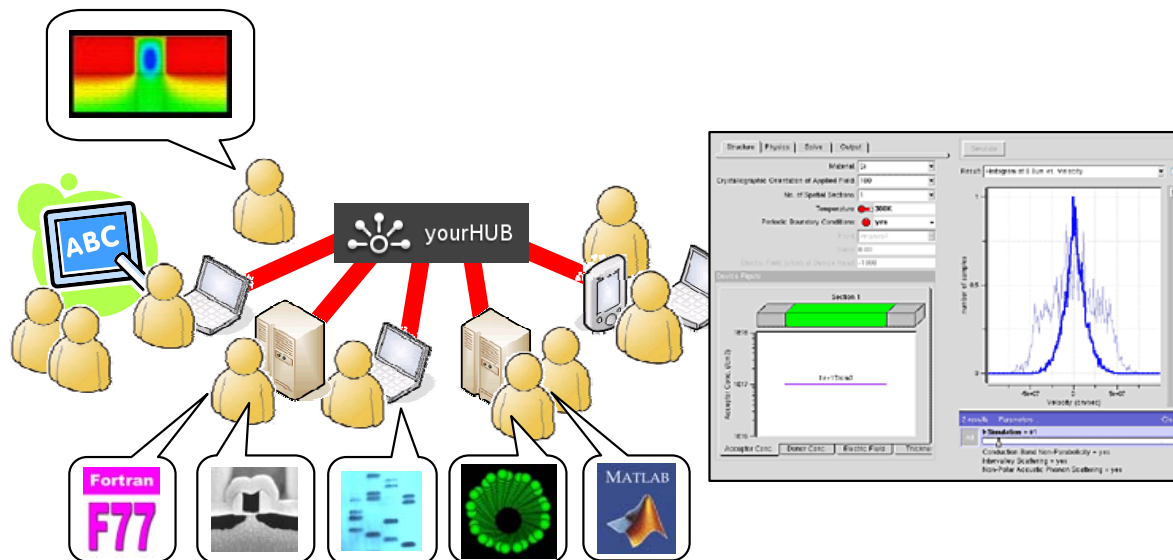


Uploading and Publishing New Tools

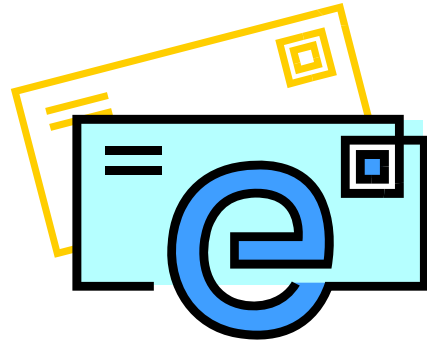
Michael McLennan

HUBzero® Platform for Scientific Collaboration

Purdue University



1 Source code bundles



Hello,
I am grad student from Kazakhstan.
Your tool not compile for me. I get errors. That's a not very nice.

Hey, can you help me?

2 Pre-compiled binaries



32-bit

64-bit

It doesn't work on my machine!

New version... Reinstall

The image shows two overlapping browser windows from nanoHUB.org. The background window displays the tool's description page, while the foreground window shows the active simulation interface.

Background Window (Description):

- URL: nanohub.org/tools/cntbands-ext
- Page Title: CNTbands
- Authors: By Gyungseon Seol¹, Youngki Yoon¹, James K. Fowler¹, Matsudaira², Diego Kienle², Gengchiao Liang², Ger Lundstrom², Ahmed Ibrahim Saeed³
- Affiliations: 1. University of Florida; 2. Purdue University; 3. Air Force Research Laboratory
- Functionality: This tool simulates E-k and DOS of CNTs and graphenes.
- Parameters: Chirality (n,m) n: 7, m: 7; Tight Binding Energy: 3eV; Carbon-carbon spacing: 1.42A; Length in 3-D view: 40.

Foreground Window (Simulation Interface):

- URL: <https://nanohub.org/tools/cntbands-ext/session/376867>
- Page Title: CNTbands
- Storage: 28% (manage)
- Structure: Carbon Nanotube
- Simulation Method: Pz orbital
- Result: Molecular structure: overall
- Visual Output: A 3D ball-and-stick model of a carbon nanotube structure, colored in green and yellow.
- Buttons: Simulate, About this tool Questions?, Clear

Table 1: Overview

Item	Value
Contributions:	21
Total Simulation Users Served:	11,061
Rank by Contributions:	24 / 806
First Contribution:	14 Sep 2004
Last Contribution:	12 Jul 2010
Citations on Contributions:	62

Dr. McLennan was an Architect at Cadence Design Systems, where he developed the SimVision visualization and debugging environment for NC-Sim. He is currently a

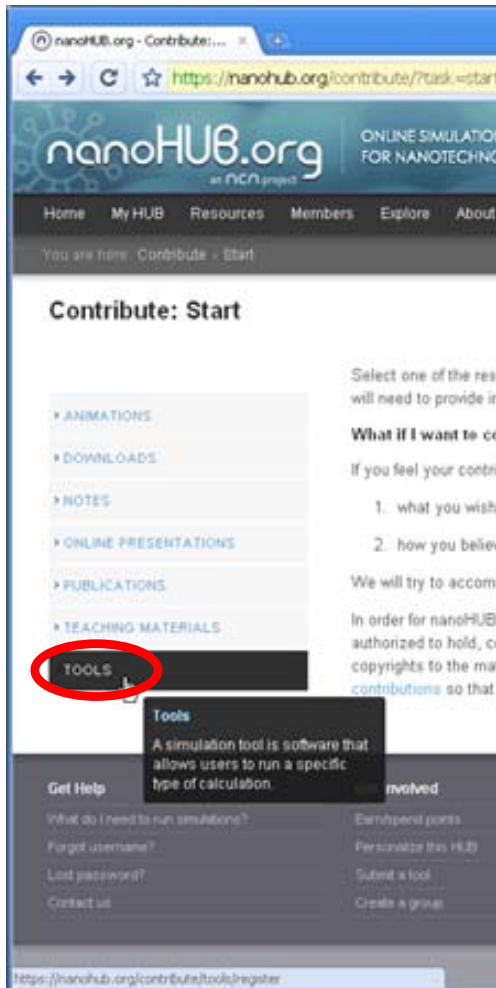
The image shows two overlapping browser windows from nanoHUB.org. The background window is the main site (http://nanohub.org/), and the foreground window is the 'Contribute' page (http://nanohub.org/contribute).

Background Window (http://nanohub.org/):

- Navigation: Home, My HUB, Resources, Members
- Left sidebar menu: What's New, **Contribute** (highlighted), Animations, Courses, Downloads, Learning Modules, Notes, Online Presentations, Publications, Series, Teaching Materials, Tools, Workshops
- Section: RESOURCES with a search bar and popular tags like nanoelectronics, course lect, material science, nanotransistors, research seminar, nano/bio, hosted/produced by NCN@Illinois, devices, quantum transport, tutorial, molecular electronics, nano electro-mechanical systems, transist, NEGF, nanophotonics, carbon nanotubes.

Foreground Window (http://nanohub.org/contribute):

- Header: nanoHUB.org ONLINE SIMULATION AND MORE FOR NANOTECHNOLOGY
- Navigation: Home, My HUB, Resources, Members, Explore, About, Support, Help!
- Text: You are here: Contribute
- Section: **Contribute**
- Two columns:
 - Present your work!**: Become a contributor and share your work with the community! Contributing content is easy. Our step-by-step forms will guide you through the process.
 - What do I need?**: The submission process will guide you through step-by-step, but for more detailed instructions on what can be submitted and how, please see the list of submission types below.
- Section: **Get Started** (button circled in red)
- Section: **Before starting**
 - Intellectual Property Considerations**: All materials contributed must have **clearly defined rights and privileges**. Online presentations and instructional material are normally licensed under [Creative Commons 3](#). Read [more details](#) about our licensing policies.
 - Questions or concerns?**: We hope that our self-service upload process is intuitive and easy to use. If you encounter any problems during the upload process or need assistance of any kind, please [file a trouble report](#).
- Section: **What can I contribute?**
 - Animations**: An animation is a Flash-based demo or short movie that
 - Downloads**: A download is a type of resource that users can download and use
 - Notes**: Notes are typically a category for any resource that might not fit any



About your tool:

Tool Name: **REQUIRED**
 alpha123

Short name, used for the directory containing this tool. Example: qdd1

Title: **REQUIRED**

Nice Tool Name

Full name for this tool. Example: Quantum Dot Lab

Version:
 1.2.3a

Optional version number for this release of the tool. Example: 1.0 or 2.1.5b. Spaces not allowed.

At a glance: **REQUIRED**

It does this...

A one-line description of your tool. Example: Simulate 3-D confined states in simple quantum dot geometries.

Suggested Screen Size:
 W x H

Specify a screen size for your application in pixels.

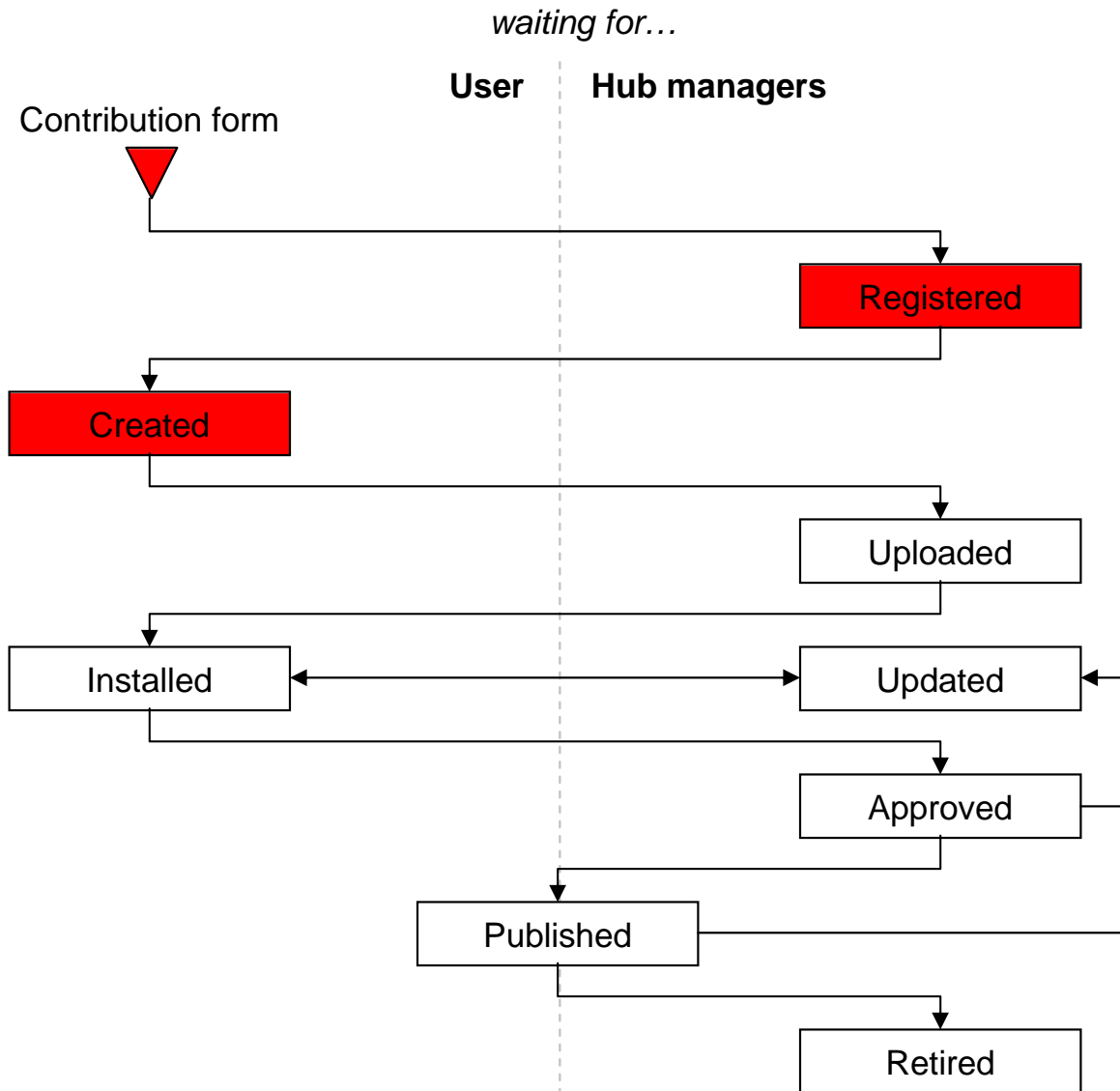
Tool Access: **REQUIRED**
 Who can run it

Source Code Access: **REQUIRED**
 Who can access code

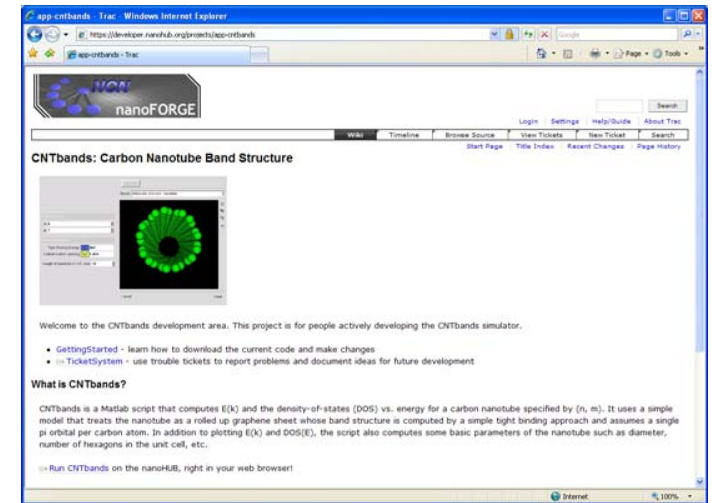
Project Area Access: **REQUIRED**
 Who can access wiki

Development team: **REQUIRED**
 Team members

nanoHUB.org logs for people allowed to modify your code. Example: mslgdn, fred_barney, wjvay



<https://yourhub.org/tools>



Hub managers create a project area for your tool

- Wiki for project documentaton
- Subversion source code control
- Code change history

app-cntbands - Trac - Windows Internet Explorer

https://developer.nanohub.org/projects/app-cntbands

app-cntbands - Trac

NCN nanoFORGE

Login | Settings | Help/Guide | About Trac

Wiki | Timeline | Browse Source | View Tickets | New Ticket | Search

Start Page | Title Index | Recent Changes | Page History

CNTbands: Carbon Nanotube Band Structure

Result: Molecular structure: nanotube

Control Panel

n: 6

m: 7

Tight Binding Energy: 10 eV

Carbon-carbon spacing: 1.42 Å

Length of nanotube in z-D: view: 13

Welcome to the CNTbands development area. This project is for people actively developing the CNTbands simulator.

- [GettingStarted](#) - learn how to download the current code and make changes
- [TicketSystem](#) - use trouble tickets to report problems and document ideas for future development

What is CNTbands?

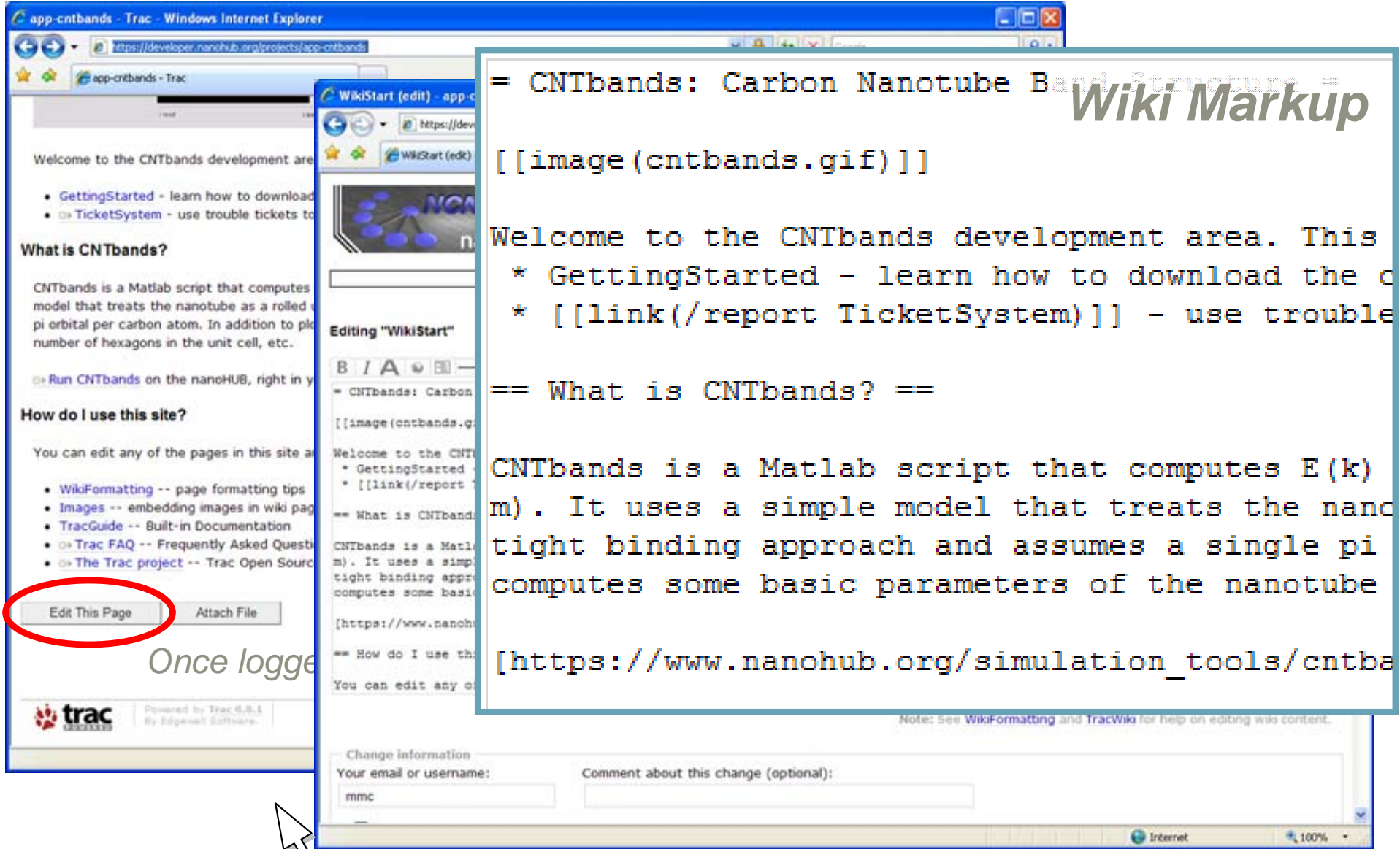
CNTbands is a Matlab script that computes $E(k)$ and the density-of-states (DOS) vs. energy for a carbon nanotube specified by (n, m) . It uses a simple model that treats the nanotube as a rolled up graphene sheet whose band structure is computed by a simple tight binding approach and assumes a single π orbital per carbon atom. In addition to plotting $E(k)$ and $DOS(E)$, the script also computes some basic parameters of the nanotube such as diameter, number of hexagons in the unit cell, etc.

[Run CNTbands](#) on the nanoHUB, right in your web browser!

Buttons to access project functions:

- Wiki documentation
- Source code
- Timeline of changes

NOTE: You may have to log in to see some buttons



app-cntbands - Trac - Windows Internet Explorer

https://developer.nanohub.org/projects/app-cntbands

app-cntbands - Trac

Welcome to the CNTbands development area

- GettingStarted - learn how to download
- TicketSystem - use trouble tickets to

What is CNTbands?

CNTbands is a Matlab script that computes model that treats the nanotube as a rolled pi orbital per carbon atom. In addition to plotting number of hexagons in the unit cell, etc.

Run CNTbands on the nanoHUB, right in your browser

How do I use this site?

You can edit any of the pages in this site at

- WikiFormatting -- page formatting tips
- Images -- embedding images in wiki pages
- TracGuide -- Built-in Documentation
- Trac FAQ -- Frequently Asked Questions
- The Trac project -- Trac Open Source

Edit This Page **Attach File**

Once logged in

trac
Powered by Trac 0.8.1
By Edgewall Software.

WikiStart (edit) - app-cntbands

https://dev

WikiStart (edit)

Editing "WikiStart"

B / I / A

== CNTbands: Carbon Nanotube Band Structure ==

[[image(cntbands.gif)]]

Welcome to the CNTbands development area. This

- GettingStarted - learn how to download the code
- [[link(/report TicketSystem)]] - use trouble tickets to

== What is CNTbands? ==

CNTbands is a Matlab script that computes $E(k)$ (band structure). It uses a simple tight binding approach and assumes a single pi orbital per carbon atom. It computes some basic parameters of the nanotube.

[https://www.nanohub.org/simulation_tools/cntbands]

Note: See WikiFormatting and TracWiki for help on editing wiki content.

Change information

Your email or username: mmc

Comment about this change (optional):

Internet 100%

WikiFormattingSimple - nanoHUB Development - Trac - Windows Internet Explorer

https://developer.nanohub.org/projects/nanohub/wiki/WikiF

WikiFormattingSimple - nanoHUB Development - Trac

logged in

Wiki Timeline Roadmap Browse

CNTbands v2.0

Overview

The tool **CNTbands** has many features:

- Simulate nano-ribbons
- Simulate nanotubes
 - with simple *Pz-orbital model*
 - with *Extended Huckel Theory*

Visit this tool on [nanoHUB](#).

To build this tool:

```

% cd /apps/cntbands-ext/current/src
% make all
% make install

```

Edit This Page Attach File

Download in Plain Text

Complete instructions in your project area at `wiki/WikiFormatting`

```
= CNTbands v2.0 =
```

```
== Overview ==
```

The tool `''CNTbands''` has many features:

```
* Simulate nano-ribbons
```

```
* Simulate nanotubes
```

```
* with simple 'Pz-orbital model'
```

```
* with 'Extended Huckel Theory'
```

Visit this tool on `[http://www.nanohub.org nanoHUB]`.

To build this tool:

```

{{{
% cd /apps/cntbands-ext/current/src
% make all
% make install
}}}
```

CNTbands v2.0

Overview

The tool **CNTbands** has many features:

- Simulate nano-ribbons
- Simulate nanotubes
 - with simple *Pz-orbital model*
 - with *Extended Huckel Theory*

See [NewPage](#) for more information.

```

Simulate nanotubes
* with simple 'Pz-orbital model'
* with 'Extended Huckel Theory'

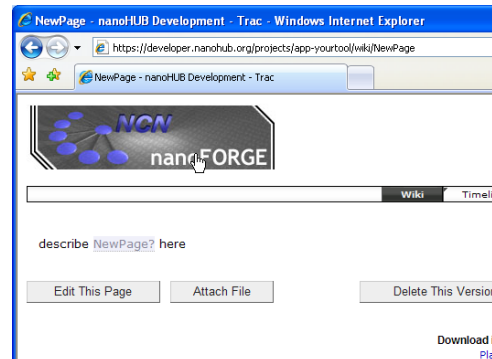
See NewPage for more information.

Visit this tool on [http://www.nanohub.
To build this tool:
  
```

Any word with mixed case is treated as a link

Click on any link? to create that page:


See [NewPage?](#) for more information.

The screenshot shows a web browser window titled "nanoHUB.org - My nanoHUB.org: Michael McLennan - Windows Internet Explorer". The address bar shows "https://nanohub.org/myhub". The page layout includes several sections:

- My Tools:** A list of tools including CNTbands, Resonant Tunneling Diode Simulator, Workspace (1000x750), and Crystal Viewer Tool.
- My Favorites:** A section indicating "No favorites found."
- My Groups:** A section indicating "You are not a member of any groups at this time."
- My Contributions:** A section with a sub-header "Tools" containing a single entry:
 - biosensorlab**: Status: **created!**
- Other Contributions in Progress:** A section indicating "No contributions found." with a "Start a new contribution >" button.

A red circle highlights the "biosensorlab" entry in the "My Contributions" section. A mouse cursor is pointing at the "Start a new contribution >" button in the "Other Contributions in Progress" section. A smaller inset window on the left shows a preview of the "My Contributions" section.



The screenshot shows the nanoHUB.org website interface. The main heading is "Contribtool: Status for bioe...". Below this, there are tabs for "STATUS: Registered", "Created", and "Uploads". A table titled "Tool Information" lists details for a tool named "Bio-sensor Lab". The table includes fields for Title, Version, At a glance, Description, VNC geometry, Tool execution, Source code, Project area, and Development team. Below the table is a section for "Developer Tools" with links for History, Wiki, Source, and Timeline.

We are waiting for You

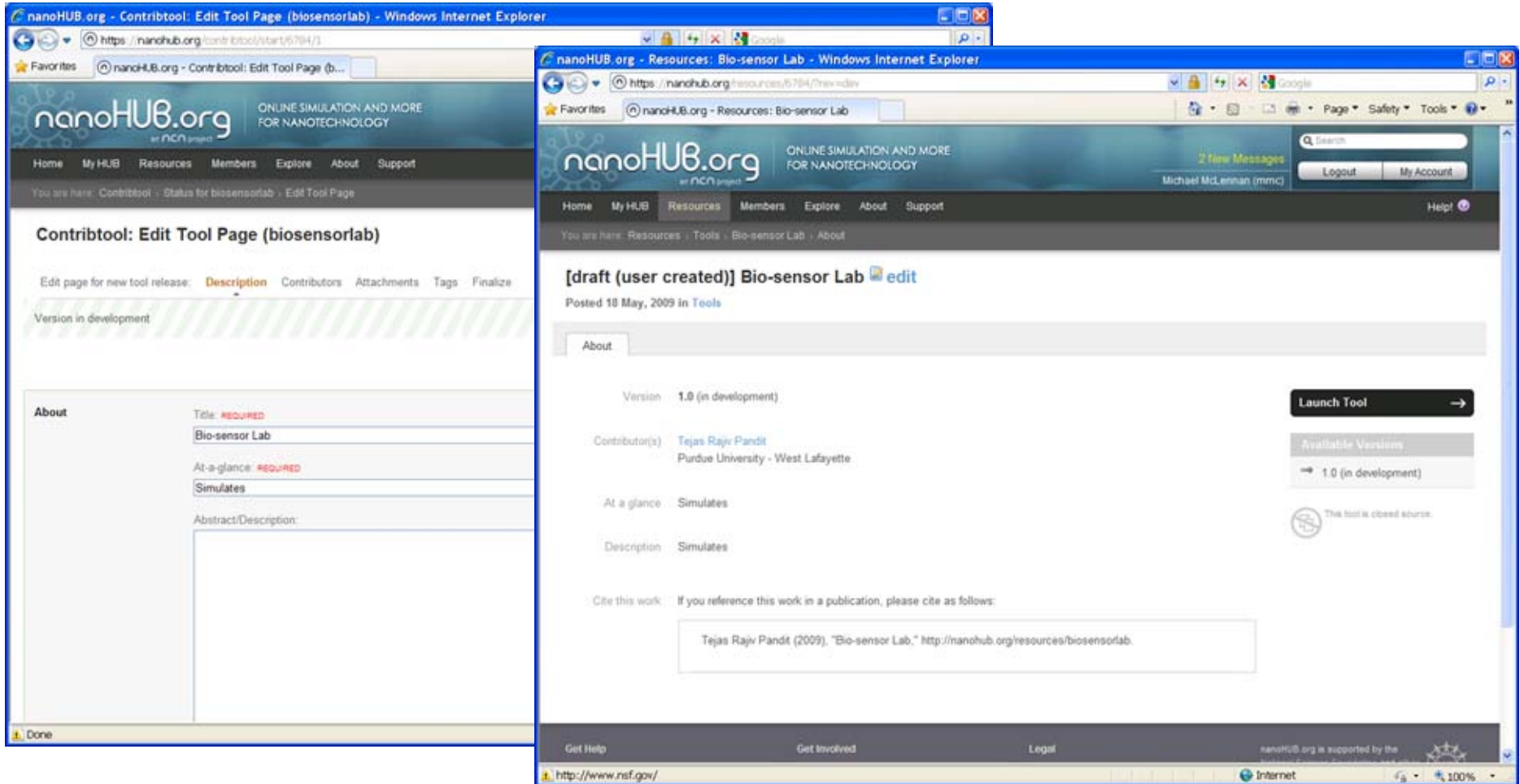
Once your source code has been uploaded into your project area, click here to let us know:

➔ [My code has been uploaded](#)

Remaining steps before we can publish your tool:

- [Register your tool on the nanoHUB.org](#)
- Upload your source code [I've done this](#)
- ➔ [Make the page that describes your tool. Create this page...](#)
- Test and approve your tool
- Publish your tool so that others can see it on the nanoHUB.org





This is the page that people see when they find your tool on the hub

The screenshot shows the nanoHUB.org website interface. At the top, there is a navigation bar with the nanoHUB.org logo and the tagline "ONLINE SIMULATION AND MORE FOR NANOTECHNOLOGY". A search bar and user account options (Logout, My Account) are visible. The main content area displays the status of a tool named "biosensorlab" as "Created". A callout box with a pencil icon highlights an "edit" button. Below this, a "Tool Information" table provides details about the tool, and a "What's next?" section offers guidance on how to use the project area.

Tool Information	
Title	Bio-sensor Lab (biosensorlab - id #322)
Version	This version 1.0 (under development)
At a glance	Simulates
Description	Preview Edit this page
VNC geometry	780x600
Tool execution	restricted to users on Purdue campus
Source code	closed source
Project area	restricted to development team
Development team	N/A

What's next?

The nanoHUB.org team has created the following project area for your tool on our nanoFORGE site:
<https://nanohub.org/tools/biosensorlab>

Follow these steps to start using your project area:

- ▶ [Learn more](#) about uploading source code into your project area and how the directories are arranged
- ▶ [Learn more](#) about the [Rappature toolkit](#).
- ▶ When you are ready, [Follow these instructions](#) to access the source code repository for your specific project and upload your code.

We are waiting for You

Once your source code has been uploaded into your project area, click [here](#) to let us know

The screenshot shows the 'Edit' page for a tool on nanoHUB.org. The URL is <https://nanohub.org/contribtool/edit/322>. The page includes fields for Version (1.0), At a glance (REQUIRED), Simulates, Description, Application Screen Size (W 780 x H 600), Tool Access (REQUIRED, Restricted to users on Purdue campus), Source Code Access (REQUIRED), and Development team (REQUIRED, N/A). Two callout boxes highlight the Source Code Access and Development team settings.

Source Code Access: **REQUIRED**

Restricted to development team

-Select access level -

Open source (anyone can access code)

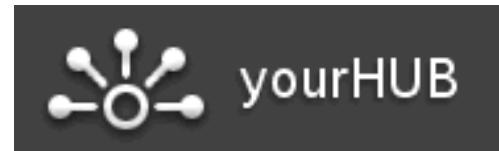
Restricted to development team

Restricted to development team

Development team: **REQUIRED**

mmclennan, mmh


```
/*  
 * =====  
 * AUTHOR: Michael McLennan  
 * Copyright (c) 2011 Purdue University  
 *  
 * See the file "license.terms" for information on  
 * usage and redistribution of this file, and for a  
 * DISCLAIMER OF ALL WARRANTIES.  
 * =====  
 */  
...
```



Version 2.3 - published on 18 Dec 2009

DOI: 10.254/nanohub-r1838.5 [cite this](#)

 Open source: [license](#) | [download](#)



www.opensource.org

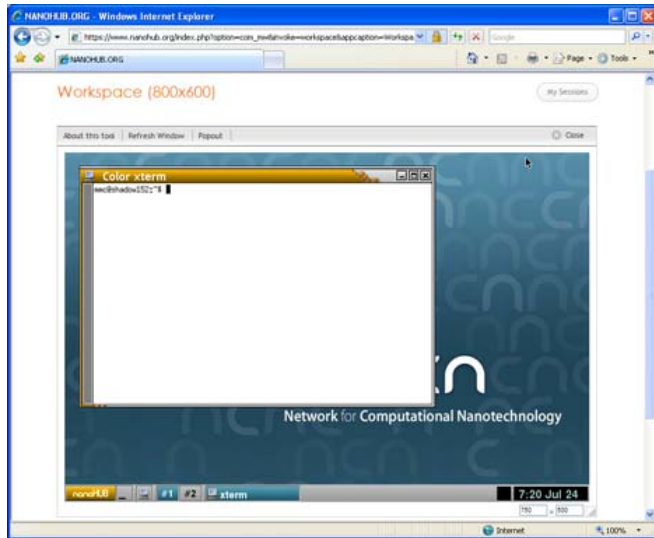


license.terms

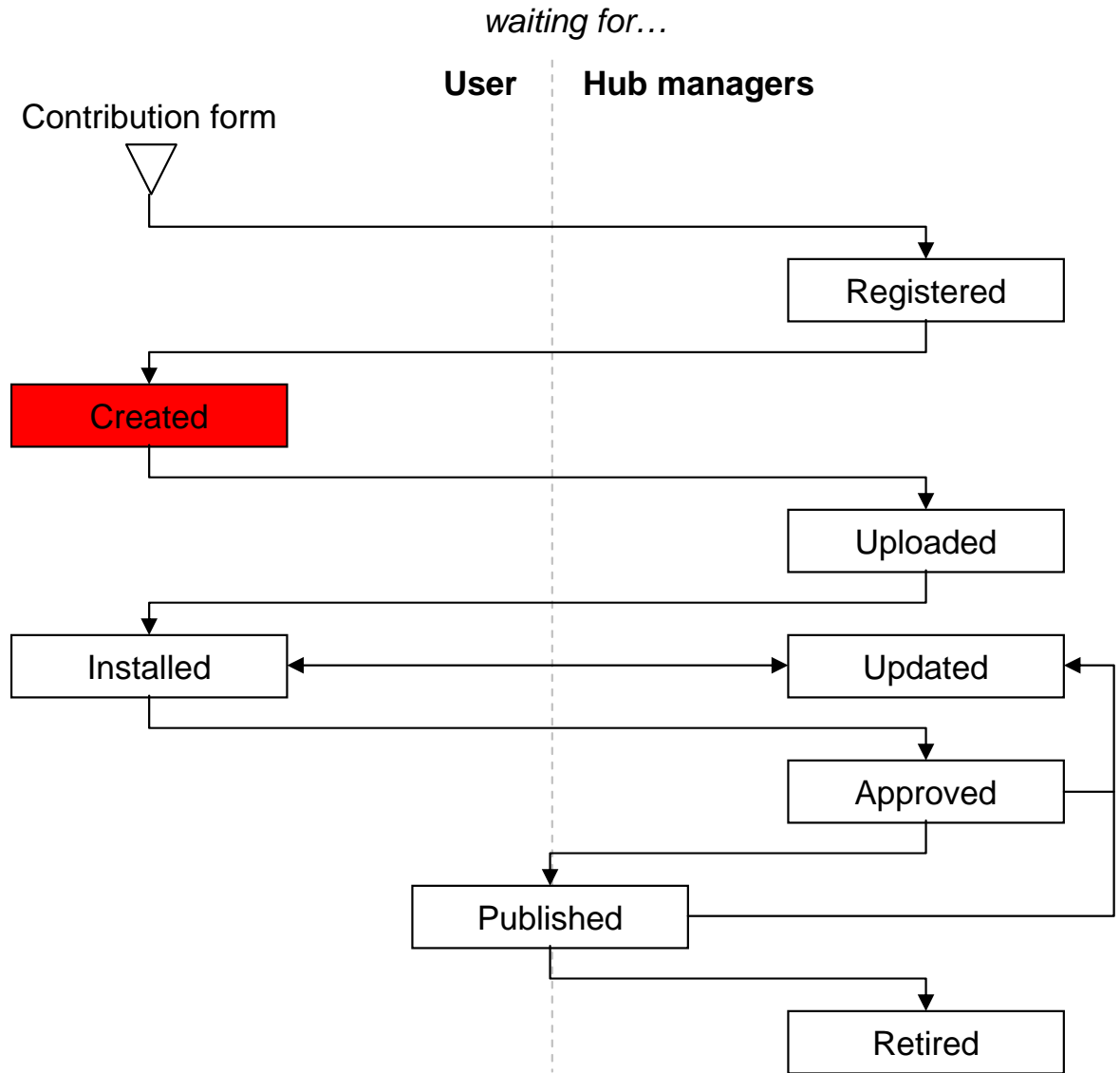


your code





Upload your code into a hub workspace. Compile, test, and commit changes back to your Subversion repository.



Tool status page:
<http://yourhub.org/contribtool>

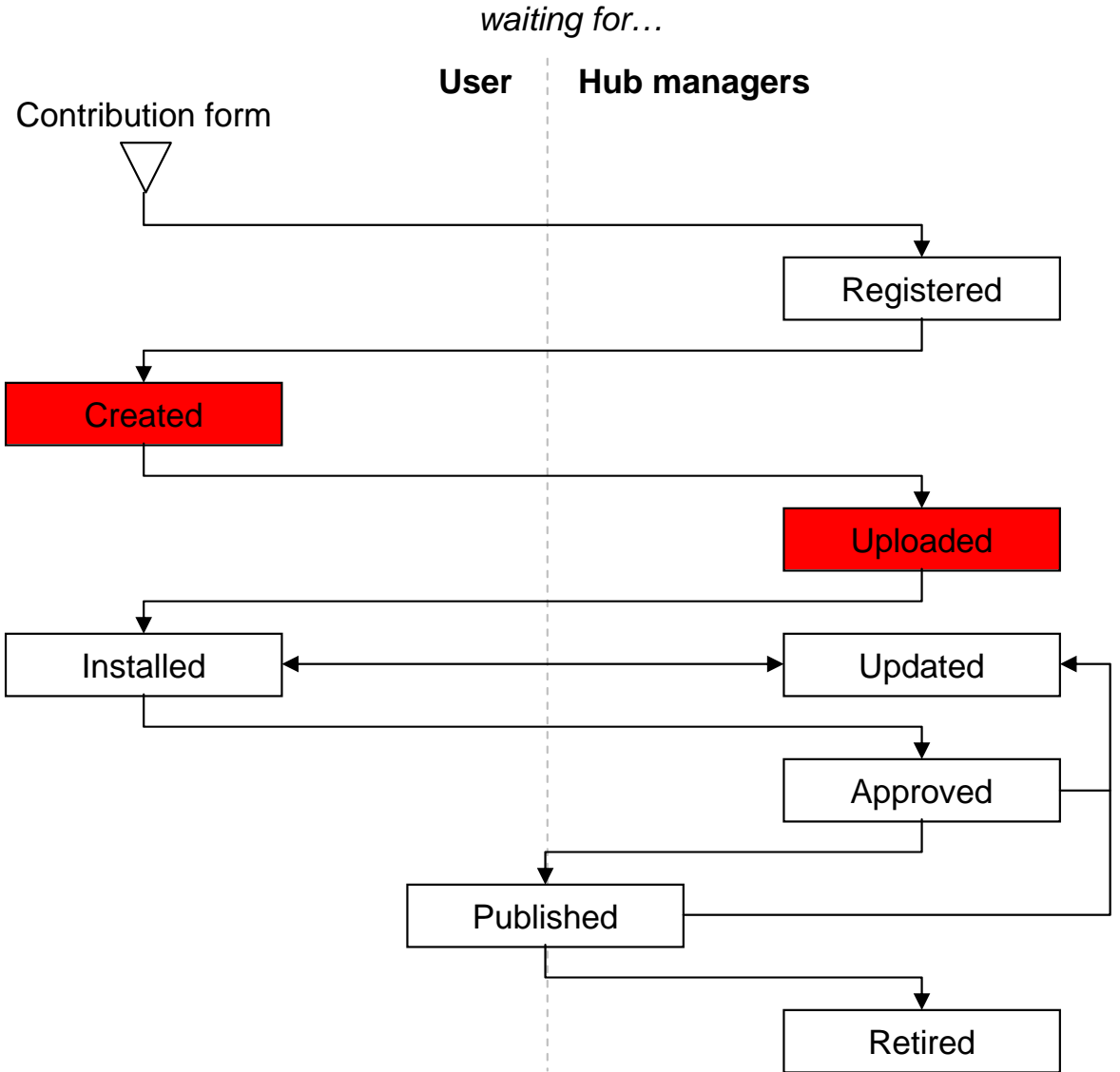
We are waiting for You

Once your source code has been uploaded into your project area, click here to let us know:

➔ [My code has been uploaded](#)

Remaining steps before we can publish your tool:

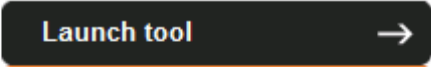
- [Register your tool on the nanoHUB.org](#)
- [Upload your source code I've done this](#)
- ➔ [Make the page that describes your tool. Create this page...](#)
- [Test and approve your tool](#)
- [Publish your tool so that others can see it on the nanoHUB.org](#)



What's next?

Your latest code is installed and ready on nanoHub. Please test your tool by clicking the button below to ensure that everything is working properly, as well as to make sure that the page describing your tool is created with correct information:

→ Test your application:



→ Review the page describing your tool

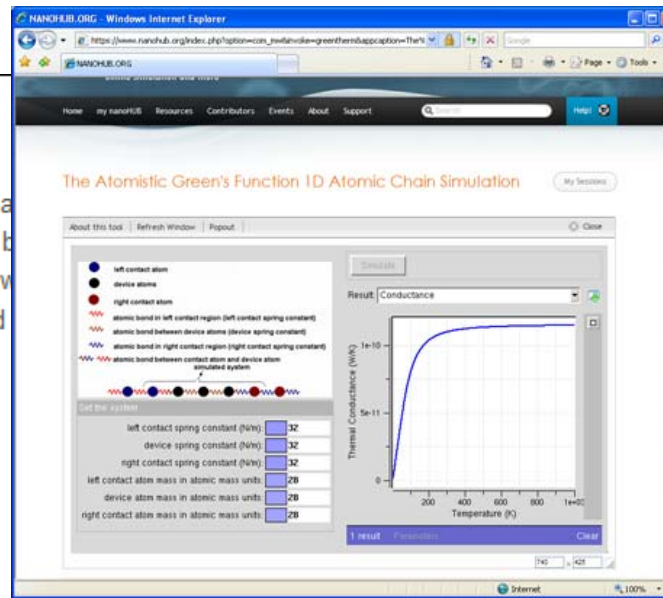
We are waiting for You

Once you tested your tool and verified that it is working properly, click here to let us know:

→ My tool is working properly. I approve it.

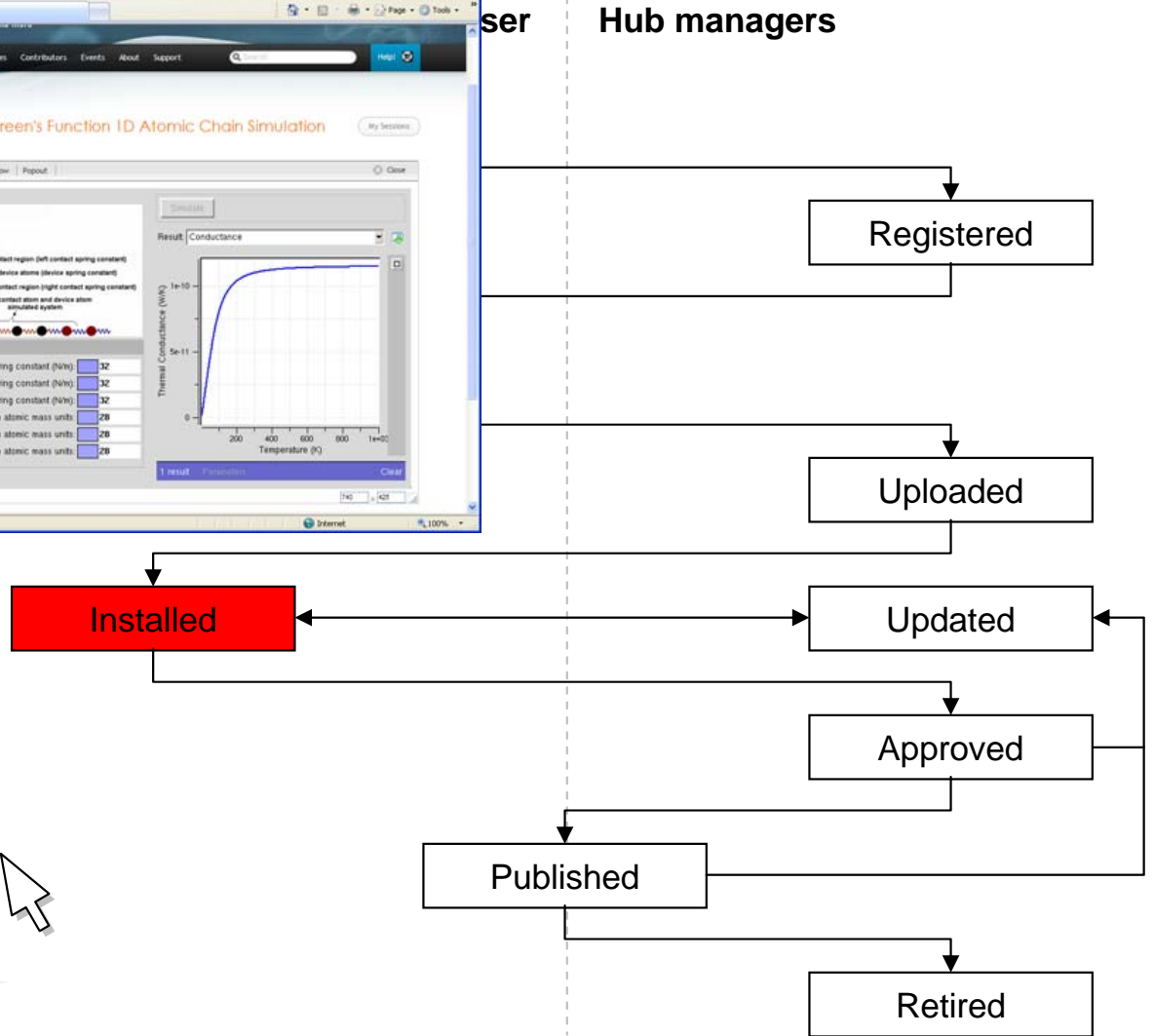
Need to make changes? Once you've checked in your latest fixes, click here to let us know:

→ I've fixed my code. Please install the latest updates.



waiting for...

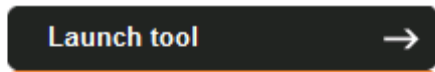
user | Hub managers



What's next?

Your latest code is installed and ready on nanoHUB.org. Please test your tool by clicking the button below to make sure that everything is working properly, as well as verify that the page describing your tool is created and displays correct information:

→ Test your application:



→ [Review the page describing your tool](#)

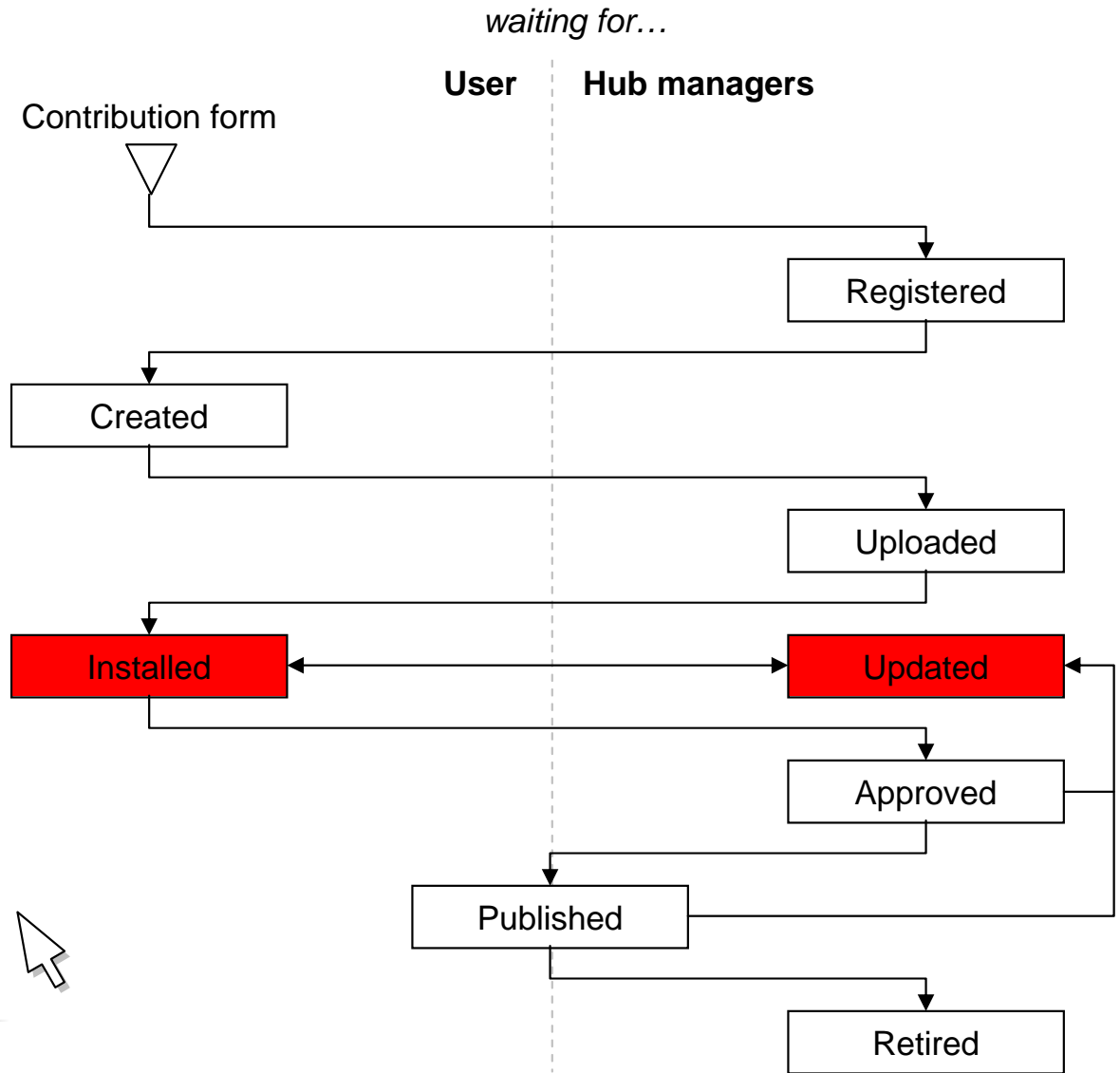
We are waiting for You

Once you tested your tool and verified that it is working properly, click here to let us know:

→ [My tool is working properly. I approve it.](#)

Need to make changes? Once you've checked in your latest fixes, click here to let us know:

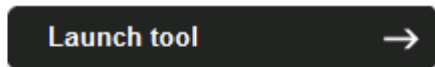
→ [I've fixed my code. Please install the latest updates.](#)



What's next?

Your latest code is installed and ready on nanoHUB.org. Please test your tool by clicking the button below to make sure that everything is working properly, as well as verify that the page describing your tool is created and displays correct information:

→ Test your application:



→ [Review the page describing your tool](#)

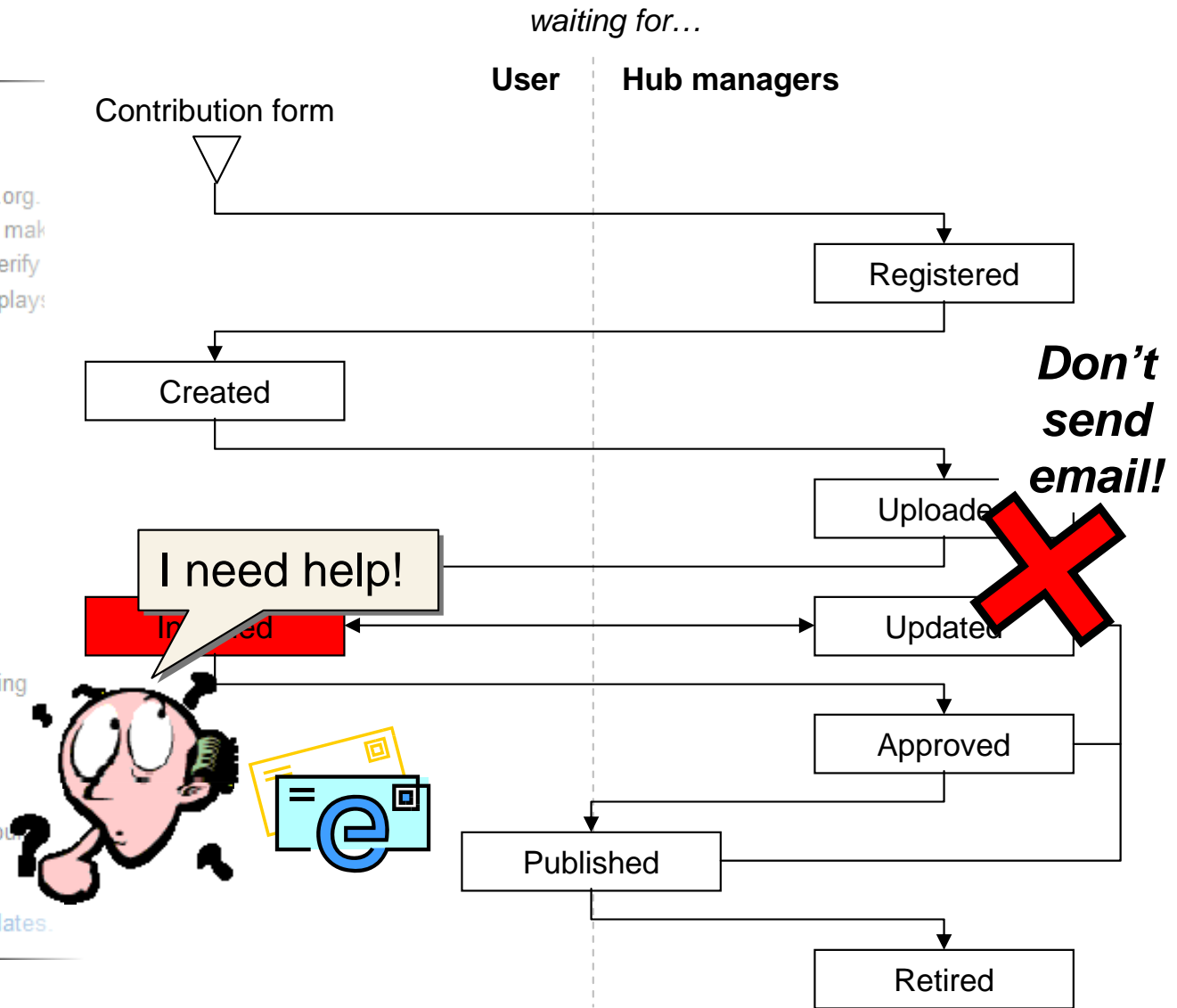
We are waiting for You

Once you tested your tool and verified that it is working properly, click here to let us know:

→ [My tool is working properly. I approve it.](#)

Need to make changes? Once you've checked in your latest fixes, click here to let us know:

→ [I've fixed my code. Please install the latest updates.](#)



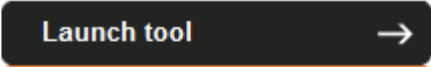
The screenshot shows the nanoHUB.org web interface. On the left, there is a 'Tool Information' sidebar for 'Quantum Dot Lab, Jr. (qdotjr - id #108)'. The main content area is titled 'What's next?' and contains instructions about testing the code. Below this, a 'Developer Tools' section is visible, containing icons for 'History', 'Wiki', 'Source', 'Timeline', and 'Message'. The 'History' and 'Message' icons are circled in red. A red dashed box highlights the 'Send message to site administrator' form in the Developer Tools section. A larger, semi-transparent inset window shows a detailed view of this form, with the text 'I need help fixing up my Makefile. Do you understand why it's not working?' entered into the message field. A 'Send message' button is located at the bottom of the inset window.

Message goes to the whole team, and is stored in the history

What's next?

Your latest code is installed and ready on nanoHub. Please test your tool by clicking the button below to ensure that everything is working properly, as well as to make sure that the page describing your tool is created with the correct information:

→ Test your application:



→ [Review the page describing your tool](#)

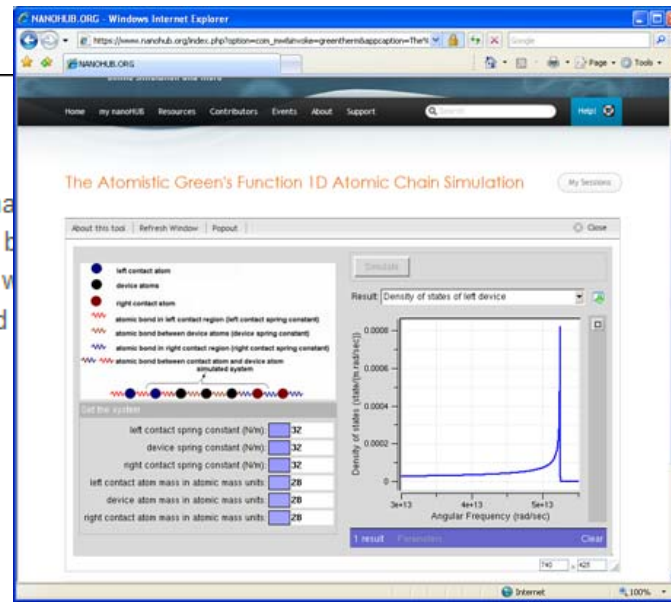
We are waiting for You

Once you tested your tool and verified that it is working properly, click here to let us know:

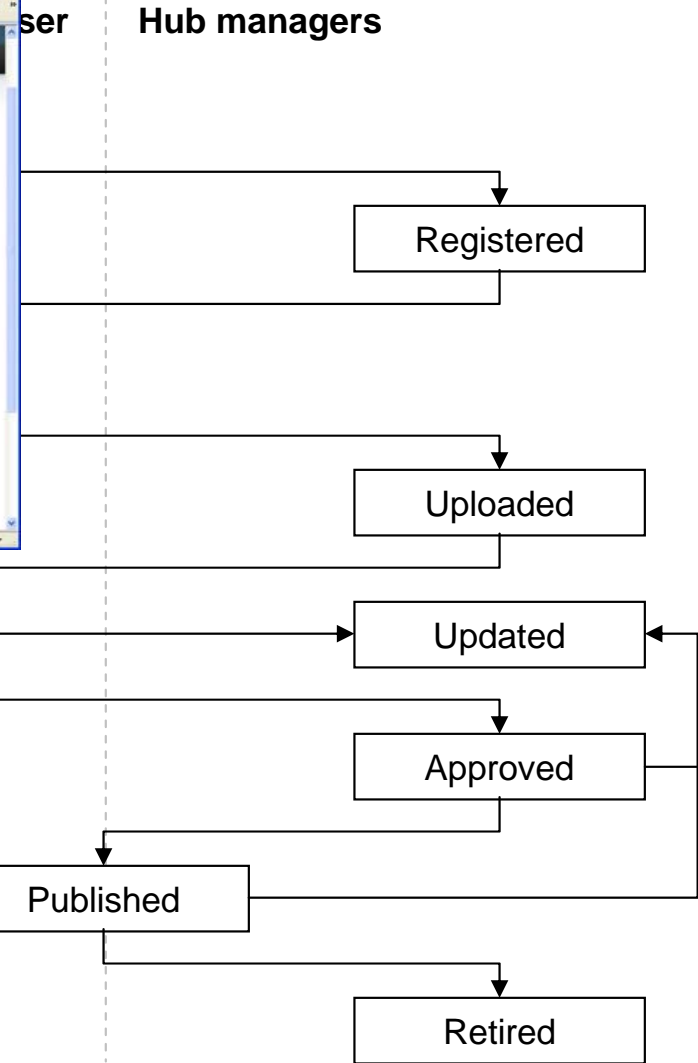
→ [My tool is working properly. I approve it.](#)

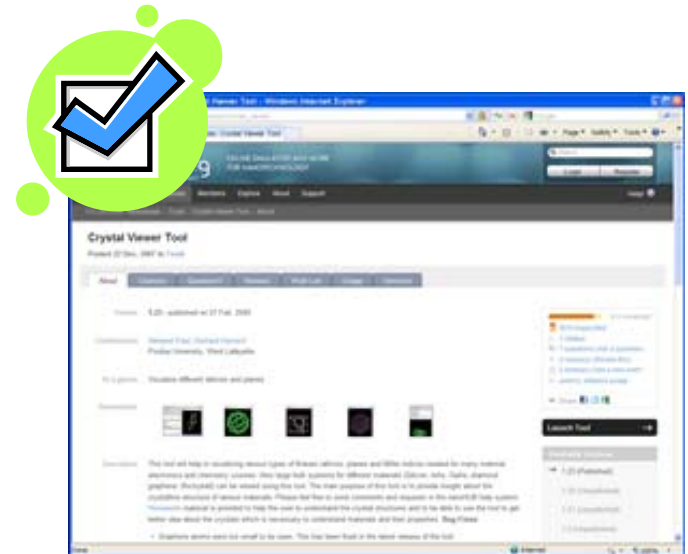
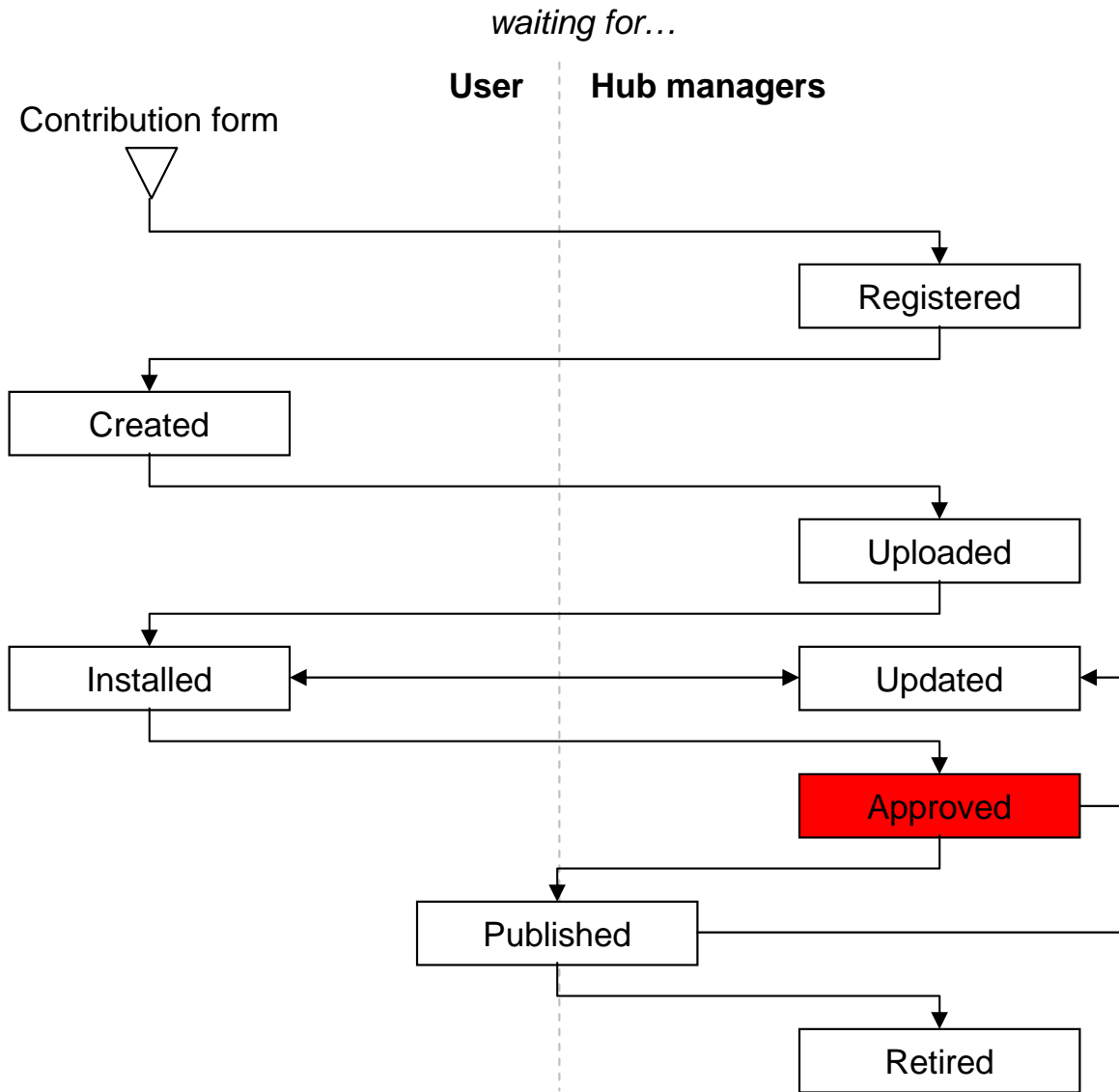
Need to make changes? Once you've checked in your latest fixes, click here to let us know:

→ [I've fixed my code. Please install the latest updates.](#)



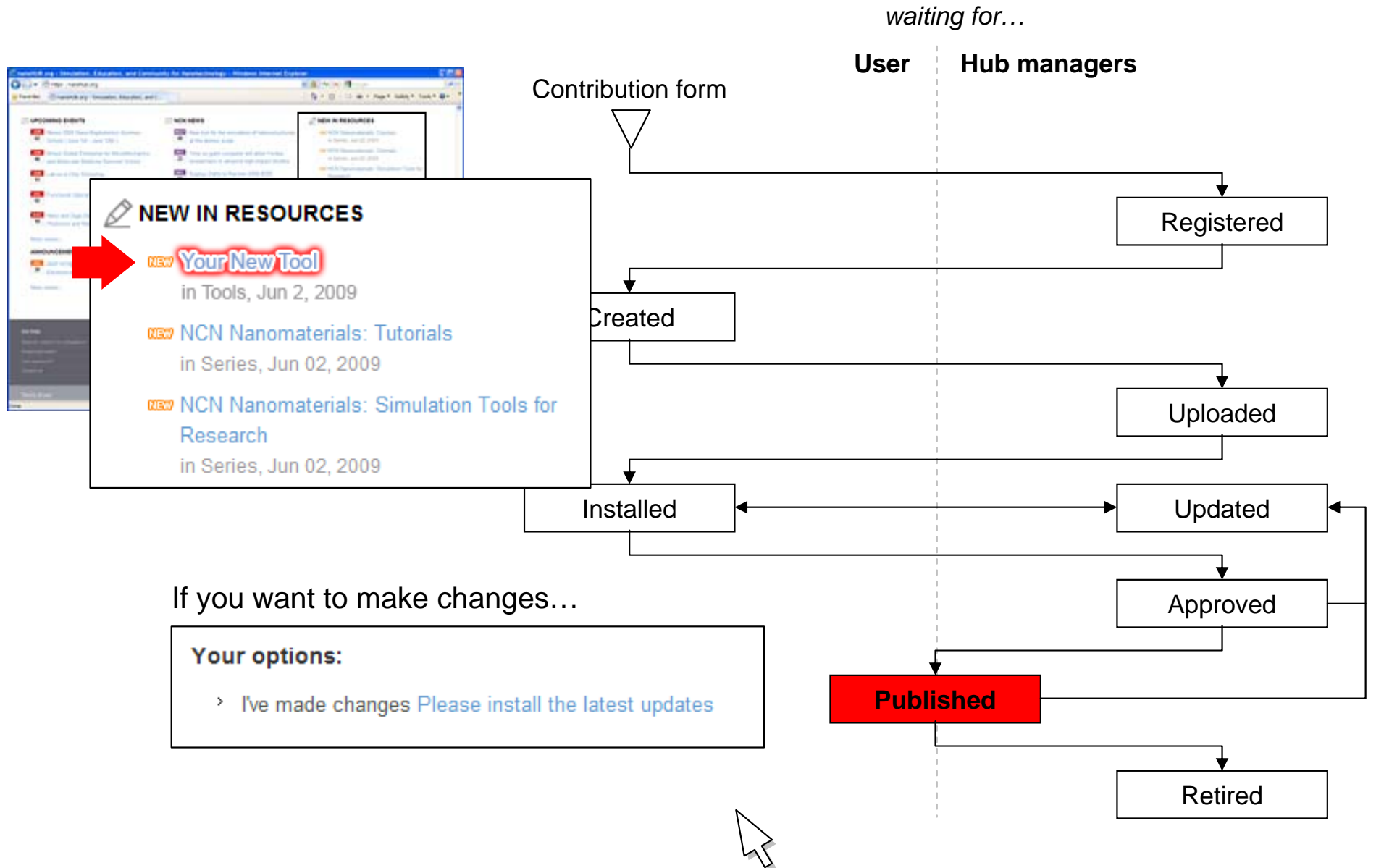
waiting for...

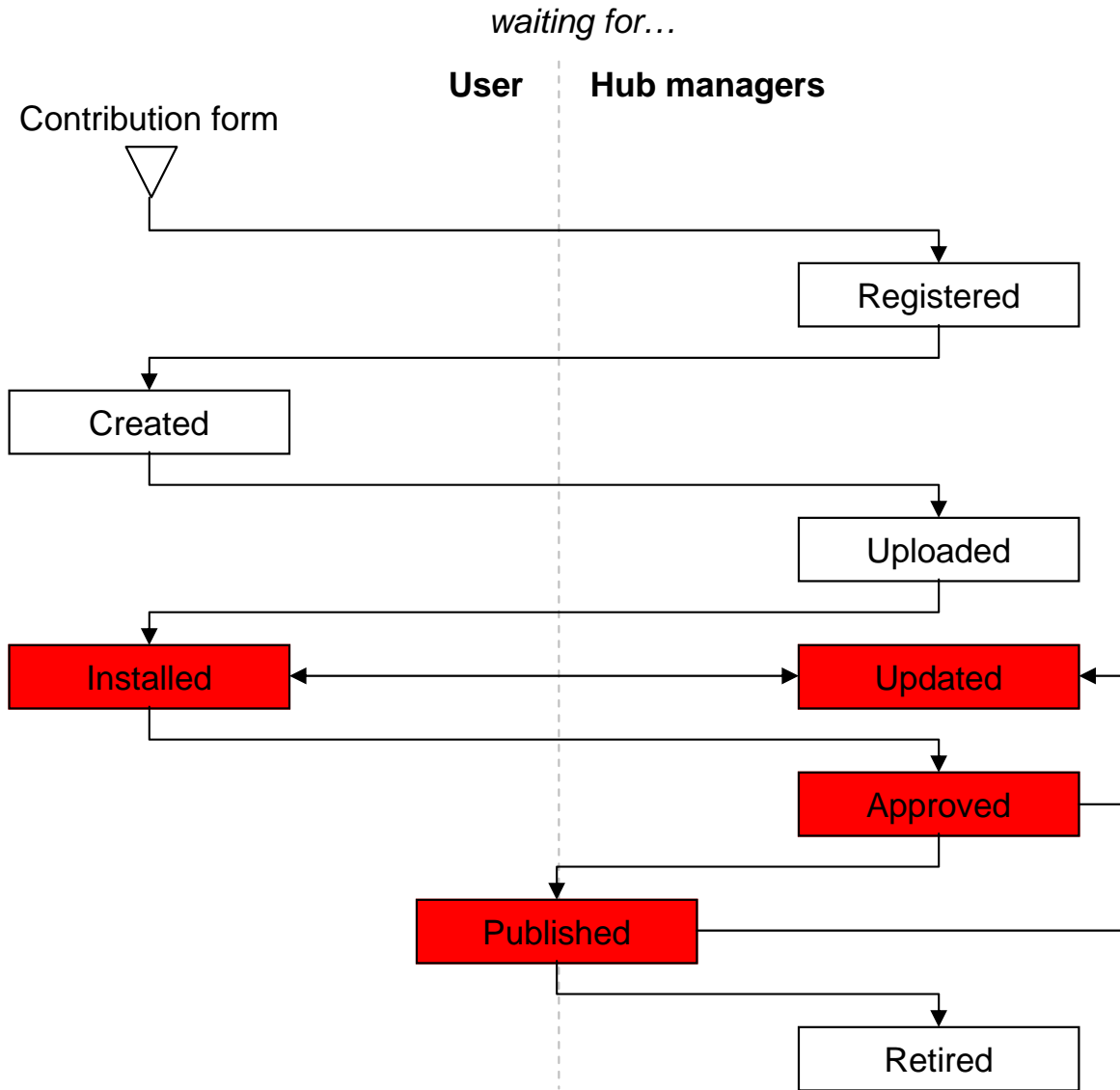




Hub managers...

- Take one last look
- Make sure that the tool works
- Check the tool information page
- Then, publish your tool





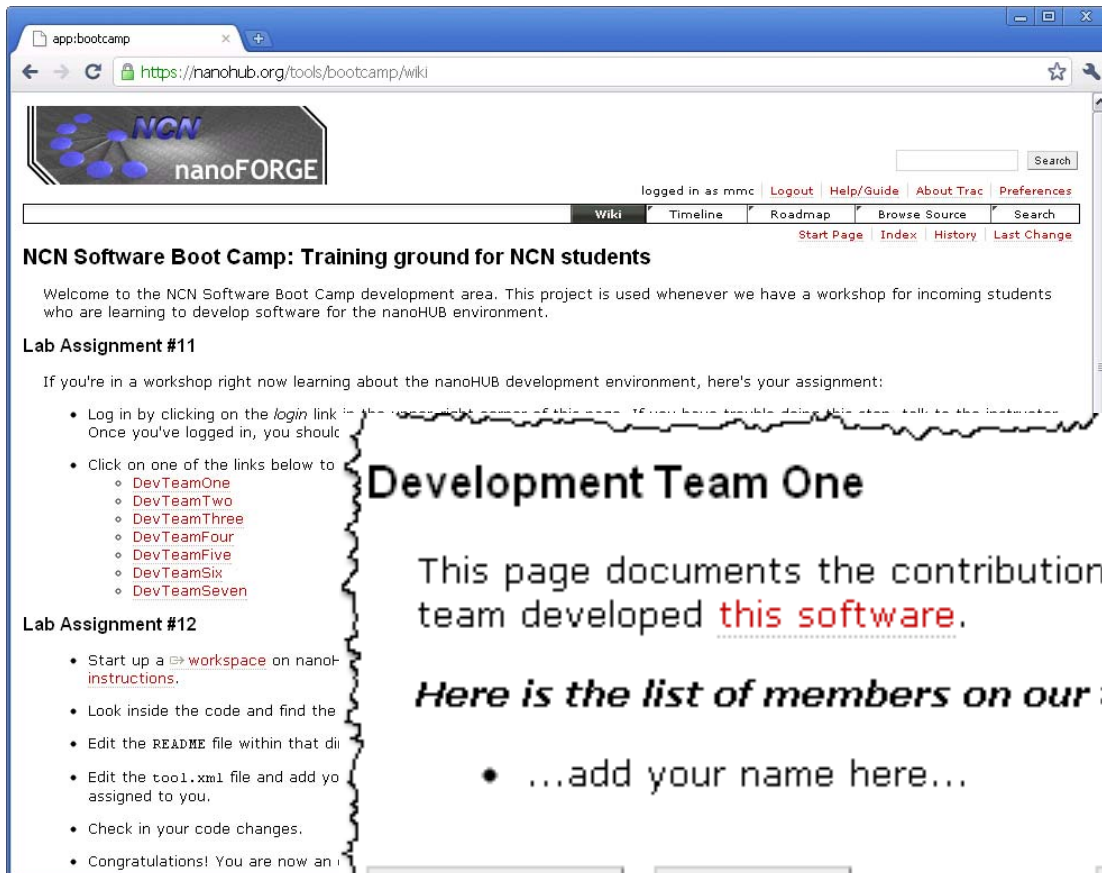
Re-install your tool
You approve it
One last look
Your changes are published

Don't let your code gather dust on the shelf. Get it out there!

Upload your own:

- Tools
- Tutorials

<https://nanohub.org/tools/bootcamp/wiki>



- Work in teams
- Edit your team's wiki page
- Add your name to the list

Development Team One

This page documents the contributions of **Team One** at the 2011 NCN & team developed [this software](#).

Here is the list of members on our team:

- ...add your name here...

Edit this page

Attach file

Delete this version

Delete page