



SILPA KUTIR

শিল্প কুটির

JADUMONI's CRAFT STUDIO

User Manual

Version 1.0 · October 2026



Dedicated to my Guru, Ningombam Jadumani Singh of Manipur, master craftsman of the stage and Sangeet Natak Akademi awardee.



Created by Dr Mrinal Jyoti Goswami on behalf of AANK_A Creative Line, Assam, India
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About this guide

This manual describes SILPA KUTIR 1.0. The screens show the sample production *Ram Vijaya*. Words in **bold** are buttons, menus and fields as they appear in the app.

1 Introduction

SILPA KUTIR is a working tool for the people who design and make what the performer wears and the stage carries: set, props, costume, masks, make-up and models. One production lives in one place, from the list of scenes to the build schedule, in English and Assamese, with or without internet.

It is made for set, props and costume designers, makers and workshop heads, theatre groups, mobile theatre crews, and Bhaona and Sattrra makers. Teachers and students can use it as a studio for practice work.

WHAT IS INSIDE

Production	Title, team, venue, opening date, budget, scenes, characters, artists and their photos.
Set design	Ground plan and 3D set, a hand-drawn plan as an underlay, drawings at scale and the cut list.
Model box	Card nets to print, cut, fold and glue at 1:20, 1:25 or 1:50.
Build schedule	Every item to make with its maker, dates and status, and a timeline up to the opening.
Props	Props list, 3D prop builder, photos, weight, safety, repair log and the prop sheet.
Costume	3D costume on a figure built from the artist's measurements, costume plot, pattern cards, fabric calculator and wardrobe record.
Masks and make-up	Masks, crowns, wigs and puppets in 3D, make-up plot, face chart and make-up sheet.
Drawing studio	Pencil, ink, brushes and textures on layers, photo tools for hand drawings, and make-up try-on on the artist's photo.
Tools	Materials library and budget, workshop calculators, the user guide and the About page.

Your work is stored in the browser on your own device. The app needs no account and no internet connection. Keep a copy with **Save file** at the end of each work session (see section 2).

2 Getting started

To put SILPA KUTIR on a computer, phone or tablet, see the separate *Installation Guide*. When the app opens for the first time it shows the welcome screen with the dedication. Choose **Start** to begin or **Help** to open the user guide inside the app. You can show the welcome screen again from **About**.

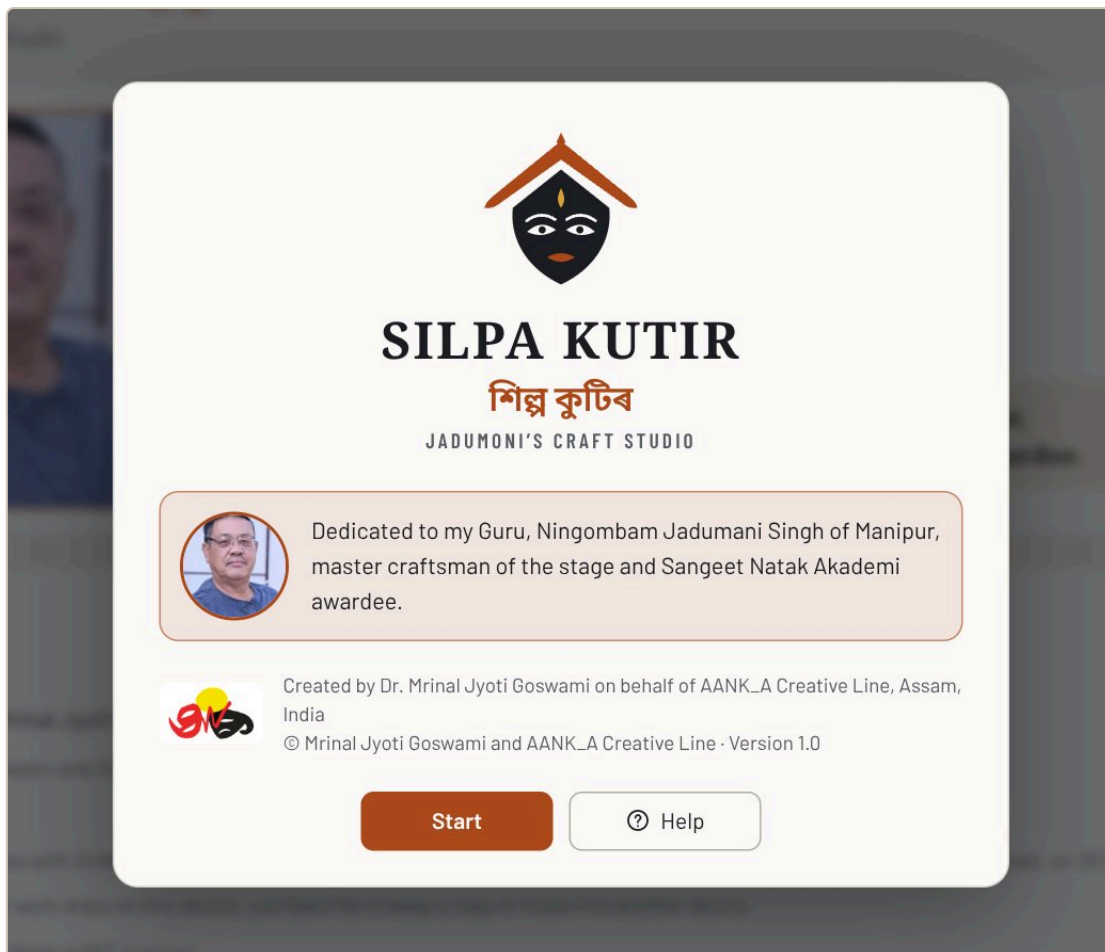


Figure 1. The welcome screen.

THE SCREEN

- **Top bar.** The production name opens the productions menu. Beside it are the save indicator, **English** and **অসমীয়া**, the light or dark display button, **Open file** and **Save file**.
- **Side rail.** The sections in four groups: Plan, Make, Studio and Tools. On a phone the rail becomes a strip that scrolls sideways under the top bar.
- **Work area.** Each section opens here with a short line on what it does.

SAVING YOUR WORK

Every change is saved on this device as you work. The dot beside **Saved on this device** turns amber while it saves and green when it is done. This copy lives in the browser, so it is lost if the browser's site data is cleared or if you work in a private window.

- **Save file** downloads the production as a `.silpakutir.json` file, with its photos and drawings.
- **Open file** brings a saved production back, on this device or another one.

THE PRODUCTIONS MENU

Click the production name in the top bar. The menu lists your productions with the date each was last edited, and offers: **New production**, **Duplicate this production**, **Rename**, **Open a production file**, **Save this production**

as a file, Save a copy of all productions, Add the sample production and Delete this production. Deleting asks for a second click.

The app opens with a sample production, *Ram Vijaya*, so that every tool has something to show. Try things on it freely, then start your own.

3 Production details

Everything made for a production starts here. Fill in the title of the play, playwright, director, designer, theatre group, venue, opening date and budget limit.

- The **designer** name goes into the title block of every drawing.
- The **opening date** appears on the build schedule and its timeline.
- The **budget limit** drives the budget meter at the top of this page and in Materials and budget.

List the **scenes** in order and the **characters** with their artists. Tap the camera in the **Photo** column to add each artist's photo from the camera or from your files. The artist photo appears on the costume, prop and make-up sheets and can be used for make-up try-on in the studio.

Figure 2. Production details with the four status cards: props ready, budget used, set units and masks ready.

4 Set design

Lay out scenic units on the ground plan, give each one a colour and a surface, and walk round the set in 3D.

THE STAGE

Choose the stage type: Proscenium, Thrust, Arena, Black box, Namghar or Bhaona space, Mobile theatre or Open air. Set its width and depth in metres, the grid size, and whether units snap to the grid.

ADDING AND EDITING UNITS

1. Choose a unit from the toolbar: Flat, Platform, Steps, Ramp, Wagon, Drape, Furniture or object, Scale figure, or Prop from the list.
2. Drag it on the plan. Arrow keys move the selected unit; hold Shift to move it 0.5 m at a time. Delete removes it.
3. In **Selected unit**, set its label, size, height, rotation, colour and surface. **Duplicate** and **Rotate 90°** are there too.
4. For a surface, choose a texture such as wood, plywood, bamboo, cane weave, cloth, brick, stone, marble or gold leaf, or one of your own drawings to use as a painted cloth.

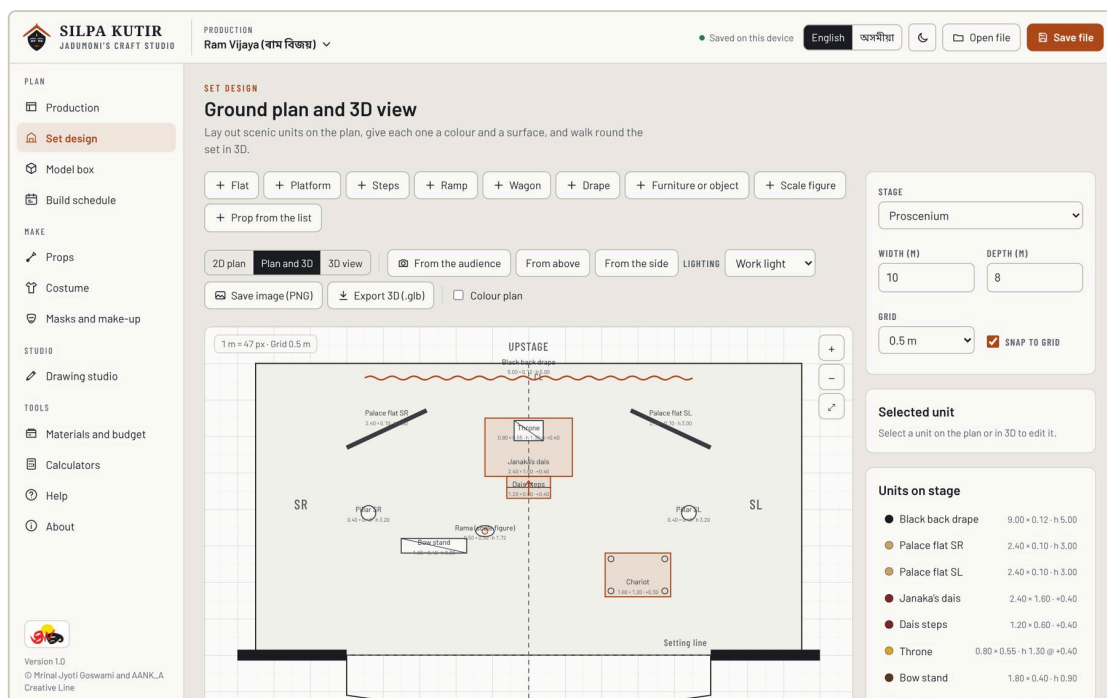


Figure 3. Plan and 3D side by side. The unit list on the right shows every unit with its size.

VIEWS AND LIGHTING

Switch between **2D plan**, **Plan and 3D** and **3D view**. In 3D, look **From the audience**, **From above** or **From the side**; drag to orbit, right-drag to pan and scroll to zoom. Try the set under **Work light**, **Warm stage** or **Night**. **Colour plan** fills the plan with each unit's colour.

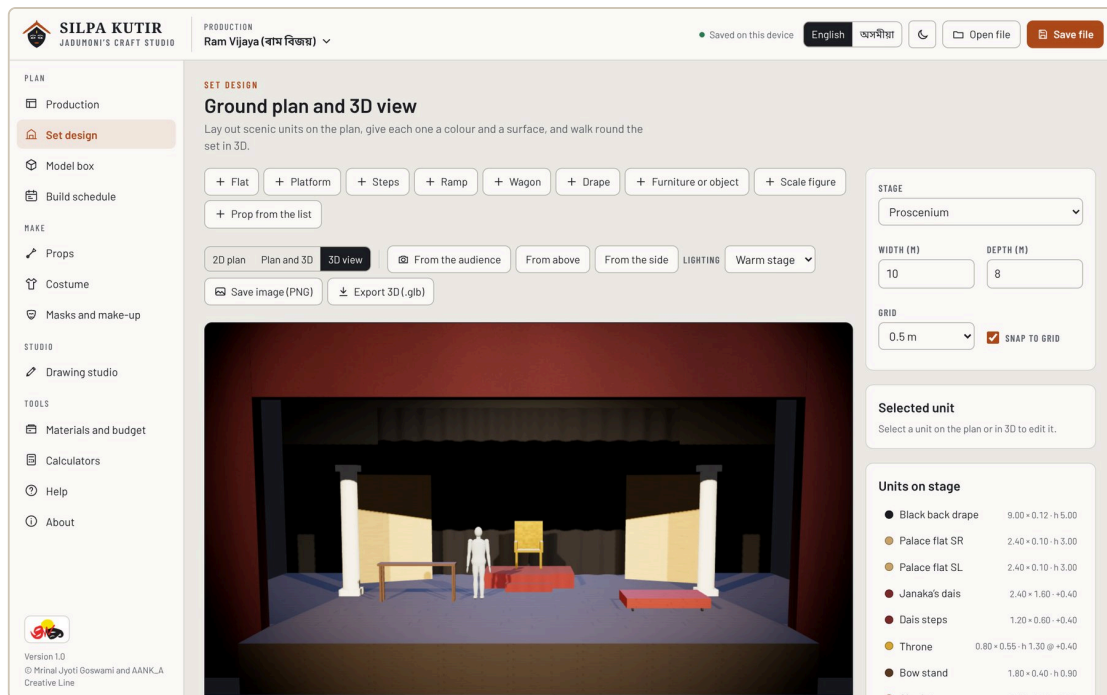


Figure 4. The 3D view under warm stage light.

WORKING FROM A HAND-DRAWN GROUND PLAN

1. Photograph or scan the drawing and choose **Bring in a drawing**.
2. Choose **Set its scale**, click both ends of a length you know on the drawing, and type the real length in metres.
3. Choose **Move it** and drag the drawing to line it up with the stage. Use the slider to make it lighter.
4. Lay the units over it. **Remove** takes the drawing away when you no longer need it.

DRAWINGS AND LISTS

- **Export plan (SVG):** the ground plan at the print scale you choose (1:25, 1:50 or 1:100), with a title block and a scale bar. Print at 100 percent.
- **Front elevation (PNG) and Centre-line section (PNG):** A4 landscape sheets at 150 dpi with a title block and scale bar. The app picks the largest standard scale that fits the sheet.
- **Cut list and materials:** the parts of every unit and the materials they need, costed from the materials library. Export it as CSV.
- **Save image (PNG) and Export 3D (.glb)** from the 3D view.

5 Model box

Pick a unit and a scale (1:20, 1:25 or 1:50). The app draws a card net with cut lines, fold lines and glue tabs, and a 3D preview beside it.

1. Choose **Download (SVG)** and print the file at 100 percent, with no fit to page.
2. Check that the test square on the sheet measures 10 mm.
3. Cut on the solid lines, fold on the dashed lines and glue the tabs.

If a net is larger than A4 at that scale, the app tells you. Print on A3 or choose a smaller scale.

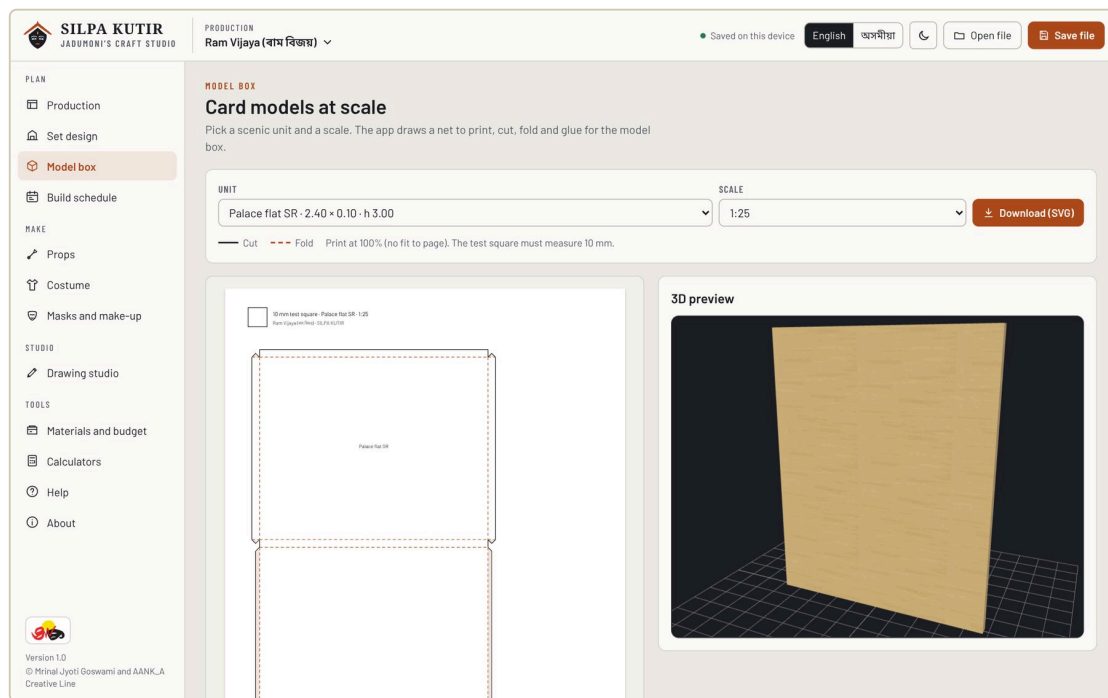


Figure 5. A card net and its 3D preview.

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Build schedule

The build schedule lists every set unit, prop, costume and mask of the production, with its maker, start date, due date and status: **To do**, **In progress** or **Ready**. A change here also shows on the item's own page.

- The cards at the top count the items to make and how many are ready, the overdue items, the days to the opening and the number of makers.
- The **timeline** draws a bar for each dated item, coloured by status. Overdue items are outlined in red. A blue line marks today and an orange line marks the opening date.
- Filter the list by department, and export it as CSV for the workshop wall.

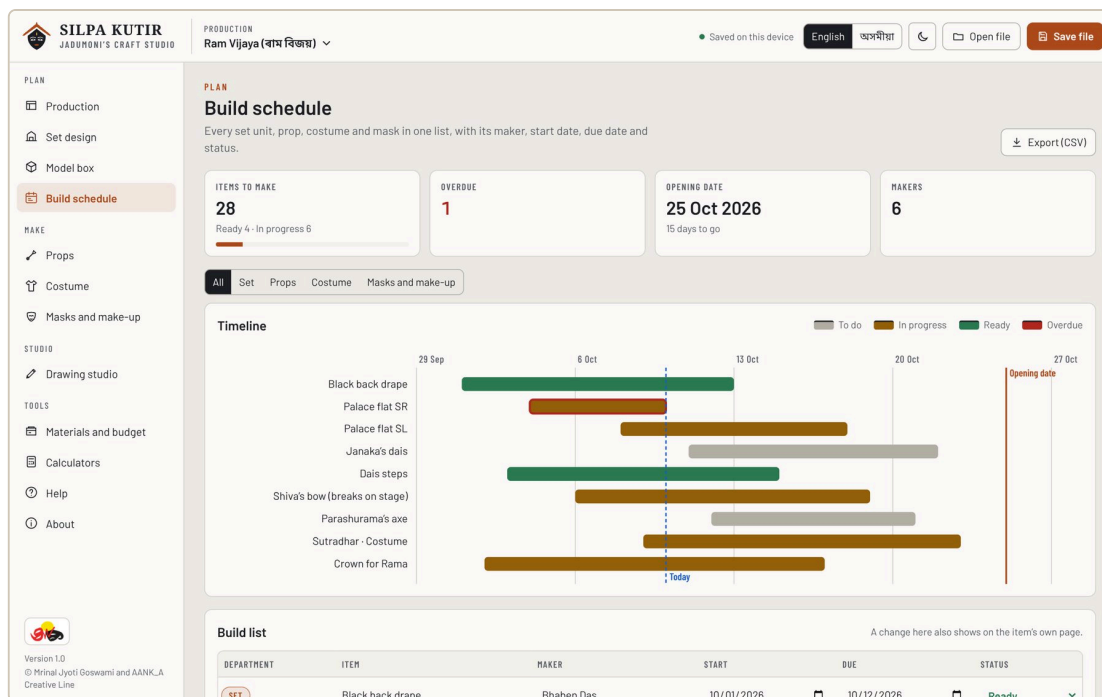


Figure 6. The build schedule with its timeline.

7 Props

List every prop with its scene, user, type (hand prop, set prop, set dressing, consumable or breakaway), source (build, buy, borrow or hire), number of copies, preset position, status and cost. Click a row to open that prop in the 3D builder.

THE 3D PROP BUILDER

- Build the prop from parts: box, cylinder, sphere, cone, and ring or arc. Sizes are in centimetres.
- Each part has its own size, position, angle, colour and surface. Duplicate or delete a part from its panel.
- Tick **Show a 1.7 m figure for scale** to judge the size against a person.

DETAILS, PHOTOS AND SHEETS

Under the builder, add photos of the prop and its weight, safety notes and a repair log. **Prop sheet (PNG)** makes an A4 sheet with the 3D picture, the details, the parts and the photos.

The 3D buttons save a picture (PNG), a 3D model (.glb), a 3D print file (.stl, in millimetres) and an .obj file for other 3D programs. To place a prop on the stage, add **Prop from the list** in Set design.

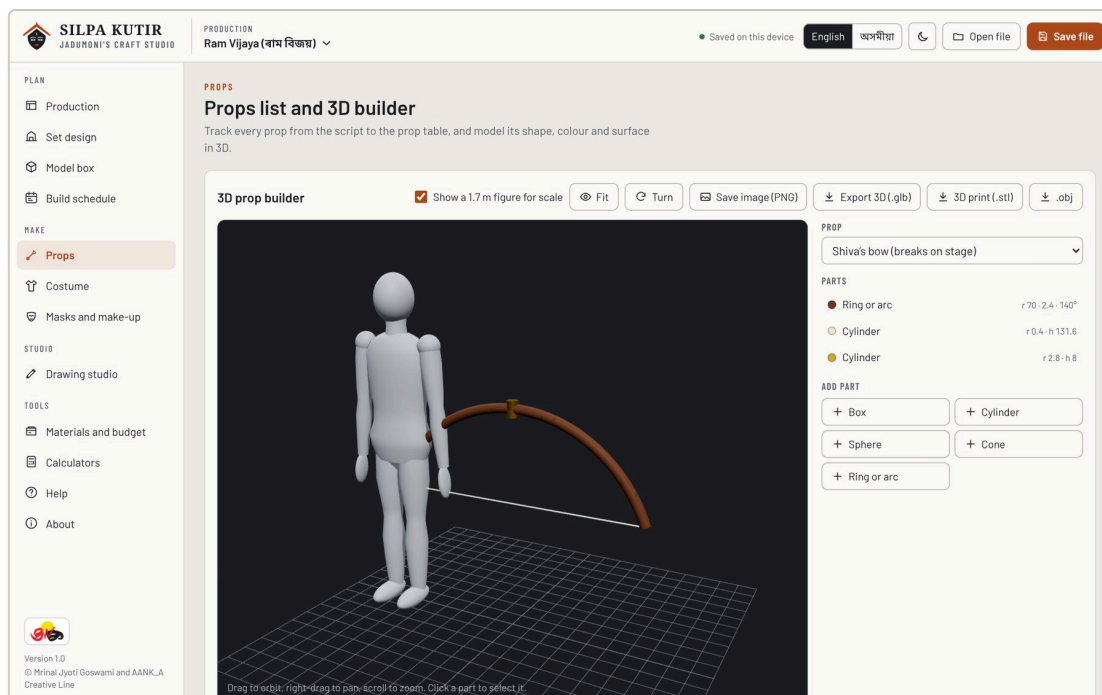


Figure 7. The 3D prop builder with the scale figure.

8

Costume

Pick a character. The 3D figure is built from the artist's body measurements; choose them under **Body measurements** and set the skin tone.

DRESSING THE FIGURE

A costume has four layers, each with its own style, colour, surface and texture size:

Upper garment	Blouse, kurta, jama (long robe), royal robe
Lower garment	Dhoti, mekhela, trousers, flared skirt, potloi (Manipuri)
Sador or Uttariya	Sador, Uttariya, gamosa
Headwear	Turban (pag), crown, cap, matted hair (jata)

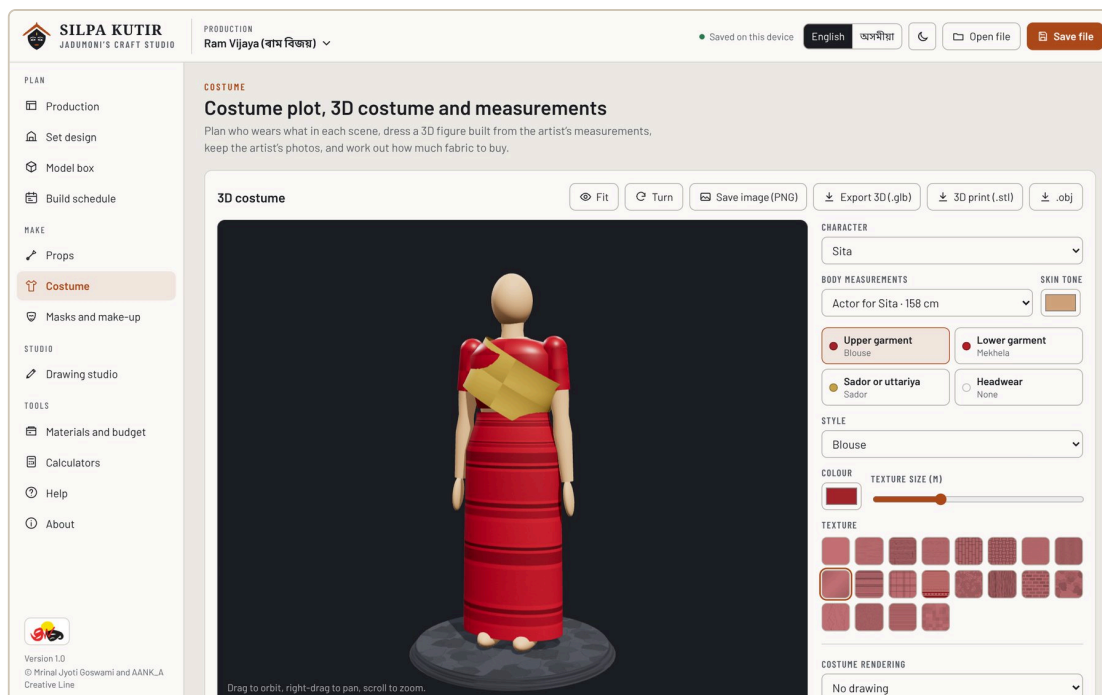


Figure 8. A 3D costume built on the artist's measurements.

COSTUME RENDERING AND COLOURS

Link a costume rendering drawn in the studio, or choose **Draw one in the studio**. Its main colours appear under the picture; tap a colour to use it on the selected layer.

PHOTOS AND THE COSTUME SHEET

Keep the artist photo with fitting, reference and performance photos. **Costume sheet (PNG)** brings the artist photo, the rendering, the 3D costume, the four layers, the plot for that character, the measurements and the photos onto one A4 sheet.

PATTERN CARDS AND FABRIC

Pattern cards give starting sizes for each piece of the chosen garments, worked out from the artist's measurements with seam allowance. Check them on the artist before cutting. **Add to fabric calculator** sends the pieces to the fabric calculator, which works out how much cloth to buy for the fabric width you enter and shows a simple layout.

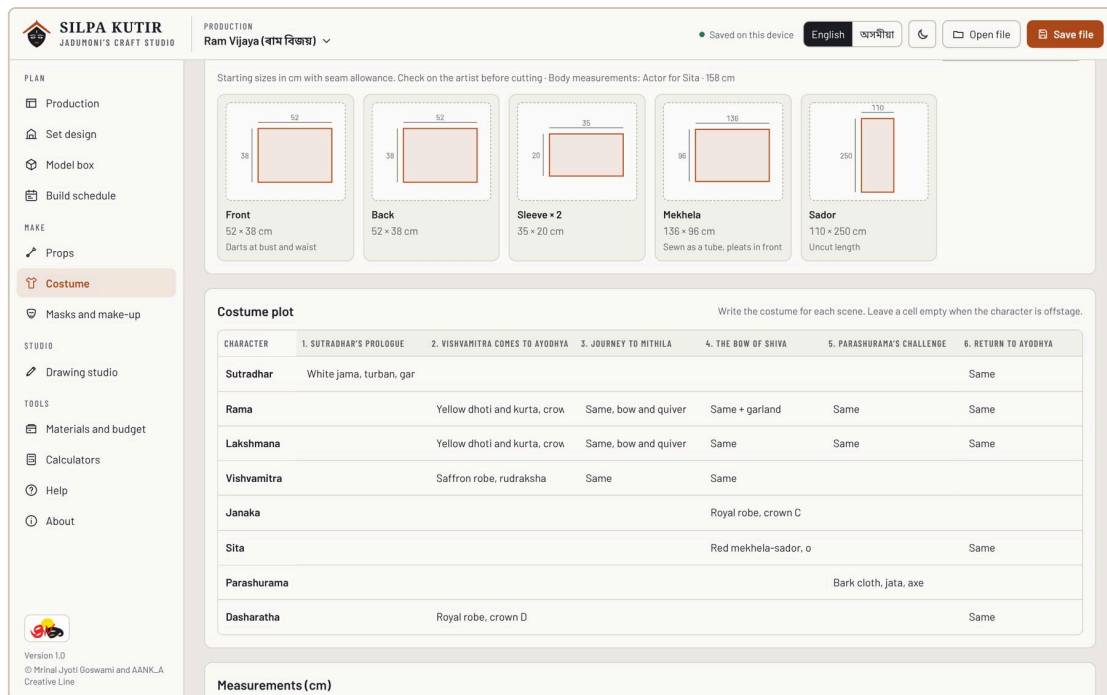


Figure 9. Pattern cards for a blouse and mekhela, and the costume plot.

PLOT, MEASUREMENTS AND WARDROBE

- **Costume plot:** what each character wears in each scene. Leave a cell empty when the character is offstage.
- **Measurements (cm):** height, chest, waist, hip, shoulder, sleeve, neck, inside leg and head for each artist. Export as CSV.
- **Wardrobe and hire:** each garment with its character, size, source (own stock, build, buy, borrow or hire), the dates it was issued and returned, where it is kept and its condition. Export as CSV.

9 Masks and make-up

List every mask, crown, wig and puppet with its character, type, materials, status and cost, and set its size in the panel beside the 3D view. The types include the Sattria mask forms of Majuli: face mask (mukha), chest mask (lutukai) and head-and-body mask (cho-mukha). Each item shows in 3D with its face paint colour and surface, or with a face you draw on the **Mask** paper in the studio.

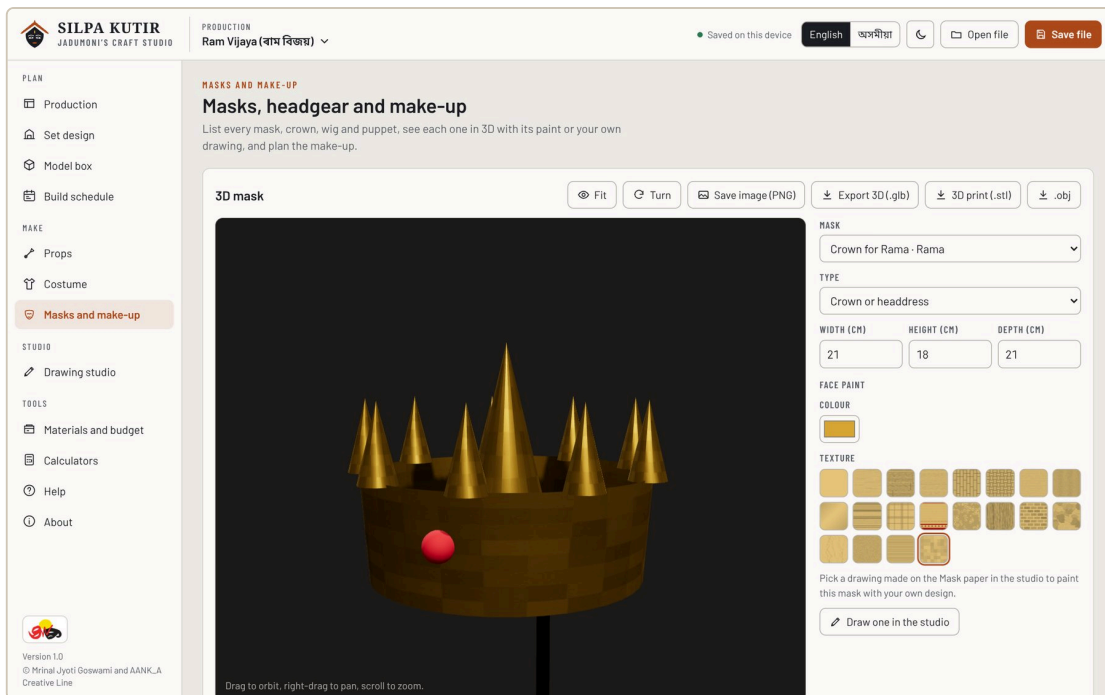


Figure 10. A crown in the 3D mask view.

MAKE-UP

- **Make-up plot:** for each character, the base, eyes and brows, lines and ageing, lips, hair, products and colours, and the skin patch test.
- **Face chart:** a printable chart for each character (SVG) to draw the make-up on by hand.
- **Make-up sheet (PNG):** the artist photo, face chart, make-up plot and photos (before, after, make-up design and reference) on one A4 sheet.
- **Try make-up on the artist photo** opens the drawing studio with the photo ready to paint on (see section 10).

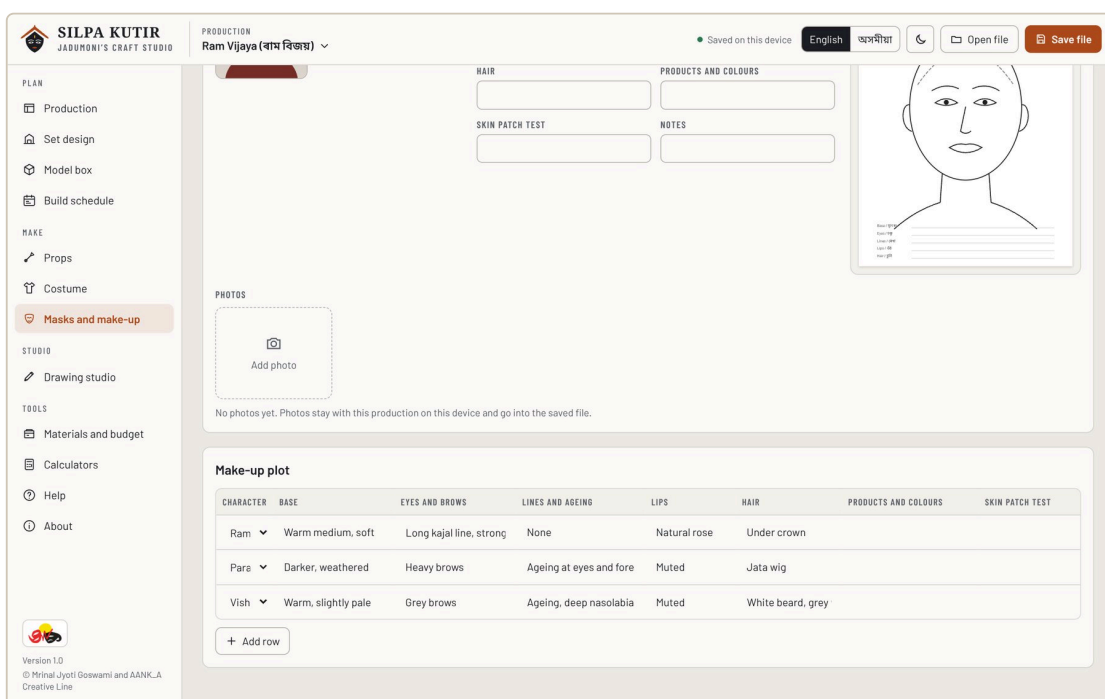


Figure 11. The face chart and the make-up plot.

The studio is a drawing and painting table for costume renderings, mask faces, set sketches and make-up designs. The tools are on the left, the page in the middle, the options on the right and **My drawings** below.

TOOLS

Move layer, pencil, ink pen, marker, soft brush, watercolour, airbrush, texture brush, eraser, fill, line, rectangle, ellipse and colour picker. Each tool keeps its own size and strength. On a tablet with a pen, the line follows the pen pressure. **Mirror drawing** repeats every stroke on the other side of the centre line, which helps with masks and faces.

The colour panel has a colour picker and three ready palettes: the traditional pigments (white clay, hengel, haital and charcoal black), make-up colours and stage colours. The texture brush and the fill can paint with textures such as cloth, bamboo, cane weave or brick.

LAYERS

A drawing can have up to ten layers. For each layer you can set its name, blend mode (normal, multiply, screen, overlay, soft light or colour only), strength and visibility, move it up or down, duplicate it, merge it into the layer below, lock it or delete it.

PAPERS

Start a new drawing on white, sketch paper, grid, dot grid, costume figure, face, mask or stage perspective. The blue guide lines help you draw and are left out when you save or export.

TURNING A HAND DRAWING INTO A CLEAN DRAWING

1. Photograph the drawing and choose **Bring in an image**. It goes onto the Photo layer.
2. Open **Photo tools**. Adjust brightness, contrast, colour strength and rotation, then choose **Apply**. **Flip left to right** mirrors the layer.
3. Choose **Straighten a photo**, drag the four blue handles onto the corners of the paper, and choose **Apply**. The drawing is squared to the page.
4. Under **Clean up a photographed drawing**, set the paper cut-off and choose what to keep: lines only, in the current colour, or the colours without the paper. Choose **Clean up this layer**.
5. Add a layer above and paint over the clean lines.

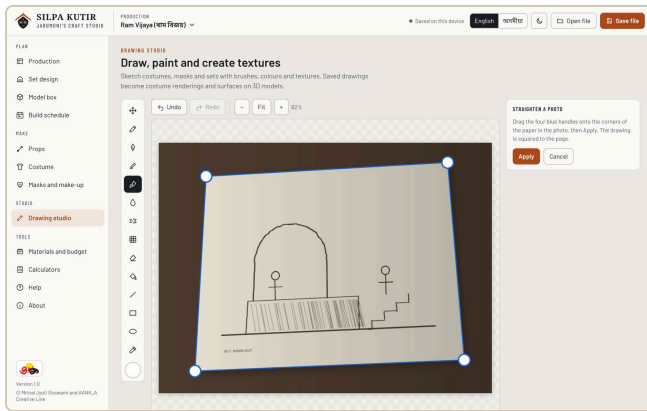


Figure 12. Straightening: the four handles on the corners of the paper.

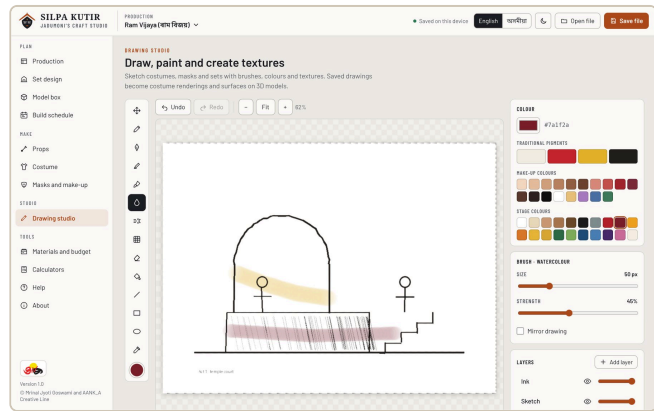


Figure 13. After straightening and clean-up, with colour on a new layer.

MAKE-UP TRY-ON

Choose **Try make-up on the artist photo** in Masks and make-up, or pick a character under **Make-up try-on** in the studio panel and choose **Start**. The artist photo is placed on a locked layer, so it stays untouched. Above it are ready layers for the base tone, shading, colour, highlights and ink lines. Save each try as a new version; it appears on the make-up sheet as a make-up design.

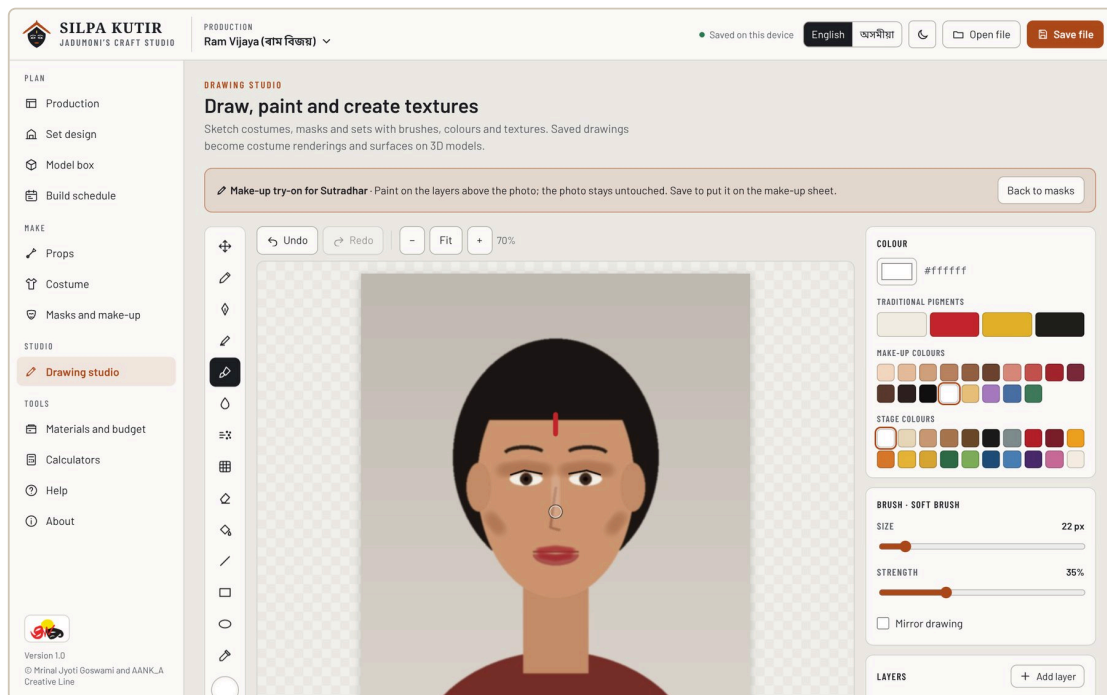


Figure 14. Make-up try-on: tilak, eye shading, liner and lip colour painted above the locked photo.

SAVING AND USING DRAWINGS

- **Save to My drawings** keeps the drawing with all its layers. **Save as new version** keeps the old one and saves a numbered copy. **Export PNG** downloads the picture.
- Under each saved drawing, **Use in...** sends it to a costume rendering, a make-up sheet, the face paint of a mask, or Set design as a hand drawing.
- **Clear all layers** empties the page and **Delete all drawings** empties My drawings. Both ask for a second click, as does deleting a single drawing.

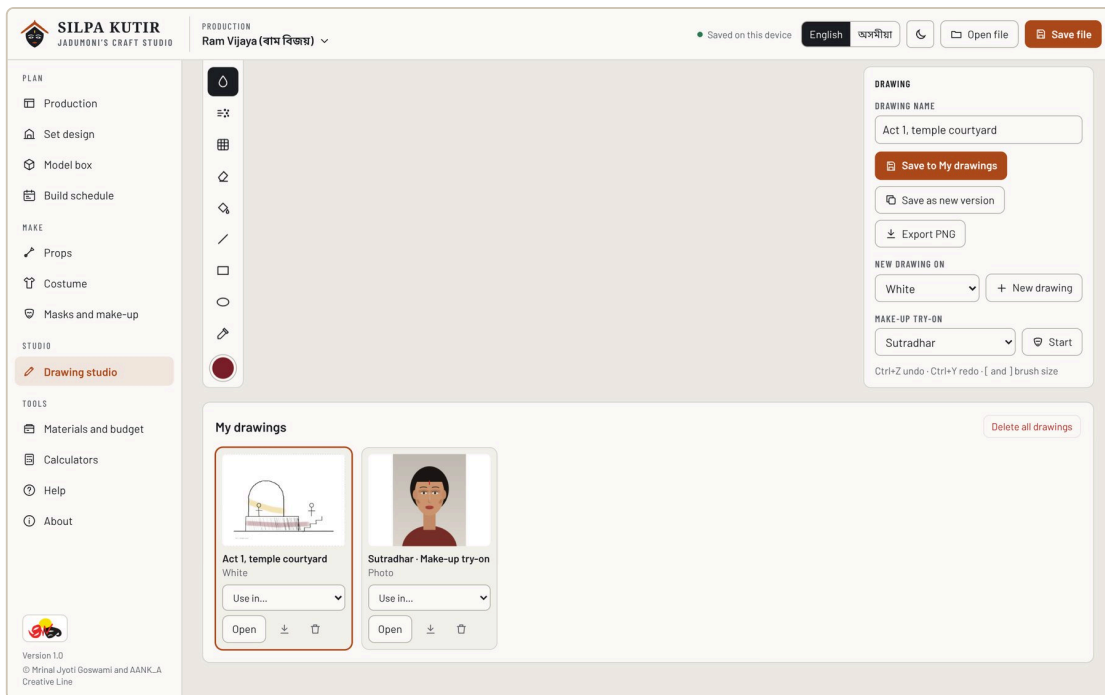


Figure 15. My drawings, each with Use in..., Open, download and delete.

11

Materials, budget and calculators

Enter your local prices once in the **Materials library**: each material with its unit and price. The sample prices are only examples. The cut list in Set design costs itself from this library.

The **Budget summary** adds the set construction from the cut list, the props, the masks and headgear, and any **other budget lines** you enter, and compares the total with the budget limit.

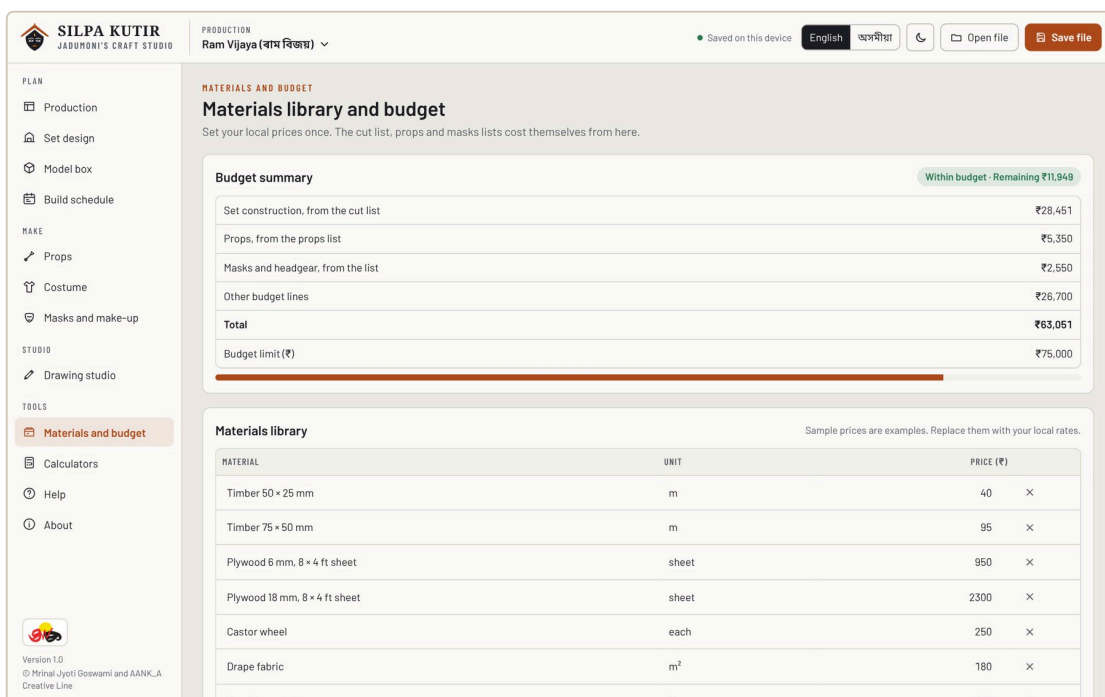


Figure 16. Budget summary and the materials library.

The **Calculators** page has three quick sums:

Scale converter	Model size $m = R \div N$, where R is the real size and N is the scale (1:N).
Paint needed	Paint $V = A \times c \div s$ litres, where A is the area in m^2 , c the number of coats and s the spread rate in m^2 per litre, printed on the tin.
Sheets for a surface	The number of 8×4 ft, 7×3 ft or 6×3 ft sheets for a surface.

12

Files and exports

FILE	WHAT IT HOLDS	OPEN IT WITH
.json	The production file, with photos and drawings	SILPA KUTIR, on any device
.svg	Ground plan, card nets, face chart	A browser, Inkscape or Illustrator. Print at 100 percent.
.png	Costume, prop and make-up sheets, front elevation, section, 3D pictures, drawings (150 dpi for A4)	Any image viewer or printer
.jpg	A saved drawing from My drawings	Any image viewer
.csv	Cut list, props, measurements, wardrobe, build schedule	Excel, LibreOffice Calc or Google Sheets
.glb	3D model with colours and textures	Blender, 3D viewers, web 3D tools
.stl	3D print file, in millimetres	3D printer slicers
.obj	3D shape for exchange	Blender, SketchUp and most 3D programs

In the online version, 3D files download inside a **.zip** file. Unzip it to get the model.

WHERE	KEYS	ACTION
Set design	Arrow keys (with Shift for 0.5 m)	Move the selected unit
	Delete or Backspace	Remove the selected unit
	Escape	Stop setting the scale or moving the hand drawing
Drawing studio	Ctrl+Z, Ctrl+Y	Undo, redo
	[and]	Smaller or larger brush
	V P N M B W A T E G L R O I	Move layer, pencil, ink pen, marker, brush, watercolour, airbrush, texture, eraser, fill, line, rectangle, ellipse, colour picker
	Ctrl + scroll	Zoom the page
Photos	Escape, ← and →	Close the photo viewer, previous and next photo

- **Keep a file copy.** Use **Save file**, or **Save a copy of all productions** in the productions menu, at the end of each work session and before you update the app or clear the browser.
- **Moving to another device.** Save the file on the first device and use **Open file** on the other.
- **Large photos.** Photos take most of the space. If the app says a production is too large to keep on the device, save it as a file and remove photos you no longer need.
- **No 3D view.** The 3D views need WebGL. If it is turned off, turn on hardware acceleration in the browser settings. Lists, sheets and the studio still work without it.
- **Printing to scale.** Always print drawings and nets at 100 percent, and check the scale bar or the 10 mm test square with a ruler.
- **Assamese text.** The fonts are built into the app, so Assamese shows the same on every device and in every exported sheet.



SILPA KUTIR · শিল্প কুটিৰ

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Dedicated to my Guru, Ningombam Jadumani Singh of Manipur, master craftsman of the stage and Sangeet Natak Akademi awardee.



Created by Dr Mrinal Jyoti Goswami on behalf of AANK_A Creative Line, Assam, India

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Release 1.0 launches with the other AANK digital tools at the inaugural session of BBITF 2026, Sri Sri Madhavadeva International Auditorium, Guwahati, on 25 October 2026.

3D rendering uses three.js (MIT licence).



What's new in this release

SILPA KUTIR 1.0 · released on 25 October 2026 at the BBTF 2026 inaugural ceremony, Guwahati

In SILPA KUTIR

- **Model box: Add a unit** makes a flat, platform, steps, ramp or wagon for the model only, at any size, without putting it on the stage plan. **Put on the stage plan** moves it to Set design, and **Go to Set design** is one click away.
- **Send to...** gives XUDHAKANTHA and the other studios the title, stage size, characters and scenes, with a design report: set units, props with their scenes and status, the costume of each character, masks, make-up, the build schedule and the budget.
- **Open from...:** characters from another app join the costume characters, scenes join the scene list, the stage size goes to Set design, and the other app's report is kept under **Production** for reference.
- The last change is kept even if the tab closes while it is being saved. The app asks before closing only when a studio drawing is not saved yet or a save is still running.
- The tagline now reads **JADUMONI's CRAFT STUDIO**. Assamese labels are easier to read, and the sample production opens in Assamese when the app is in Assamese.
- Production files keep Assamese titles in their file names, and **Ctrl+S** saves the production file.

In every AANK app

- New web address: <https://aank.org/apps/silpa-kutir/>. Install it on a phone, tablet or computer; it then works offline and updates itself.
- A welcome screen and an About page with the dedication, credits, licences and your automatic backups.
- Send to... and Open from...: move your work to and from the other AANK apps. XUDHAKANTHA, the mother app, gathers it into one production.
- A feedback form (Help menu and About) to report a problem, a content error, a question or an idea.
- Safer saving: the browser is asked to keep the data permanently, the last five versions are kept as backups, and the Last file copy chip reminds you to save a file.
- Phones: a clear message when a viewer blocks the app, and Add to Home Screen help on iPhone and iPad.

Where this manual shows an older web address, use these: the app <https://aank.org/apps/silpa-kutir/> and its page <https://aank.org/digital-tools/silpa-kutir/>.