The ACL2 Books Repository

acl2-books.googlecode.com

Jared Davis, Matt Kaufmann, Sol Swords (and You!)

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Boston, MA 5/12/09
Goals

We think books are really important. We want better standard books.

Integrated, comprehensive lemma libraries
(arithmetic, lists, sets, alists, ...)

High-quality automation of repetitive tasks
(defstructure, deflist, flag, ...)

Well documented, organized, approachable, and widely used
A First Step

We want to encourage collaboration. We made a repository and project page.

You can add and improve books using Subversion instead of email.

You can see what others are changing by following our email list.

You can get everyone’s improvements without waiting for the next ACL2 release.
ACL2 Books Development

This site is for community-driven development for the basic ACL2 libraries, which deal with topics like arithmetic, data structures, and hardware modelling. We're working with the authors of ACL2 and our changes are eventually incorporated into official ACL2 releases.

Our latest and greatest

In order to download our development books, you'll need to have Subversion installed. You may either anonymously check out a read-only copy of the code, or become a project member and check out a read-write version.

To get a version of the books that work with ACL2 3.4, run:

```
svn checkout http://acl2-books.googlecode.com/svn/branches/3.4 <target_directory>
```

for anonymous read-only access, or use https:// instead of http:// for read-write access and use your googlecode.com password, which you can find here (this is not the same as your Google account password; it is specifically for googlecode.com SVN repositories.)

A bleeding-edge version of the books is available in the trunk of the repository. There may be more books available in this version or more advanced versions of existing books, but they may not all work with the released version of ACL2.
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# New Books (top level)

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>arithmetic-5</td>
<td>better than arithmetic-4</td>
</tr>
<tr>
<td>coi</td>
<td>comprehensive collection of libraries</td>
</tr>
<tr>
<td>defsort</td>
<td>instantiable, stable mergesort</td>
</tr>
<tr>
<td>hons-archive</td>
<td>writes ACL2 objects to disk</td>
</tr>
<tr>
<td>regex</td>
<td>regular-expression library</td>
</tr>
<tr>
<td>security/jfkr</td>
<td>key exchange protocol model</td>
</tr>
<tr>
<td>str</td>
<td>basic string library</td>
</tr>
<tr>
<td>rtl/rel8</td>
<td>now with arith-5 compatibility!</td>
</tr>
</tbody>
</table>
New Books (tools/)

**defined-const**

- efficient (defconst *foo* (bar))
- and prove (equal (bar) *foo*).

**rulesets**

- extensible deftheory replacement

**flag**

- introduce flag functions

**mv-nth**

- meta-rule for handling mv-nth

**saved-errors**

- error reporting tool for make-events with lots of sub-events

**stobj-help**

- (def-stobj-theory stobj) proves basic theorems about a stobj
Many Other Improvements

New clause processors

Makefile dependency automation

Cert.pl build system (eliminates directory-level dependencies)

Additional theorems, rule tweaks, ...
Resources

acl2-books.googlecode.com
groups.google.com/group/acl2-books

subversion.tigris.org (web site)
svnbook.red-bean.com (book)