PERSONAL FIELD GUIDE · 21 OCTOBER 2026

Glockenspiel-Deutsch

Bill’s guide from dense organic scans to deliberate mechanical prototype design.

For an experienced SolidWorks designer: keep your engineering judgment, learn the app’s workflow, and preserve what makes the character a character.

English edition with a German workshop glossary. Updated for private display profiles and optional session review. **Review training · Manufacturing HOLD.**

START HERE · REPRESENTATIONS AND INTENT

Why a STEP file is not a scan-reconstruction workflow

Bill, your 25 years of SolidWorks experience remain the foundation. The starting material is different. A dense organic scan records a sampled surface. It does not arrive with sketches, feature history, datums, wall thickness, mates or manufacturing intent. Converting it to STEP does not automatically create those things.

STEP is a geometry exchange format. A mesh or reverse-engineering plugin is a set of tools. A capable plugin can help inspect, segment, simplify or fit a scan before a CAD handoff. The STEP file carries a chosen result. Turning every triangle into a CAD face can produce a heavy faceted body while still leaving you without useful design features.

STEP does not inherently strip detail. It can carry precise boundary-representation surfaces and solids, and some AP242 implementations can carry tessellated data. Detail can be lost through decimation, fitting tolerance or conversion choices. A plugin also needs appropriate settings and validation; neither file format nor plugin guarantees a useful reconstruction.

> **Keep the detailed scan as the master. Make each derived representation earn its purpose.**
> Use a working mesh for inspection, a local fitted surface where it helps, and a checked export for a specific downstream operation. Compare approximations against the original.

People aren’t standard machine parts. They’re organic.

The character’s continuous curvature, folds and asymmetry are part of the design. Biology is structured information, but a surface scan alone does not tell the software how a joint should work, what loads a bracket carries or what sound a striker should make. Bill supplies that engineering intent.

GO3D’s approach keeps the organic reference and adds deliberate mechanical structure around it. The aim is to reduce unnecessary manual reconstruction so your experience goes into interfaces, mechanisms and decisions. A speed advantage must still be measured against a comparable workflow.

Preserved scan **internal mm** → Working mesh **inspect / section** → Design intent **cuts / placements** → Derived result **mesh / sheet / STEP** → Native CAD review **fit / scale / function**

THE DESIGN STORY

Geppetto, Pinocchio and Digital Bill

Real Bill is Geppetto: your judgment shapes the work. “Digital Bill” is the design intent you leave in named cuts, component placements, saved branches, instructions and review notes. Pinocchio takes a clearer shape with each deliberate decision.

The useful loop is **say what you intend → choose a supported action → inspect the result → save the decision**. A spoken phrase becomes useful when you review its recognized text and turn it into an explicit instruction. A click becomes useful when its placement, cut or result belongs to the saved project.

Today the app preserves supported project decisions and requests. If you opt in, it also records named controls, selected guide steps and app-reported outcomes in reviewable activity journals. With verified Bill editor access, this named activity can sync privately about once a minute. Typed questions, file names, geometry and pointer movements are excluded. Review the observations and state what you intended: an observed action is not proof of your design intent. This does not train a personal AI model. Autonomous learning of Bill’s habits and unrestricted searches across his external mechanical libraries remain development goals.

> **Workshop language:** Absicht → Bezug → Schnitt → Einbaulage → Prüfen → Speichern.
> Intent → reference → section → placement → inspect → save.

Choose a representation, then choose a file

Representation	Useful next job	Check before relying on it
Original scan / working mesh	Inspect organic form; select regions and sections.	Keep the original source and units. A simplified preview may omit detail.
Fitted NURBS sheet	Build a bounded mathematical surface for a particular interface.	Open sheets need further engineering; a fit is not a closed printable body.
Selected review STEP	Exchange a supported region/cut with a CAD tool.	Check units, face structure and source identity. No recovered feature history is promised.
SVG / DXF drawing package	Communicate projected geometry and review notes.	Check full-size DXF units; the sheet is not a manufacturing release.
.go3d.json project / history / branches	Reopen the working design and preserve decisions.	Verify required source assets and recovery copies; do not substitute a screenshot.

Units rule: Bill's bounds readout defaults to inches. Internal scan geometry and drawing/DXF geometry remain in millimetres. Individual editing fields keep their displayed unit labels. Never change a scale factor merely to make the displayed number look familiar.

LESSON 01

Set up Bill’s bench

Settings → Bill’s display preferences

1. Open **Settings** from the top toolbar. Inches are Bill’s initial bounds-readout preset; an existing saved choice is retained. Choose **Readout units** and **Decimal places**.
2. Choose **App theme**, **Model background**, **Panel text** and **Interface motion** to suit your workstation. Changes save on this device when browser storage is available. Check the displayed save status.
3. To keep these choices in your private profile, expand **Profile & session activity** and choose **Save display settings to profile**. Private saving requires your verified Bill editor invitation. On another device, open that invitation and choose **Load saved profile**. Loading applies saved display choices and self-entered profile details; it does not change your activity-recording consent.
4. Open **Workspace menu → My GO3D profile & badge** to enter your preferred name, CAD experience, workstation description and goals. These fields are optional and self-entered. **Save profile** saves those details; **Load my saved details** loads them without changing display settings.
5. In **Settings → SolidWorks tool map**, use **Find a task**. Try “drawing”, “move project” or “history”. Select a result to open its tool. **Clear task search** or Escape restores all tasks.

> **Verify before moving on**
>
> Reload the app and confirm your chosen readout units. If you saved privately, check the confirmation before relying on that copy. A field explicitly labelled mm still takes millimetres. Display preferences do not rescale the scan, convert drawing geometry or replace a complete project backup.

LESSON 02

Know which representation you are holding

View

1. Start with the original character reference and choose a region. Use Fit to recover the view. Drag to rotate; use Shift/right-drag to pan. Touch gestures depend on the browser.
2. Use the X, Y and Z view buttons to understand the source frame. This scan uses its own coordinate system; do not assume a SolidWorks Front view or a familiar assembly origin.
3. Distinguish the source scan, a proposed cut, a placed library component and a generated review result. Together, Spread apart and Show only this part are inspection controls; changing the view is not a mating operation.

> **Verify before moving on**
>
> Identify the current source and selection before making an edit. If a result changes after a cut or selection changes, regenerate it; do not reuse a stale download.

LESSON 03

Establish scale before engineering

Design → 1 · Scan / measure

1. Before loading another scan, save the current project. Preserve the original file separately. Import the intended scan and choose its actual file units; STL has no standardized unit field; confirm the source units.
2. When you have a physical reference, enter Known physical length (mm) along the correct calibration axis. Use a trustworthy measurement, not a visually estimated height.
3. Use Measure between two points to compare a second known dimension. Record the source, calibration choice and uncertainty. Scan-derived distances are not metrology certification.

> **Verify before moving on**
>
> For a known one-inch reference, the internal length is 25.4 mm. Display conversion should change the number’s presentation, not the physical size. If measurements disagree, resolve units and calibration before designing a fit.

LESSON 04

Define an interface without rebuilding the person

Design → 2 · Section

1. Choose one engineering question: bearing access, a service opening, an attachment datum or a separable region. Let that purpose determine the section; do not treat an anatomical label as an approved joint location.
2. Enable Show section on displayed model, then position the section and inspect its intersection with the preserved scan. Name it by purpose, for example “Shoulder interface — bearing access”. Use Queue this cut to retain the proposal.
3. Get section DXF when you need the contour. It is a review intersection: an uncapped contour does not prove a watertight printable solid. Check loops and units before using it in native CAD.

Verify before moving on

State what this section is meant to achieve, which source it belongs to, and what remains to be designed. The original character reference stays available.

LESSON 05

Bring Bill’s mechanical knowledge into the project

Design → 3 · Place parts

1. Import one known mechanical component from your permitted library or supplier files. Confirm source units. Keep the original native CAD and its provenance; a preview mesh is not its feature history.
2. Use Find a loaded part to search the components already in this project’s loaded library. It searches the loaded parts, not every folder, online catalog or private CAD account.
3. Enter manufacturer, part number and source URL where the controls provide those fields. For a glockenspiel mechanism, document the intended role—support, pivot, striker or fastener—rather than assuming an imported shape has the right specification.

> **Verify before moving on**
>
> You can identify the exact component and its origin. Its dimensions match the known supplier reference. No automatic external-library search is assumed.

LESSON 06

Place a component with a stated intent

Choose fit & preview

1. Choose the placement that matches your goal: Use scan datum, Align to anatomical surface, Insert inside the body, or Attach to a component.
2. Use Pick a point on the scan where appropriate. Inspect the point and surface direction, then set the intended axis and Offset / insertion depth · mm. Preview before committing.
3. Inspect the placement from more than one direction. Rigid placement preserves component size. “Attach” describes placement context; it is not proof of a solved mechanical mate, collision-free motion or acceptable load path.

> **Verify before moving on**
>
> Record the datum, direction, offset and why the placement exists. Verify clearances and mating behavior in the appropriate native CAD workflow.

LESSON 07

Make two alternatives explain their difference

History → Dual Sense · A/B branches

1. Save the baseline, then use Branch from this point. Name Route A and Route B for the engineering hypothesis, such as “external support” and “internal support”.
2. Use Save branch before switching. Saved branches & handoff contains Save current & open branch and Download all branches. Keep a separate downloaded copy.
3. Use Compare Route A and Route B. Compare recorded measurements and observations: access, envelope, part count, serviceability, movement and intended sound mechanism. An appealing view is not a measured winner.

Verify before moving on

Both routes still reopen. Choose a route only after recording the evidence and remaining unknowns; keep the alternative and its history.

LESSON 08

Fit only the surface that earns its place

Design → Surface & color → Automatic scan → NURBS

1. Use a bounded patch when an interface needs a smoother mathematical surface. Select the relevant region and inspect the fit against the original scan.
2. Look at the control net and reported sampled deviation. A sampled error is evidence for the checked samples and settings, not a guarantee of every point on the character.
3. Export a tested surface sheet if useful to the next CAD operation. An open fitted patch is not a reconstructed closed character, a watertight print body or a recovered SolidWorks feature tree.

> **Verify before moving on**
>
> Keep the original and the fit side by side. Record the patch, fit settings and observed deviation. Do not replace the master scan with an approximation.

LESSON 09

Choose the deliverable for the next operation

Export → Selection → File format

1. Confirm the selected region or saved cut. Use STL · review mesh for mesh inspection, DXF · section lines for section geometry, and STEP · CAD → Generate review STEP for a supported C01 region/cut.
2. Download and unzip the generated package. Check the selection, revision, source identity and stated units before opening the file in another tool.
3. After a selection, cut or source changes, create a new export. Retain original scans and supplier-native files alongside derived deliverables. A neutral file is a handoff, not the complete editable project.

> **Verify before moving on**
>
> Open the intended file, not merely its ZIP. Confirm a known dimension and compare the result to the source. Whole-character closed CAD reconstruction remains a separate development goal.

LESSON 10

Make the review sheet tell the truth

Export → Prepare shop drawing

1. If no usable selection exists, Choose a character part opens View. Select the region yourself, then return to Export. All six parts is not a substitute for a supported selected-region export.
2. Choose Current export selection or Visible placed parts. Set paper, title, revision and notes, then Create review drawing.
3. Use Open print / Save PDF, Download SVG or Download drawing package. The package contains the SVG, full-size millimetre DXF views and a source report. In browser printing, use the stated paper size and 100% / actual size when a scale is required.

> **Verify before moving on**
>
> Check source identity and dimensions. These are projected mesh-edge review sheets without hidden-line removal, manufacturing tolerances or machine toolpaths. Manufacturing remains HOLD.

LESSON 11

Save the design, not merely its picture

Save complete project · History · Files

1. Download Save complete project as the supported .go3d.json project. Save a named checkpoint before a substantial change. Download history and all branches when you need a separate recovery copy.
2. Use Open complete project and verify a selected cut, one component placement, its metadata and the source reference. Relink required source or library files if the saved package identifies them as external.
3. Read the actual save and cloud-backup status. A browser checkpoint, a confirmed cloud backup and a downloaded project are different recovery copies. A screenshot or STEP file alone does not preserve the complete working recipe.

Verify before moving on

You can close and reopen the intended project and explain which copy is local, which was downloaded and which has a confirmed cloud receipt. If storage reports a problem, preserve your current work and resolve it before relying on the save.

LESSON 12

Teach the project what you mean

Review / Ask GO3D · Tell GO3D what you need

1. Use questions to understand a tool, and development requests to ask for a change. Include project, selected part, revision, what happened, what you expected and the priority.
2. For dictation where the microphone control is available, review the recognized text before sending or executing a supported action. Browser speech support varies.
3. New development requests close at the displayed next whole hour. A 1:59 submission closes at 2:00 in the displayed timing system, not 2:59. Amend or cancel before the cutoff. A saved or batched request is not evidence that code has been implemented.

To review your practice separately from a development request, open **Settings → Profile & session activity**. If you choose to record activity, select a session and choose **What GO3D noticed**. Explain what you intended, or correct GO3D's interpretation, under **What were you trying to do?**, then choose **Save reviewed session to profile**. That text is sent only when you explicitly save it. Activity recording does not submit a development request or prove that an operation succeeded.

> **Verify before moving on**
>
> A useful request is reproducible: "On [project/revision], when I [action], I see [result]. I need [result] because [design purpose]. Priority [level]." Keep confidential files in their authorized private location.

BENCH EXERCISE

One region. One component. Two alternatives. One reproducible handoff.

1. Select one organic region and check its scale against a known reference.
2. Save the baseline, then name one section for its engineering purpose.
3. Import one known mechanical component and retain its supplier/source identity.
4. Preview and commit its rigid placement. Write down the datum and offset.
5. Create A and B alternatives; record what question each one tests.
6. Generate a review drawing and the supported export for the chosen selection.
7. Reopen the saved project. Find the same source, cut, component and revision.
8. Write the remaining native-CAD and physical tests: interfaces, clearances, motion, strength, printability and acoustic behavior as applicable.

Success means another person can reproduce the handoff. It does not mean the instrument is approved for manufacture. Glockenspiel sound, striker behavior, structural strength and physical fit need their own evidence.

The decision note to keep with each route

Purpose:

Source / revision:

Datum / units / calibration:

Component and provenance:

Action and settings:

Observed result:

Compared with:

Remaining test:

Next decision:

When the workflow stalls

The STEP file is heavy or fragmented

Confirm what it contains. A faceted body with many small faces is different from a compact fitted surface or feature model. Revisit the representation and the region needed; preserve the original before simplifying.

A detail disappeared

Compare the source with the working mesh and fit. Record the reduction settings and tolerance. Do not attribute every loss to STEP, and do not accept a smooth appearance as fidelity evidence.

The size is wrong

Check file units, calibration axis and known length. Inch display is not inch storage. A factor of 25.4 is a units clue, not permission to scale blindly.

Drawing creation is disabled

Choose a supported part or saved cut. For an assembly, choose Visible placed parts and ensure the intended components and layers are visible.

The screen cannot show 3D

Use available previews, help and files. Actual WebGL/hardware support must be checked on the device. Do not interpret a blank viewer as proof the source geometry is missing.

A command did not build a feature

Check whether you asked a question, made a development request or invoked a supported design control. Hourly batching does not provide an always-connected coding worker.

Undo, save or cloud backup reports a problem

Keep the current draft open, preserve a separate supported download if available, and inspect the reported error. Do not overwrite another tab’s newer history or assume an unconfirmed save succeeded.

Know today’s boundary

Available workflow	Separate proof or future development
Loaded-part search; scan inspection and sections; rigid component placement; scoped review exports; open surface-patch fitting; project/history/A/B recovery.	Whole-character closed CAD reconstruction, automatic anatomical joints, mechanical mates, certified collision/motion, accepted printability and metrology.
Cloud / Dragon Fire / Compare A/B processing choices; existing Dragon Fire CPU mesh inspection.	MSI pairing, GPU/HDR acceleration, measured throughput and automatic Drive-result mirroring.
Explicit saved decisions, reviewed requests and supported dictation.	A trained Digital Bill, unrestricted external-library search and autonomous native SolidWorks actions.

The local companion requires setup and acceptance on the actual workstation. Do not assume remote control or native CAD edits are active because a connection option is visible.

Read the current capability guide before planning a job around an unverified feature. The source geometry and engineering approvals remain separate from software training.

Glockenspiel-Deutsch: the shared workshop vocabulary

This guide is in English. The German terms are memory aids, not a claim that the app interface has been translated.

Term	Meaning at Bill’s bench
Absicht	Design intent: what must the operation accomplish?
Bezug	Reference or datum: what locates this decision?
Schnitt	Section/cut: what interface are we investigating?
Einbaulage	Component placement: where and in which direction?
Freiraum	Clearance: what space must remain available?
Variante	Alternative: what does Route A test against Route B?
Prüfen	Inspect and verify: what evidence supports the decision?
Speichern	Save: can this exact state be recovered?
Freigabe	Release/approval: a separate authorized engineering decision.

Bill is now at the wheel. The software carries the recorded work forward; Bill supplies the experience that makes useful.

GO3D · Bill is now at the wheel. · Preserve the scan, record the intent, verify the result.
Original source files, access permissions and engineering acceptance remain separate.