



X3D Model Exchange

Welcome Navy and Marine Makers!

<https://modelexchange.nps.edu>

Who We Are

X3D Model Exchange shares open-source models in formats compatible with 3D printers.

Partner commands offer unique capabilities to share, view 3D-printable models by Navy and Marine Makers.

About the X3D Model Exchange

Goal

Additive Manufacturing (AM) will have major impacts on future operations. The goal of the Model Exchange is to help Navy and Marine Makers learn how to find, produce, share and print 3D models.


Contact

(testing in progress) You can [Contact us](#) by form, or send feedback email to makers@nps.edu.

Partners

	Naval Postgraduate School (NPS) including Robodojo and Additive Manufacturing	
	Naval Facilities Engineering Command (NAVFAC) and Engineering and Expeditionary Warfare Center (EXWC)	
	Space and Naval Warfare Systems Command (SPAWAR)	

Sponsors

	Naval Research Program (NRP) with Topic Sponsor OPNAV N415 Additive Manufacturing (AM)
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Developers

Partner developers are working together to build capability. Additional user-facing model exchanges might someday adapt these growing open-source assets.

- Developer mailing list ModelExchange@MovesInstitute.org (plus [list page](#) and [mail archive](#))
- [Dataflow architectural design](#) emphasizes interoperable model sharing.
- [Gitlab version control: ModelExchange Staging Area](#) for 3D content, plus [ModelExchange Software repository](#)
- Portal [Document Library](#)



Discover

Discover 3D models, view curated collections or find 3D models from community members.

Metadata is the key to archival storage, reuse and effective search.

The screenshot displays the X3D Model Exchange website. At the top, the logo features a stylized 'X3D' with a red 'X' and green '3D', followed by the text 'X3D Model Exchange' and the tagline 'Welcome Navy and Marine Makers!'. A navigation bar includes links for 'Welcome', 'Discover', 'Preview', 'Share', 'Learn', 'Create', 'Engage', 'Twitter', and 'About'. The main content area is titled 'Home' and is divided into several sections. On the left, there is a 'Navigation' section with a link to 'Forums', a 'User login' section with fields for 'Username' and 'Password', and a 'CAPTCHA' section with a math question '2 + 2 ='. On the right, the 'Discover 3D Models' section provides instructions on using search filters and lists two model entries. The first entry is 'Wrench 81mm Mortar' with a green wrench icon, author 'brutzman admin', and category 'Tools'. The second entry is 'Wrench 81mm' with a wireframe wrench icon, author 'brutzman admin', and category 'Tools'. Both entries include a 'Description' and 'Tag(s)' field.

X3D Model Exchange
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Welcome Discover Preview Share Learn Create Engage Twitter About


Home

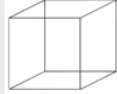
Navigation
▸ Forums

User login
Username *
Password *
• Request new password

CAPTCHA
This question is for testing whether or not you are a human visitor and to prevent automated spam submissions.
Math question *
2 + 2 =
Solve this simple math problem and enter the result. E.g. for 1+3, enter 4.

Discover 3D Models
Find printable 3D models by using search filters for Category, Community and Metadata Tags.

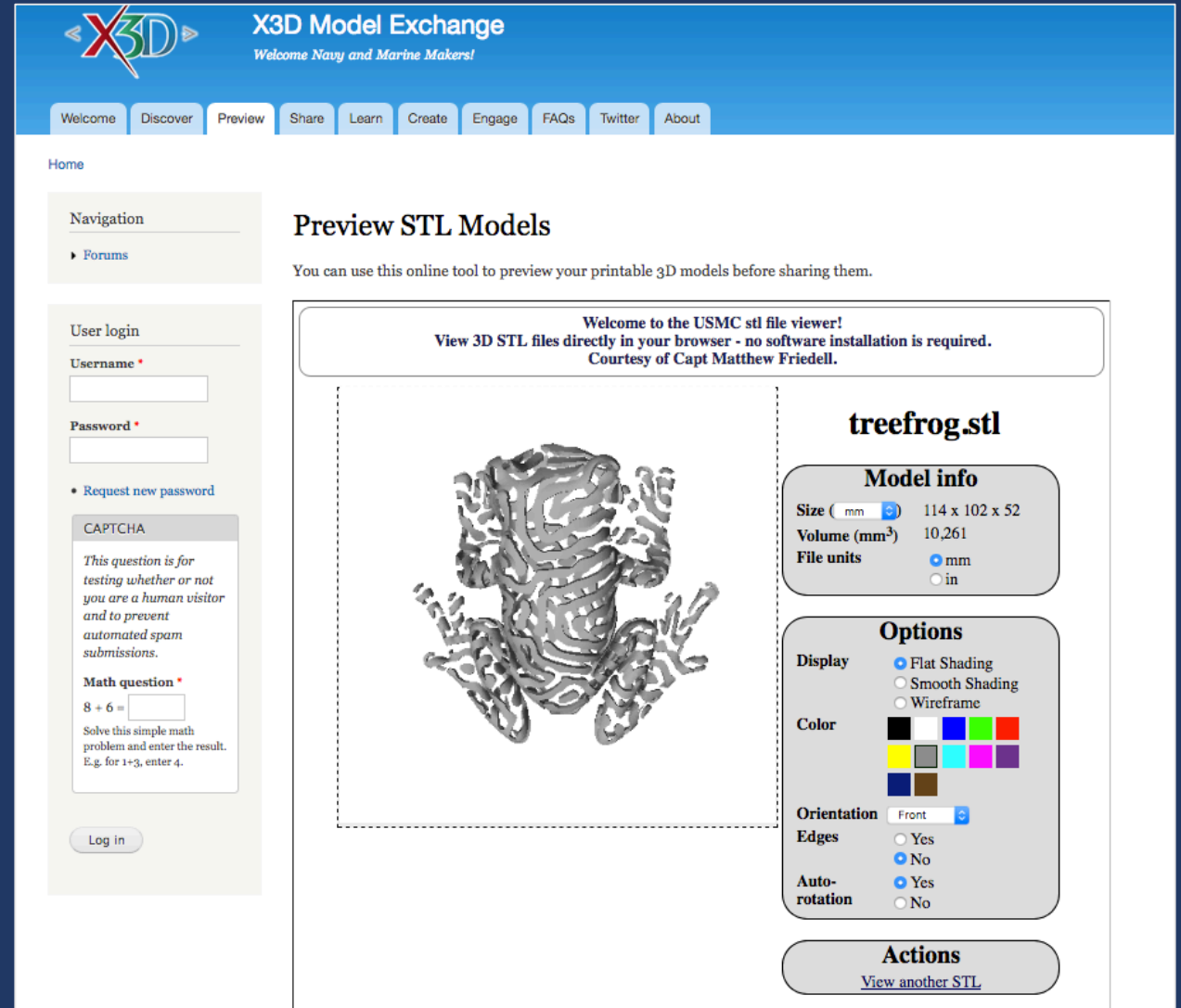
Wrench 81mm Mortar

Author: brutzman admin
Category:
Test Cases
Community:
Marine Makers
Description:
Initial test case model for X3D Model Exchange.
Tag(s):
pipeline
[Read more](#)

Wrench 81mm

Author: brutzman admin
Category:
Tools
Community:
Marine Makers
Description:
When Marines at SPMAGTF-Central Command- Crisis Response in Kuwait did not have the original wrench that came with the gun to remove the breach plug that sits at the breach end of the gun, they turned to 3D printers.
Tag(s):
Wrench Tools
[Read more](#)

Preview

Use online preview tool to preview printable STL models before sharing.

STL is simply geometry. X3D includes material, metadata and interaction. We're adding viewing support for both.



The screenshot shows the X3D Model Exchange website interface. At the top, there is a navigation bar with the X3D logo and the text "X3D Model Exchange" and "Welcome Navy and Marine Makers!". Below the navigation bar, there are several menu items: Welcome, Discover, Preview, Share, Learn, Create, Engage, FAQs, Twitter, and About. The main content area is titled "Preview STL Models" and includes a sub-header "Preview STL Models" and a description "You can use this online tool to preview your printable 3D models before sharing them." The central part of the interface features a 3D model of a frog, labeled "treefrog.stl". To the right of the model, there is a "Model info" section with fields for Size (mm), Volume (mm³), and File units. Below this is an "Options" section with radio buttons for Display (Flat Shading, Smooth Shading, Wireframe), Color (a grid of color swatches), Orientation (Front), Edges (Yes, No), and Auto-rotation (Yes, No). At the bottom right, there is an "Actions" section with a button labeled "View another STL". On the left side of the interface, there is a "User login" section with fields for Username and Password, a "Request new password" link, and a CAPTCHA section with a math question "8 + 6 =".

Share

Community members share open-source models online. Maker uploads first need CAC ID to thwart hackers.

New models undergo pipeline processing and Quality Assurance prior to publishing publicly.



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Welcome Navy and Marine Makers!

Welcome Discover Preview **Share** Learn Create Engage FAQs Twitter About

Home

Navigation

- Forums

User login

Username *

Password *

[Request new password](#)

CAPTCHA

This question is for testing whether or not you are a human visitor and to prevent automated spam submissions.

Math question *

3 + 7 =

Solve this simple math problem and enter the result. E.g. for 1+3, enter 4.

Upload and Share 3D Models

(Developers please login to Share. For everyone else: upload testing is in progress, please stand by...)

Select a community image to share your printable 3D model



Fablabs Navy Makers Marine Makers Expeditionary History Heritage

All contributions are UNCLASSIFIED open source with CAC-controlled user access to block hackers.

Future users: here is your pre-flight checklist!

- Access:** confirm that your 3D model can be shared publicly.
- Identity:** Navy-Marine Makers need a **CAC (test)** to upload new models.
- Got Model?** Have a good 3D model ready to go, saved using any format.
- Naming:** Model title, author information, and hash tags.
- Ownership:** must be legitimate open source and free for any use.
- Description:** tell the story: what does the model do, who might use it.
- Details:** plenty of metadata information so that Discover Search works well.
- Anything else?** drawings, plans, photos, videos, online links, etc. etc. etc.

What happens next. Uploaded user models are acknowledged, then further tested and prepared separately by partner developers in the NPS Gitlab Staging Area. When ready, new model assets are placed back in Model Exchange and published publicly. As we perfect model presentation and quality assurance (QA), each developer step gets automated.

Make preparations to get under way! We thank all contributors for your great efforts and **feedback**. Also thanks for your patience as we work together to build support for all Navy and Marine Makers. Get ready. get set...

Learn

We are collecting a variety of learning assets for 3D Printing and Additive Manufacturing.

Community forums will add further learning and teaming possibilities.

The screenshot shows the X3D Model Exchange website. At the top, there is a blue header with the X3D logo and the text "X3D Model Exchange" and "Welcome Navy and Marine Makers!". Below the header is a navigation menu with buttons for "Welcome", "Discover", "Preview", "Share", "Learn", "Create", "Engage", "FAQs", "Twitter", and "About".

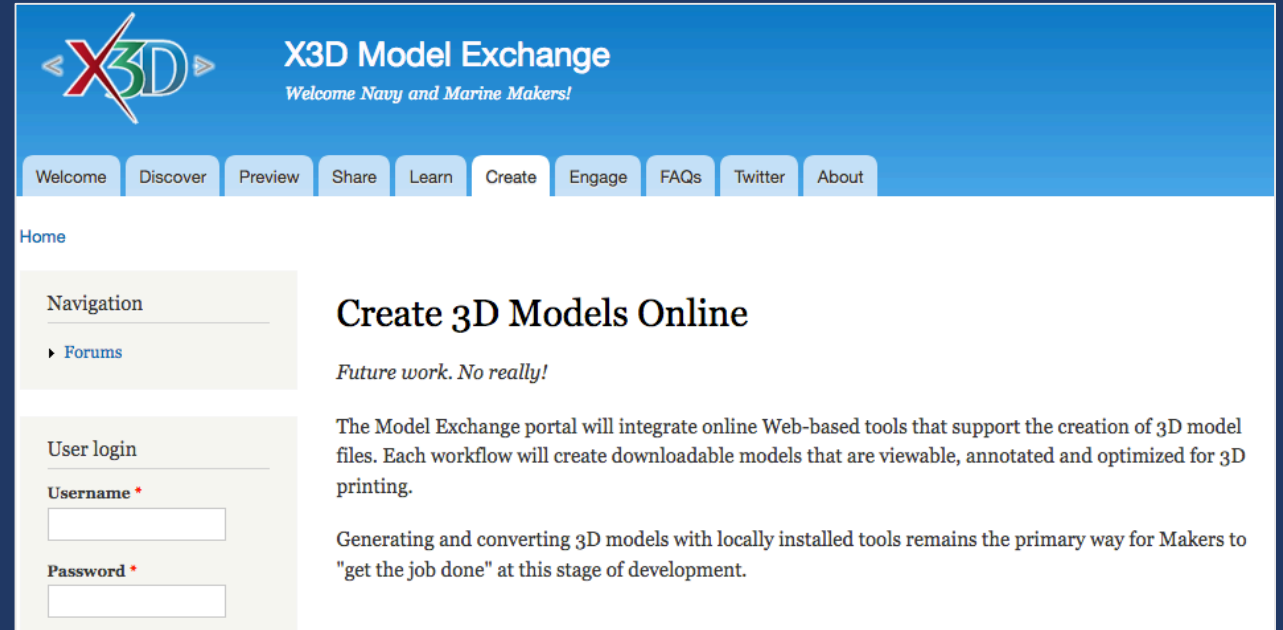
The main content area is titled "Home" and features a "Navigation" section with a link to "Forums". Below this is a "User login" section with fields for "Username" and "Password", a "Request new password" link, and a CAPTCHA section. The CAPTCHA section includes a text box with the instruction: "This question is for testing whether or not you are a human visitor and to prevent automated spam submissions." and a "Math question" section with the equation $4 + 2 =$ and a text box for the answer. Below the CAPTCHA is a "Log in" button.

To the right of the login form is a section titled "Learn about 3D Printing". It contains the text: "We are collecting a variety of learning assets for 3D Printing and Additive Manufacturing. The following video series provides an excellent introduction to 3D modeling." Below this text is a video player showing a woman speaking. The video title is "Beginner 3D Modeling for 3D Printing (1 of 6): Intro to 3D Modeling for ...". Below the video player is the caption: "Beginner 3D Modeling for 3D Printing by Lauren, Shapeways Design Evangelist".

Create

Open Source licenses (such as Creative Commons) are required to all submitted models. No proprietary models.

CAC card ID required for Maker uploads to ensure authenticity.

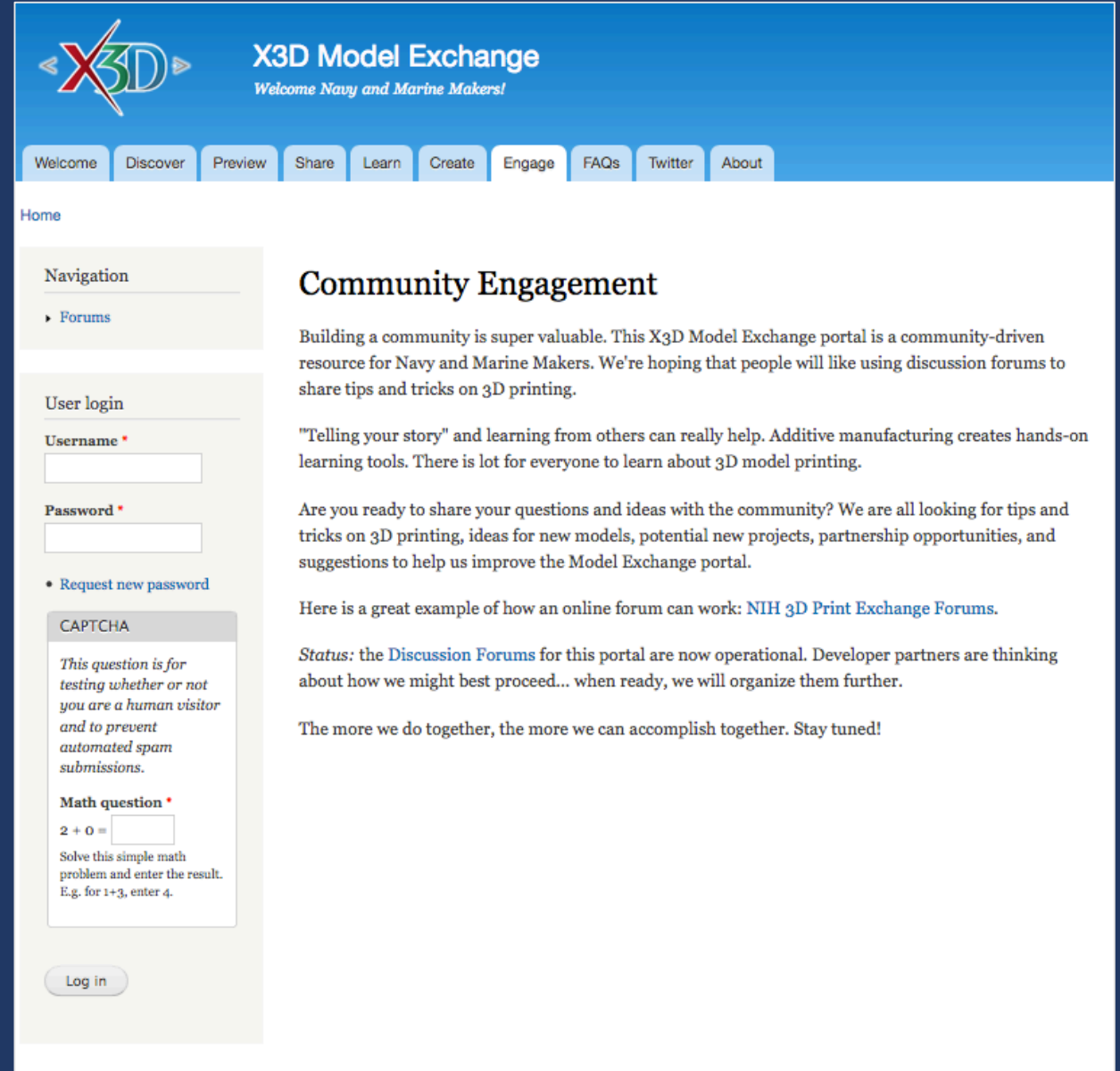


The screenshot shows the X3D Model Exchange website. At the top left is the X3D logo, followed by the text "X3D Model Exchange" and the tagline "Welcome Navy and Marine Makers!". Below this is a navigation bar with buttons for "Welcome", "Discover", "Preview", "Share", "Learn", "Create", "Engage", "FAQs", "Twitter", and "About". The main content area is titled "Home" and features a "Navigation" section with a link to "Forums". Below that is a "User login" section with fields for "Username" and "Password". The main heading is "Create 3D Models Online", followed by the text "Future work. No really!". Below this is a paragraph explaining that the portal will integrate online Web-based tools for creating 3D model files, and another paragraph stating that generating and converting 3D models with locally installed tools remains the primary way for Makers to "get the job done" at this stage of development.

Engage

Interested in creating your own customizable models? Share Fab Lab guidance on designing, adapting and printing quality models.

3D Model Exchange is a community-driven resource. Makers can learn together or independently.



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Below the navigation menu, there is a "Home" section. On the left, there is a "Navigation" section with a link to "Forums". Below that is a "User login" section with fields for "Username" and "Password", and a link for "Request new password". Below the login section is a "CAPTCHA" section with a text box containing the question: "This question is for testing whether or not you are a human visitor and to prevent automated spam submissions." Below the text box is a "Math question" section with the equation "2 + 0 = " and a text input field. Below the math question is a "Log in" button.

On the right side of the page, there is a "Community Engagement" section. The text reads: "Building a community is super valuable. This X3D Model Exchange portal is a community-driven resource for Navy and Marine Makers. We're hoping that people will like using discussion forums to share tips and tricks on 3D printing." Below this is a quote: "'Telling your story' and learning from others can really help. Additive manufacturing creates hands-on learning tools. There is lot for everyone to learn about 3D model printing." Below the quote is a question: "Are you ready to share your questions and ideas with the community? We are all looking for tips and tricks on 3D printing, ideas for new models, potential new projects, partnership opportunities, and suggestions to help us improve the Model Exchange portal." Below the question is a link: "Here is a great example of how an online forum can work: [NIH 3D Print Exchange Forums](#)." Below the link is a status update: "Status: the [Discussion Forums](#) for this portal are now operational. Developer partners are thinking about how we might best proceed... when ready, we will organize them further." Below the status update is a closing statement: "The more we do together, the more we can accomplish together. Stay tuned!"