

## Kepler - Bug #3203

### Add dateType

04/02/2008 11:13 AM - Derik Barseghian

<b>Status:</b>	Resolved	<b>Start date:</b>	04/02/2008
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	Derik Barseghian	<b>% Done:</b>	0%
<b>Category:</b>	core	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	Post-rel-1.0.0	<b>Spent time:</b>	0.00 hour
<b>Bugzilla-Id:</b>	3203		

#### Description

Add a date type to Kepler; being able to pass date tokens between a variety of actors would be nice. My original motivation was to feed them to plot and other display actors.

Here a response from Christopher Brooks Sep 24,2007 on the original dateType/plotting topic:

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Hi Derik,

You could use the `ptolemy.data.ObjectToken` to encapsulate a `Date`. See `ptolemy.actor.lib.security.KeyToken` for an example of a `Token`.

In the type hierarchy, the `Date` type would be convertible to `String`, but probably nothing would be convertible to `Date`.

Adding date support to `Ptplot` would appear to be easy, but doing a complete job would be very difficult.

The easy part is that one can easily specify ticks that consist of a label and value. Thus, you could specify "January 1, 1970 00:00:00" as 0 and then specify times in seconds since then.

See

<http://ptolemy.eecs.berkeley.edu/java/ptplot5.6/ptolemy/plot/demo/Marks.htm> for an example that uses ticks.

The hard part is: given a set of arbitrary Java Dates, label the axes nicely, where nicely is defined as:

- text does not overlap.
- text displays meaningful values.

For example, if we are just looking at 15 seconds, do we care about the day, month and year.

The code that labels the axes has lots of art in it. That code was written a very long time ago - before many of the layout managers were present.

There is also this entire question of the provenance of data. Perhaps we would like to be able to attach metadata, such as the date, to data points. The tricky part here would be to not make the `Token` classes too large. Also, I'm not sure what you would do with the metadata.

If you have data streams that have irregular time stamps, then you might want to look at timed domains such `Discrete Event`. It is possible to use `SDF` and have each iteration represent a tick of the clock, but if you have data streams that have times associated with them, then `SDF` is probably not what you want.

\_Christopher

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## History

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**#1 - 04/03/2008 08:00 AM - Christopher Brooks**

See also [https://chess.eecs.berkeley.edu/bugzilla/show\\_bug.cgi?id=141](https://chess.eecs.berkeley.edu/bugzilla/show_bug.cgi?id=141)

"Plotter should be better about displaying times"

**#2 - 06/05/2008 11:33 AM - Derik Barseghian**

closing, dan crawl has checked in a DateToken and related code in kepler/date/

**#3 - 03/27/2013 02:22 PM - Redmine Admin**

Original Bugzilla ID was 3203