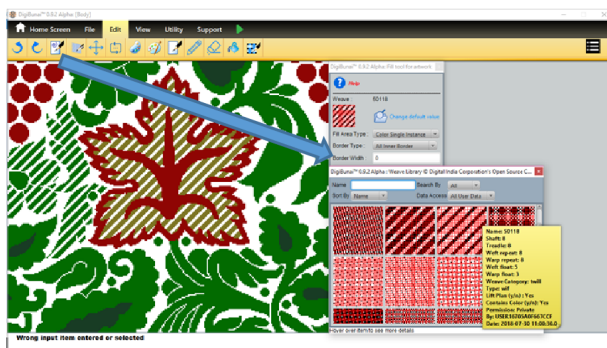
### ▪ <Vertical Mirroring with Design Repeats>

For mirroring the specific artwork vertically user will have to click on the Mirror Vertical icon in the Edit menu bar.

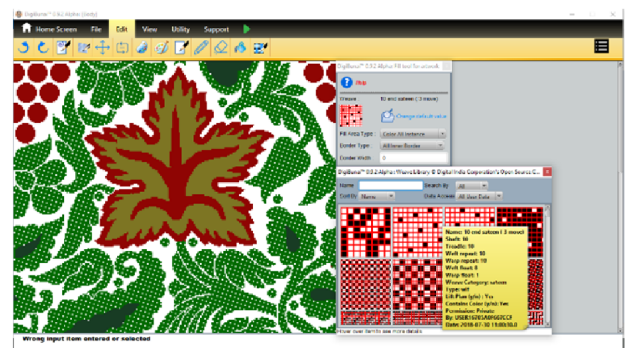


## 5.6.9 Jacquard Conversion

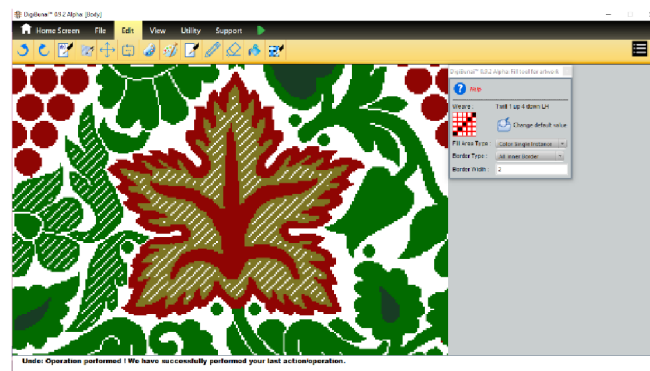
It use to fill different weave patterns in the solid colour filled design. User can <fill the weave in design> on existing colour or close area bases. Here 'Colour All Instance' is use for <weave pattern fill on colour bases> & 'Colour Single Instance' use for close <area base weave filling in design>. The protection of the design boundaries during weave filling can be done by width protection.



Close Area Weave Filling



Color wise Weave Filling

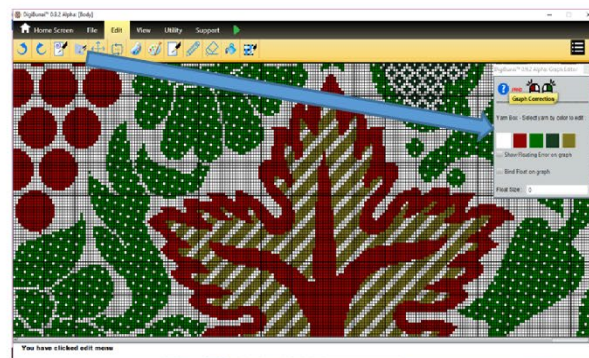


Border Protection

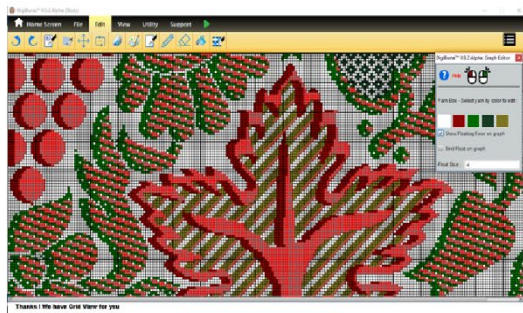


## 5.6.10 Graph correction

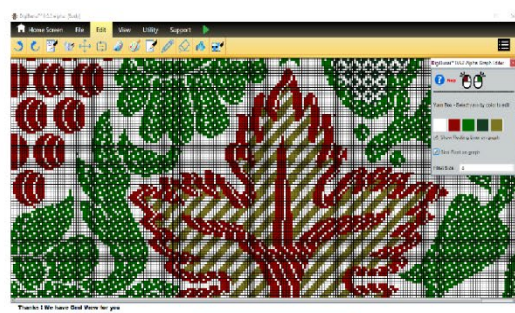
The <corrections or editing in Design/Artwork on graph> can be done in Graph Corrections. User can edit the design by existing colours in design. User can see floats after <defining the 'Float Size'> and <bind floats automatically on graph>.



Graph Corrections



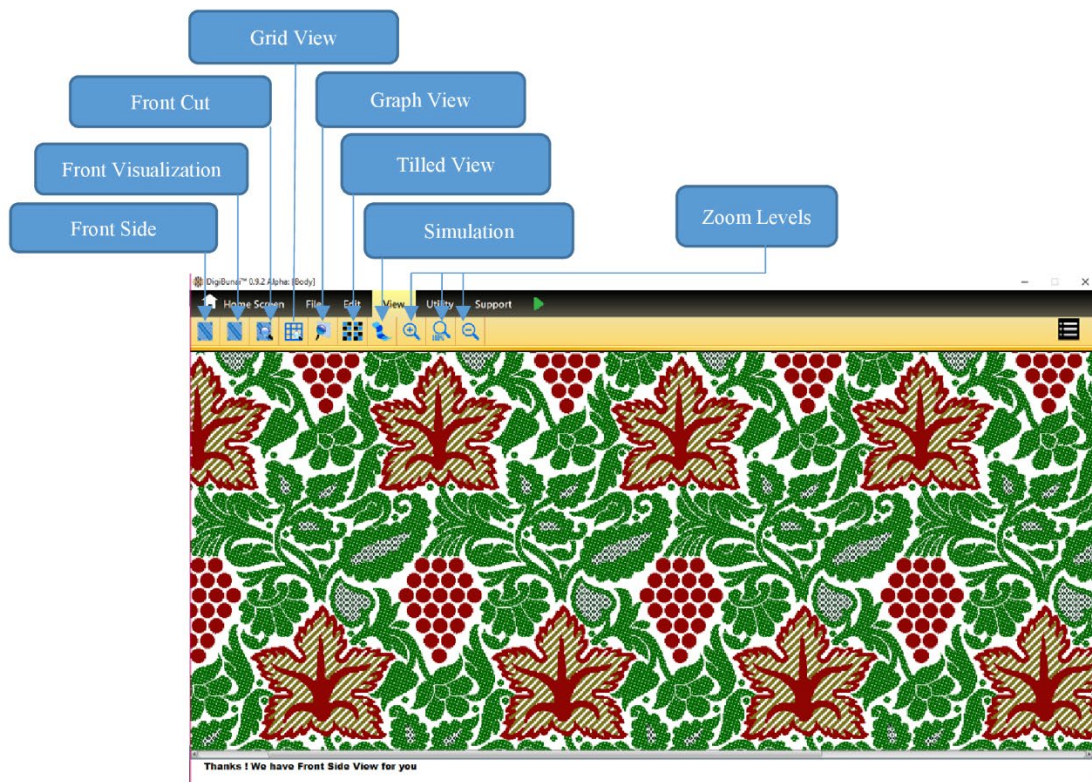
Float Findings



Float Bindings

## 5.7 Jacquard Design Visualization (View)

The created <jacquard design visualize in different forms> in 'View' mode. These forms are helpful to finalize the design for weaving

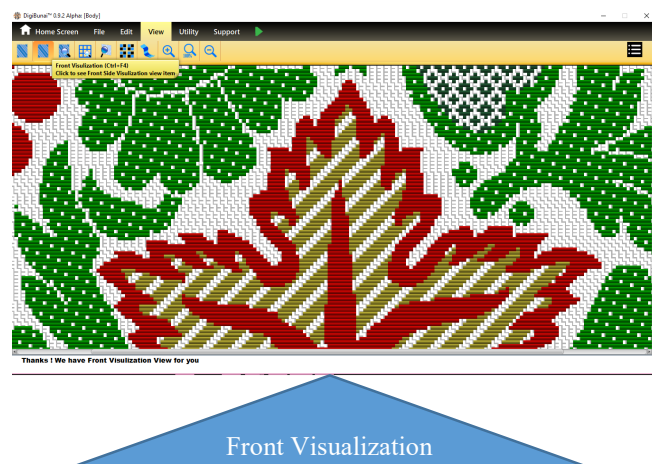


### 5.7.1 Front Side

It shows the <editable visualization of design>. User can see & edit the design in Front side through Edit.

### 5.7.2 Front Visualization

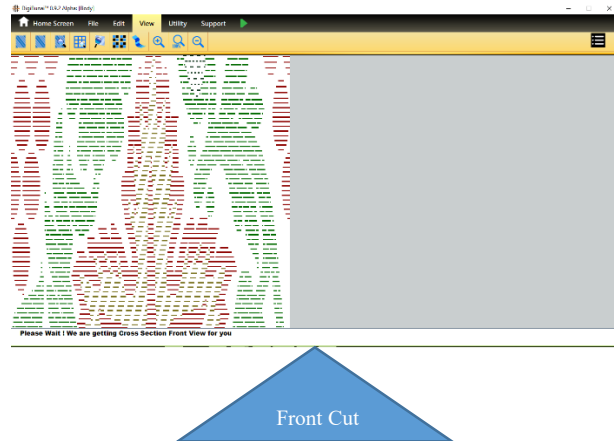
User can see <thread like visual effects in Front visualization of artwork/design> in view Menu.





### 5.7.3 Front Cut

User can see <pick wise colours separation in front cut of artwork/design> in view Menu.



### 5.7.4 Zoom Levels

#### Zoom-In

<Zoom-In of artwork/design> can be obtained by clicking on the icon under the View menu. Zoom In increases the size of pixel which represents the thread on the screen this allows the user to see the design/artwork with more precision and accuracy.

#### Zoom-Out

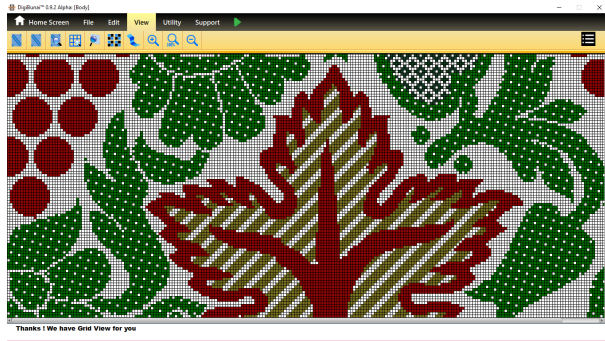
<Zoom out of artwork/design> can be obtained by clicking on the icon under the View menu. Zoom Out decrease the size of pixel which represents the thread on the screen this allow user to inspect the detail of the large design/artwork.

#### Normal

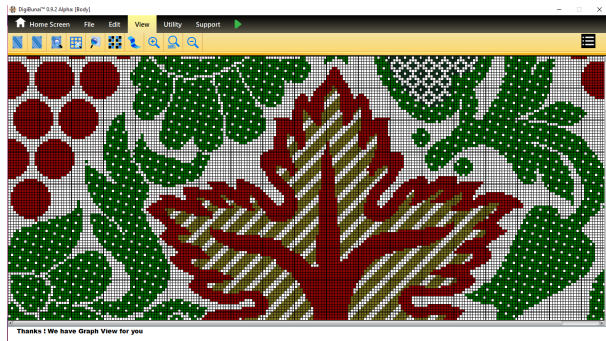
<Normal View of design/Artwork> can be obtained by clicking on the icon under the View menu. This facilitates the user to retain back the zooming level at its default setting.

### 5.7.5 Grid & Graph View

User can see <Grid & Graph view of artwork/design> in view menu.

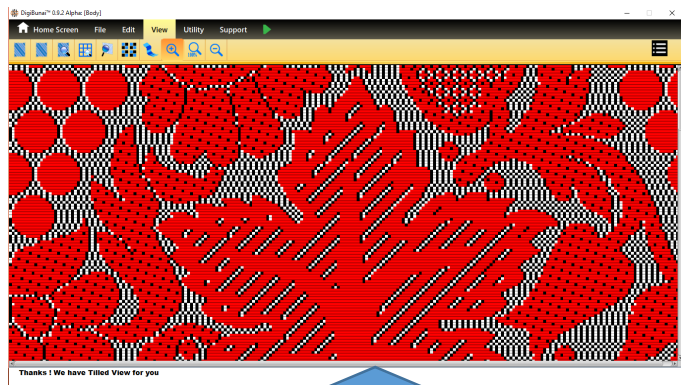


Grid View



Graph View

## 5.7.6 Tilled View



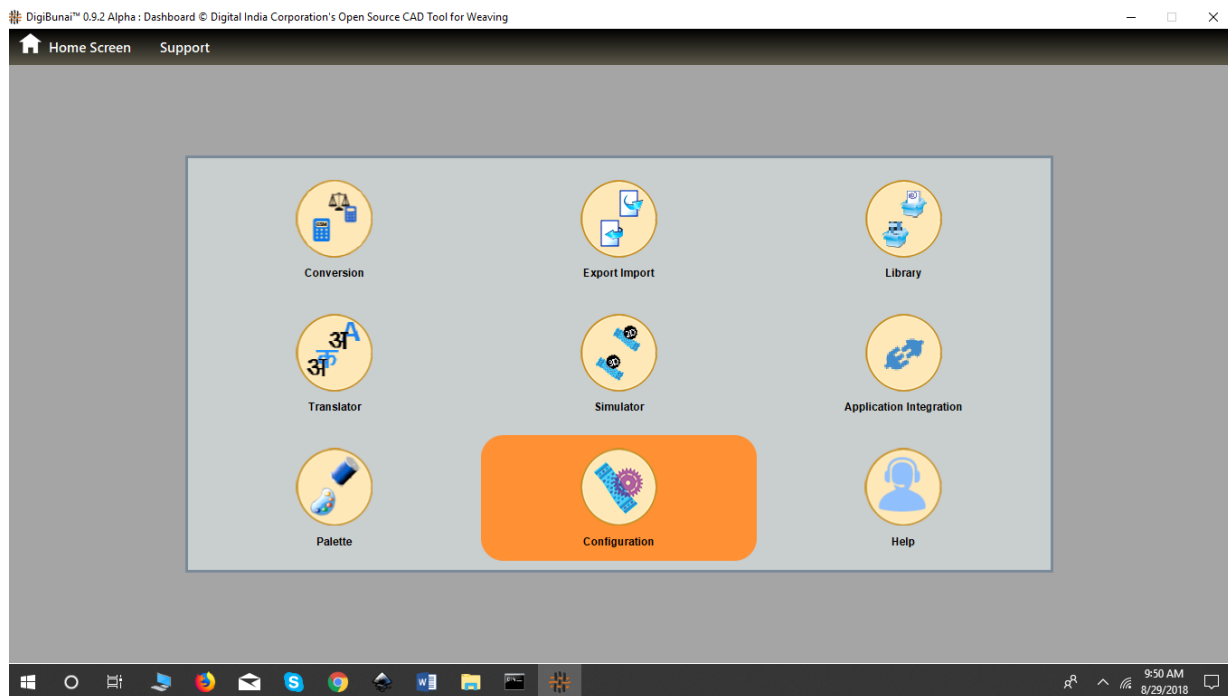
Tilled View

## 5.8 Export & Print

Artwork Designer provides the facility to <export the texture of design>, <export design in graphical form> & also <export the design in grid form>. User can also <print the design> forms after open it on the screen. Here different customization option available for printing.

## 6 Configuration (Utility)

User can <set fabric construction parameters> before creating fabric. User can set thread name, thread color, thread count, thread count unit, thread diameter factor, thread twist, twist scene, hairiness, thread ply, crimp, thread pattern and loom waste in warp thread.



### 6.1 Fabric/Artwork

The user need to specify the Jacquard Design Dimensions, Fabric Dimensions, Construction Parameters (Yarn Count, Densing Order, Yarn Density), loom details in this mode.

DigiBunai™ 0.9.2 Alpha : Utility - Configuration © Digital India Corporation's Open Source CAD Tool for Weaving

Home Screen Parent Screen Support

### Fabric Configuration

Fabric/Artwork	Miscellaneous	Warp Thread/Yarn	Warp Thread/Yarn
Cloth Type :	Body	Hooks :	240
Fabric Type :	Plain	Ends :	240
Fabric raw length (inch):	39.0	Picks :	300
Fabric width (inch):	216.0	Reed Count :	112
		Dents per Inch :	56
		Thread Per Dents :	1
Artwork length (inch):	4.000	Picks Per Inch :	75
Artwork width (inch):	4.288	Hooks Per Inch :	56
Graph Size :	12x16	Ends Per Inch :	56

Apply Cancel

Welcome TO DigiBunai™ CAD Tool

## 6.2 Warp Thread

This mode is use to <set the parameters of warp yarn> in software. These information take part to generate the fabric simulation, warp yarn consumption calculation & cost estimation of the final product.

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Home Screen Parent Screen Support

### Fabric Configuration

Fabric/Artwork	Miscellaneous	Warp Thread/Yarn	Warp Thread/Yarn
Thread Name :	Silk	Thread Count :	10
Thread Color :	Yellow	Thread Count Unit :	Tex
Thread Pattern :	1A	Thread Ply :	1
Thread Price (per gram):	1.0	Thread Dimension factor :	18
Crimp (%)	0	Thread Diameter (mm):	0.1757
Loom Waste (%)	0	Thread Twist Count :	0
		Thread Twist Scene :	0
		Thread Hairiness :	0
		Thread Distribution :	0

Apply Cancel

Welcome TO DigiBunai™ CAD Tool

### **6.2.1 Thread Name**

The name of the thread need to be specified by the user i.e. Silk, Cotton etc.

### **6.2.2 Thread Colour**

User need to specify the colour of the yarn initially.

### **6.2.3 Thread Count**

The yarn count depends on the width of the yarn. The count of yarn expresses the weight per units in unit length or vice-versa.

### **6.2.4 Thread Count Unit**

The unit thread count i.e. denier, Tex etc.

### **6.2.5 Thread Diameter Factor**

Diameter factor depends on the types of yarn.

### **6.2.6 Thread Twist**

Shows the twists per meter

### **6.2.7 Twist Sense**

This define the twist sense i.e. S, Z, or 0(no twist).

### **6.2.8 Thread Hairiness**

Shows the hairiness property of the yarn.

### **6.2.9 Thread Ply**

Define the yarn ply in a thread.

### **6.2.10 Thread Price (Per gram)**

The user need to enter the price of the yarn

### 6.2.11 Crimp

The crimp varies upon the type of yarn.


## 6.3 Weft Thread

This mode is use to <set the parameters of weft yarn> in software. These information take part to generate the fabric simulation, weft yarn consumption calculation & cost estimation of the final product.

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Home Screen Parent Screen Support

### Fabric Configuration

Fabric/Artwork	Miscellaneous	Weft Thread/Yarn	Warp Thread/Yarn
Thread Name :	Silk	Thread Count :	10
Thread Color :		Thread Count Unit :	Tex
Thread Pattern :	1a	Thread Ply :	1
Thread Price (per gram):	1.0	Thread Dimension factor :	18
Crimp (%)	5	Thread Diameter (mm):	0.1757
Loom Waste (%)	3	Thread Twist Count :	0
		Thread Twist Scene :	0
		Thread Hairiness :	30
		Thread Distribution :	0

Apply Cancel

Welcome TO DigiBunai™ CAD Tool

### 6.3.1 Thread Name

The name of the thread need to be specified by the user i.e. Silk, Cotton etc.

### 6.3.2 Thread Colour

User need to specify the colour of the yarn initially.



### **6.3.3 Thread Count**

The yarn count depends on the width of the yarn. The count of yarn expresses the number of weight per units in unit length or vice-versa.

### **6.3.4 Thread Count Unit**

The unit thread count i.e. denier, Tex etc.

### **6.3.5 Thread Diameter Factor**

Diameter factor depends on the types of yarn.

### **6.3.6 Thread Twist**

Shows the twists per meter.

### **6.3.7 Twist Sense**

This define the twist sense i.e. S, Z, or 0(no twist).

### **6.3.8 Thread Hairiness**

Shows the hairiness property of the yarn.

### **6.3.9 Thread Ply**

Define the no. ply in a thread

### **6.3.10 Thread Price (Per gram)**

The user need to enter the price of the yarn.

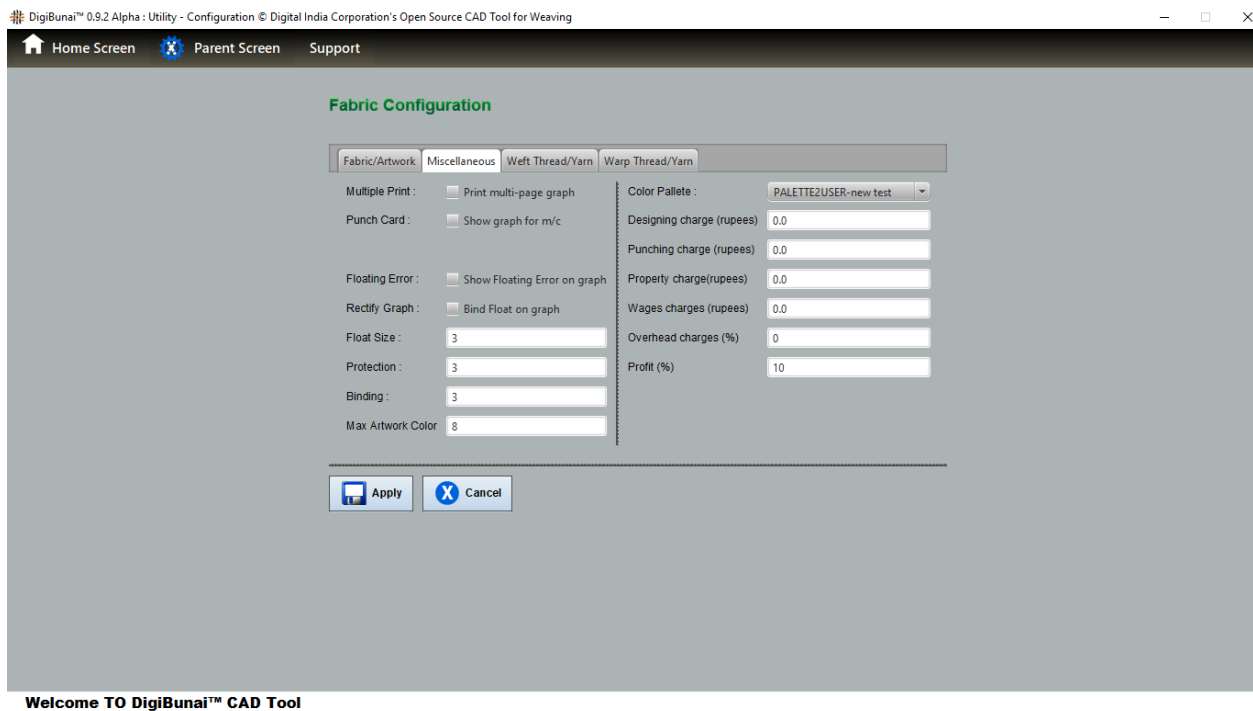
### **6.3.11 Crimp**

The crimp varies upon the type of yarn.

## **6.4 Miscellaneous or <Other Settings>**

User can set multiple print, multiple repeat and punch card for machine. User can also set protection, binding, float size, floating error, vertical repeat and horizontal repeat, colour palette

(pantone colour and web colour), designing charges, punching charges, properties charges, wages charges, overhead charges, percentage change profit and max colour use in artwork.



## 7 Support Modes

User can convert yarn count, linear measure, weight in different unit.

### 7.1 Conversion

#### 7.1.1 Yarn Count

User can <convert yarn count> one unit to other unit.

#### 7.1.2 Linear Measure

User can <convert length> one unit to other unit in linear conversion.

#### 7.1.3 Weight

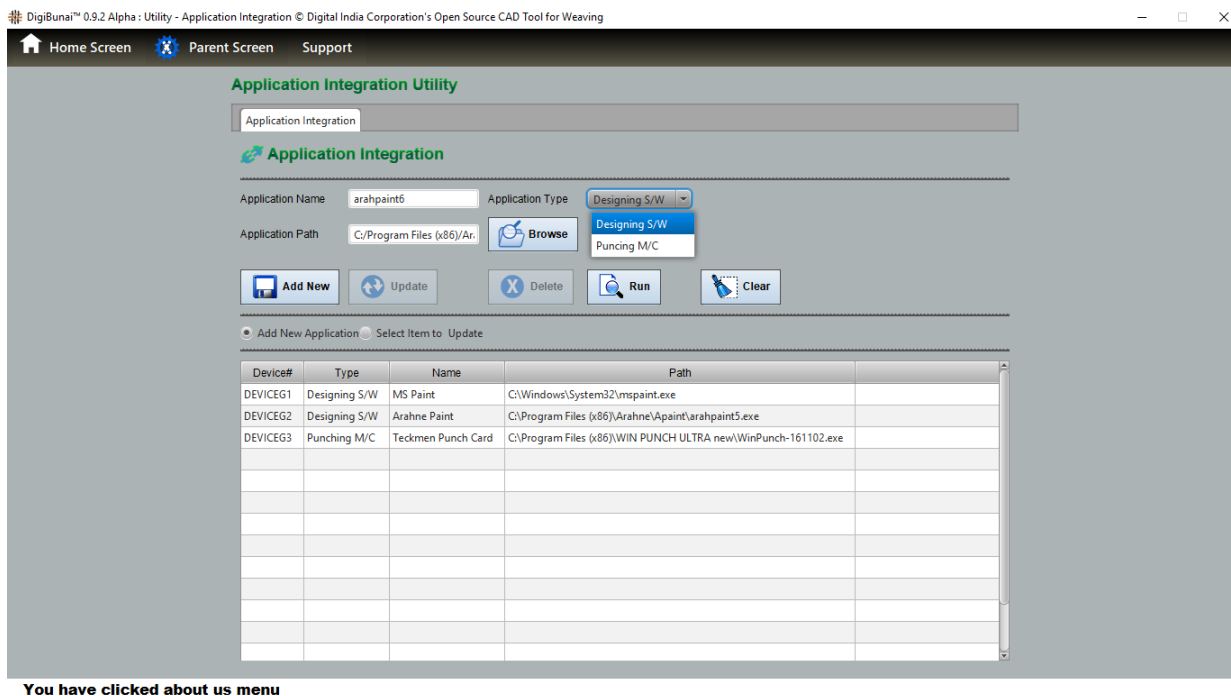
User can <convert weight> one unit to other unit in weight conversion.

## 7.1.4 GSM Conversion

User can <calculate the GSM> of fabric.

## 7.2 Application Integration

User can <add other application in DigiBunai™> by setting name, application type and application path in utility.



### 7.2.1 Application Name

User need to give a name to the application which will be added.

### 7.2.2 Application Type

The type of application need to be defined.

### 7.2.3 Application path

## 7.3 Simulator

Every user wants to visualize the created digital design on actual fabric. For this purpose DigiBunai™ facilitates to <add multiple fabric textures to simulate the digital design on fabrics>.

DigiBunai™ 0.9.2 Alpha : Utility - Simulator © Digital India Corporation's Open Source CAD Tool for Weaving

Home Screen Parent Screen Support

### Simulator Utility

Simulator

### Simulator

Simulator Name: Banarasi Kaghua Sari Simulator Fabric Type: Plain

Picks Per Inch: 75 Ends Per Inch: 100

Resolution: 1280x960 Dots Per Inch: 100

Default Yarn: YARNG1 Path:

[Change default value](#) [Browse](#)

[Add New](#) [Update](#) [Delete](#) [Preview](#) [Clear](#)

☐ Add New Simulator ☐ Select Item to Update

Simulator#	Name	Type	EPI	PPI	DPI	Yarn
BASEFSG1	Banarsi Kadhua Sari	Plain	120	70	75	YARNG1
BASEFSG2	Cutwork Dress Material	Fekuwa-CutWork	60	60	150	YARNG1
BASEFSG6	Jari Jangla	Kadhua	80	50	150	YARNG1
BASEFSUSER2	PPL1	Binding-Irregular	60	63	75	YARNG1
BASEFSG3	Satin Brocad	Plain	100	48	150	YARNG1
BASEFSG4	Satin Brocad Dress Material	Plain	60	48	150	YARNG1
BASEFSG5	Satin Tanchoi Dress Material	Tanchoi	78	48	150	YARNG1
BASEFSG10	User Base Cotton	Plain	100	100	75	YARNG1
DEVICEUSER12	Yo Yo PPL	Tanchoi	60	63	75	YARNG1

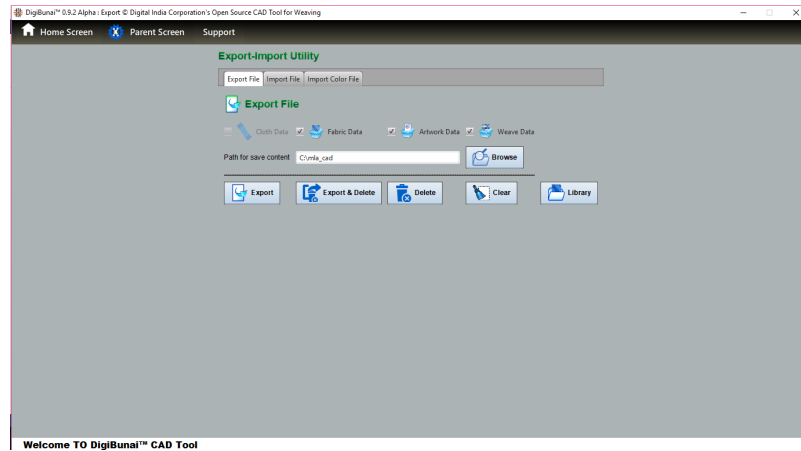
**You have clicked contact us menu**

## 7.4 Import/Export

The path of the exported file need to be specified by the user & import file need to be place at the specific location. User can export all the data (Weaves, Fabrics, and Garments) from the application. These files can be used in application on other computer system by Import.

### 7.4.1 Data Export

This feature provides the facility to the user for exporting the fabric including the supported files of artwork and weaves. From the Security and confidentiality aspect, user also has the flexibility to wipe his complete data from the system after exporting to the external drive. For export, user need to select Utility Module – Export/Import -> Export and user need to choose the following options



#### 7.4.1.1 Fabric Data

This option provides facility to <export all the fabrics> of the user to its external drive.

#### 7.4.1.2 Artwork Data

This option is use to <export all the artworks> of user.

#### 7.4.1.3 Weave Data

This option is use to <export all the weaves> of user.

#### 7.4.1.4 Export

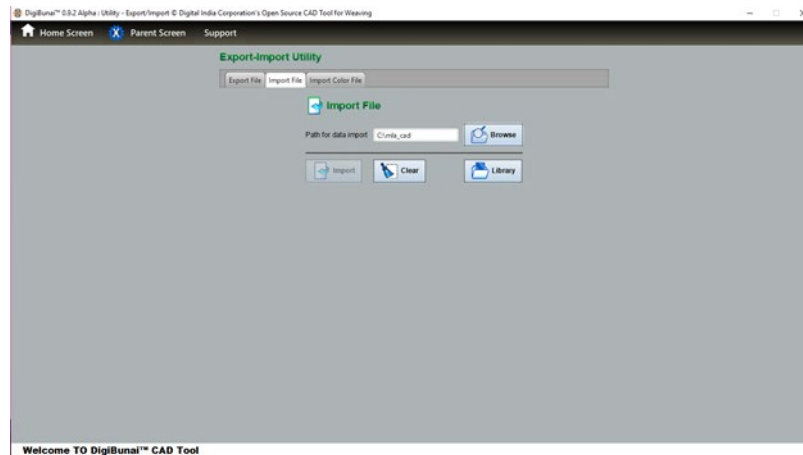
Export option will export the data to external drive and keep a copy into the database as well.

#### 7.4.1.5 Export & Delete

This option will <export the data to external drive and delete user's data from the database>. This feature is for those users who want to take out their complete data from the system.

## 7.4.2 Data Import

This feature is for <importing the data> which was exported by the user. User can carry his/her data on the external drive and import as and when required.

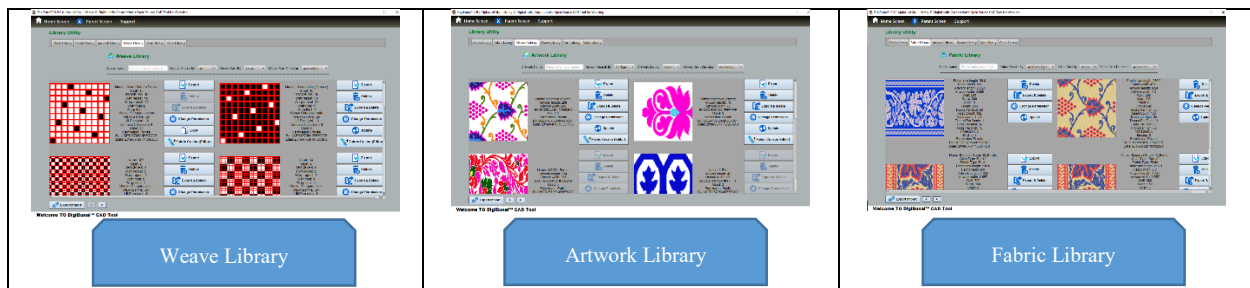


From the Security and confidentiality reason, some of the user do not want to leave their data on the system. They can export the complete data and import as per requirement.

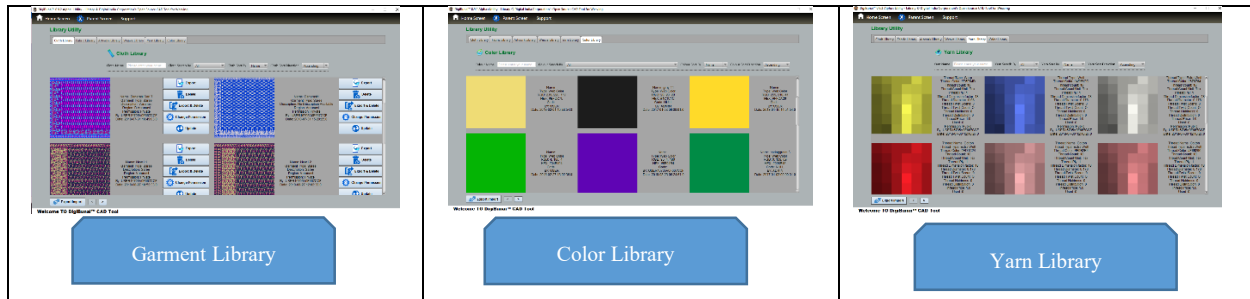
For import, user need to select Utility Module -> Export/Import-> Import -> browse the back of the exported data.

## 7.5 Library

User can see <library of creations> artwork, weave, fabric, color and cloth. User can export, delete, update and change permission artwork, weave, fabric, color and cloth.







### 7.5.1 Sorting

User can sorting name or date wise in library.

### 7.5.2 Searching

User can search by name or product type in library. The user can search the weaves, designs and fabrics.

### 7.5.3 Update

User can update artwork, weave, color and fabric in library.

### 7.5.4 Change Permission

User can changes permission public, private and protected of artwork, weave, fabric and color in library.

### 7.5.5 Export

User can export library of weaves, design and fabric.

### 7.5.6 Delete

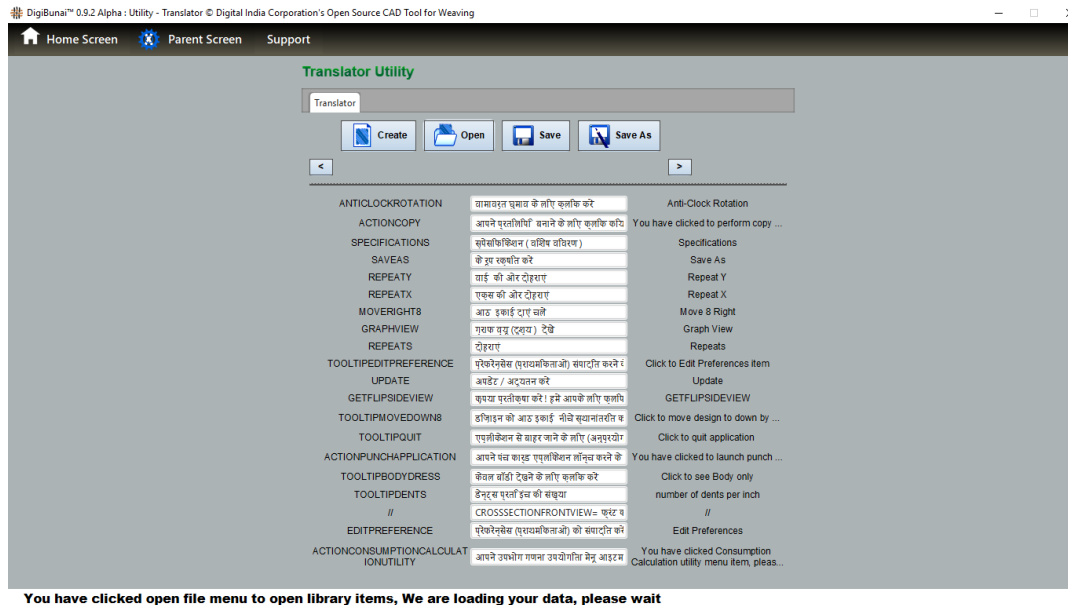
User can delete artwork, weave, fabric and cloth from library.

### 7.5.7 Export & Delete

User can export and delete artwork library, weave library, fabric and cloth library.

## 7.6 Translator

User can <translate software functions names from English to Hindi>.



## 7.6.1 Create

The user can <create his own localized Language> library.

## 7.6.2 Open

The user can <open Language library>.

## 7.6.3 Save

The user can <save his/her own language Library>.

## 7.6.4 Save As

The user can open the <existing language library, edit it & Save> As in his/her name.

## 7.7 Help

This section define the software introduction, concern trainings, required system configurations & manufacturer.

### 7.7.1 Help Guide

It shows <user manual/guide> of application to know about functionality of the software.

## 7.7.2 Video Guide

It shows the <training videos> of the software.

## 7.7.3 Support

### 7.7.3.1 Technical Information

<Technical specification for this software> follows:

Operating System: Windows & Linux

RAM: 4GB

Processor: Core i5

Graphics Card: 4 GB dedicated

Java: Java 7

Flash Player: Flash Player

Database Engine: MySQL 5.x

### 7.7.3.2 <About Software>

DigiBunai™ aid's the weavers to create digital artwork and translate the saree design to be loaded to the looms. DigiBunai™ is a first of its kind Open Source software for Jacquard and dobby weaving. DigiBunai™ is customized for Banarasi Saree having the unique feature of Garment Viewer which works as a play area for designers/weavers. The software is customizable (local language and library of local designs) and also has the ability to integrate digital design tool of the user's choice.

### 7.7.3.3 <Contact Us>

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#### [7.7.3.4 Product Support](#)

Phone: +91-11-26443266 (CAD support team)

Email: [cadtool@medialabasia.in](mailto:cadtool@medialabasia.in)

#### [7.7.3.5 Sign Out](#)

You need to click on **<Sign Out>** Button to close the application