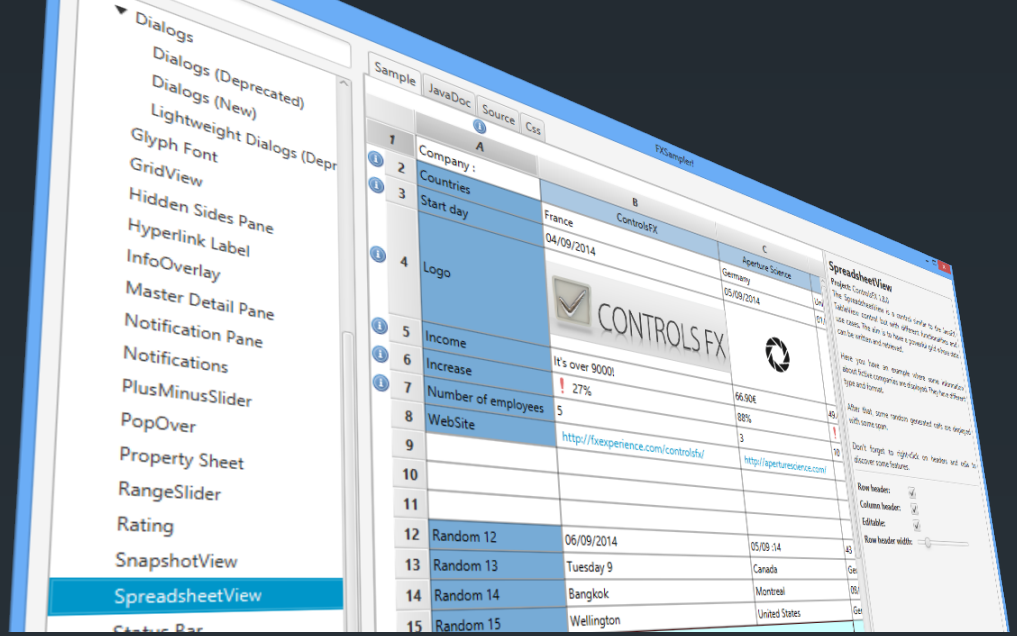


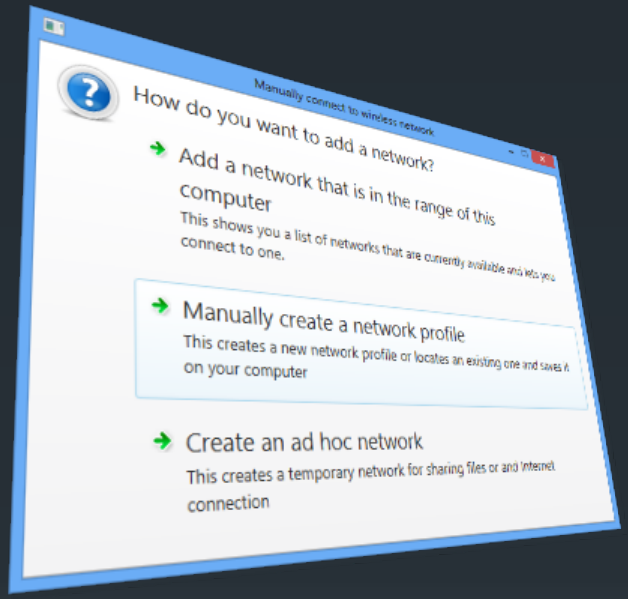

# In control with ControlsFX

Eugene Ryzhikov
Eugene.ryzhikov@gluonhq.com
@eryzhikov

Jonathan Giles
jonathan@jonathangiles.net
@JonathanGiles

# Session overview

1. ControlsFX overview
2. Introduction to ControlsFX features
3. Demonstration
4. How to get involved
5. Future plans
6. Wrapping up / question time




# ControlsFX Overview

# Answering your burning questions

How do
I get involved?

What is it?

ControlsFX

Can it
benefit me?

Why does
it exist?

Who is
involved?

# What is ControlsFX?

Low bug count

JavaFX library

ControlsFX

Business friendly licensing (BSD)

Focus on high quality API

# Who is ControlsFX?

Here today:

Eugene Ryzhikov

Jonathan Giles

# Who is ControlsFX?

## Not here today:

- Sven Reimers
- John Malc
- Stefan Saring
- Henri Biestro
- Ryan Jaeb
- Werner Lehmann
- Jean-François Henrard
- Jens Deters
- Badisi
- Dirk Lemmermann
- Tomas Mikula
- Dennis Lee
- Julien Coloos
- Paul Jonas
- Pascal Büttiker
- Pedro Duque Vieira
- Dennis Fischer
- Alice Sotzek
- Anirvan Sarkar
- Adam Kosta
- Gabriel Féron
- Carolina Veiga
- Artur Biesiadowski
- Yair Oren
- Davide Nabais
- Tom Eugelink
- Michał Skowroński
- Uwe Sander
- Laurent Gebus
- Geoffrey Capper
- Romain Moreau
- Sriram Raghuraman
- Mario Voigt
- Ruben Paz
- jonathan millman
- Michael Berry
- Chen Gaofeng
- Γεράσιμος Μάκης Μαρόπουλος
- Ladislav Török
- Tiziano Lattisi
- Victor Alfonso
- Pineda Orozco
- Daniel Rodrigues

# Who is ControlsFX?

## Not here today:

- Christian Michelsen
- Takayuki Shoji
- Farzaneh Taleb
- Steffen Rachner
- Manel Sanchez i Ruiz
- Samir Hadzic
- John Zeringue
- István Avramucz
- Marek Budyn
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- Christoph Keimel
- Łukasz Śliwiński
- George Moralis
- Yann D'Isanto
- István Avramucz
- James Denvir
- Carlos Martins
- Andreas Liebelt
- André Lanouette
- Ralf Schmitt
- Thijs Walcarius
- Roger Terrell
- Thomas Nield
- Jason Pollastrini
- Bastien Aracil
- Haval Ahmed
- Jeff Plourde
- Cole Markham
- Nathaniel Sherry
- Márcio Rodrigues
- Robert Lichtenberger
- Christoph Keimel
- Sarah Skanes
- Michael Ellis
- Arthur McGibbon
- Robert B. Colton
- Farrokh Ghamsary
- Harald Herres
- Vitomir Spasojevic
- John Brandon
- Magliano Agarwal

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- Harald Herres
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- John Brandon
- Magliano Agarwal

All up, there are over 90 contributors to ControlsFX!

# Who is ControlsFX?

- More importantly, it can be you!
- ControlsFX welcomes contributions
  - Bug fixes,
  - Translations,
  - New features,
  - New controls
- We review all code that comes in, so you can learn a lot!
- We are not a dumping ground for half-implemented ideas though!

# What is ControlsFX?
## - Releases

| Version | Release Date | Release Gap | Downloads |
|---|---|---|---|
| ControlsFX 8.0.0 Developer Preview 1 | May 7, 2013 | - | 720 |
| ControlsFX 8.0.0 | June 3, 2013 | ~ One month | 627 |
| ControlsFX 8.0.1 | July 7, 2013 | ~ One month | 536 |
| ControlsFX 8.0.2 Developer Preview 1 | August 11, 2013 | ~ One month | 513 |
| ControlsFX 8.0.2 Developer Preview 2 | September 11, 2013 | ~ One month | 420 |
| ControlsFX 8.0.2 | October 11, 2013 | ~ One month | 881 |
| ControlsFX 8.0.3 | December 4, 2013 | ~ Two months | 614 |
| ControlsFX 8.0.4 | December 28, 2013 | ~ One month | 1382 |
| ControlsFX 8.0.5 | March 4, 2014 | ~ Two months | 3974 |
| ControlsFX 8.0.6 | May 29, 2014 | ~ Two months | 8324* |
| ControlsFX 8.20.7 | September 30, 2014 | ~ Four months | 2129* |
| ControlsFX 8.20.8 | October 19, 2014 | ~ One month | 16917* |
| ControlsFX 8.20.9 / 8.40.9 | June 1, 2015 | ~ Eight months! | 1188* / 5319* |
| ControlsFX 8.40.10 | October 26, 2015 | ~ Five months | - |

# What is ControlsFX? - Releases

- Releases are generally slowing down
- Why?
  - ControlsFX has filled in a lot of gaps in the JavaFX UI controls
  - A lot of the ‘interesting’ problems are solved
  - Focus is shifting more to quality, rather than new features
- Pull requests and new features are still being accepted though!

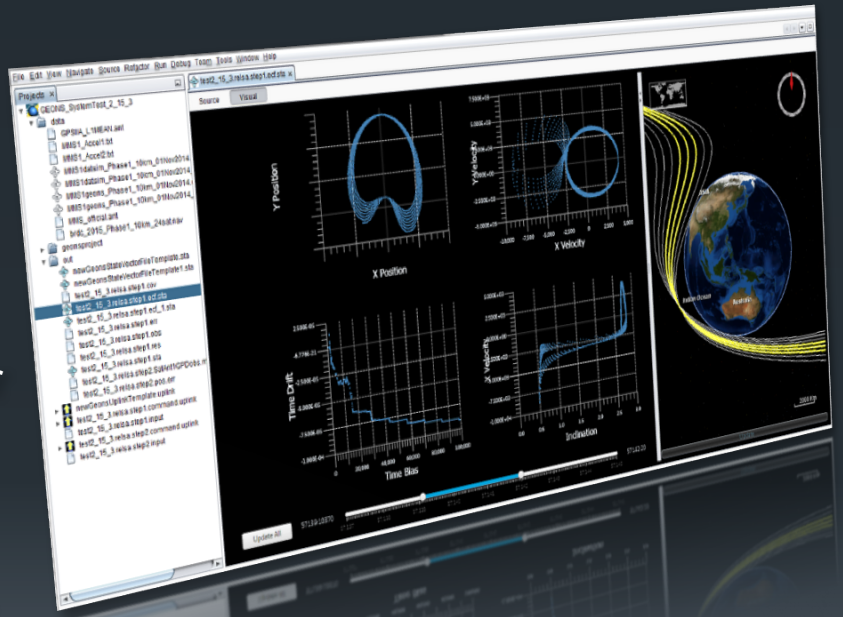
# Why does ControlsFX exist?

- Official JavaFX UI controls are developed slowly and their APIs are fixed once released.
  - Jonathan should know – He the tech lead of JavaFX UI Controls at Oracle
- ControlsFX exists to fill the gaps in JavaFX UI Controls:
  - API is much less rigid in ControlsFX
  - But: API quality is required to be exceptionally high to release
  - We follow the same API patterns as in JavaFX for consistency

# Who uses ControlsFX?

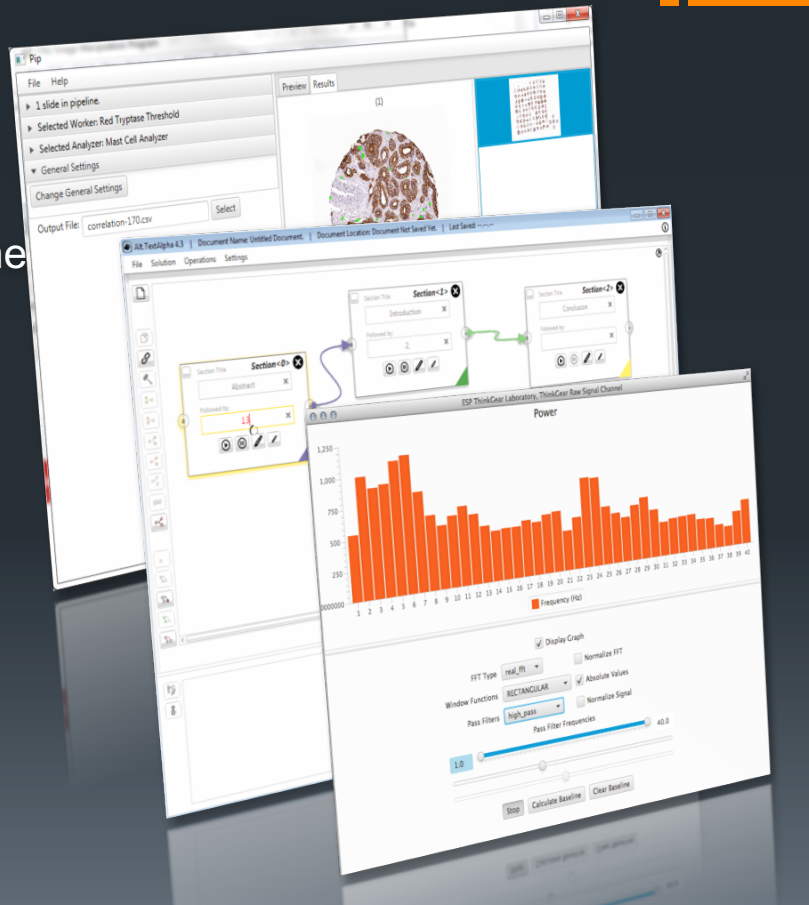
## NASA Magnetospheric Multiscale Mission Support Software

- Mission info mms.gsfc.nava.gov
- Developed at  the Goddard Space Flight Center by ai-solutions, NASA partner
- Sean Phillips, lead developer, and his team will be discussing and demonstrating some of the software developed for NASA at their sessions.

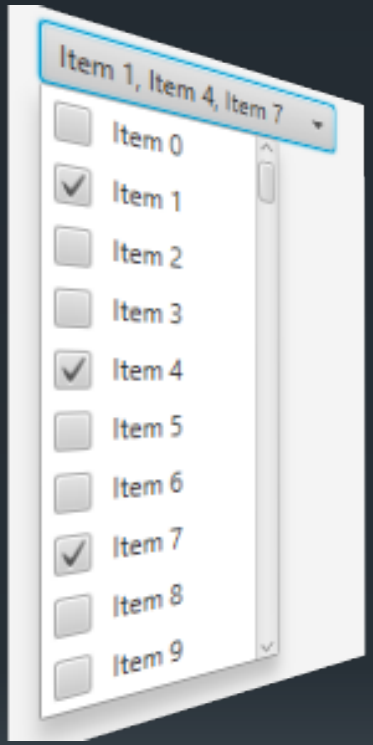


# Who uses ControlsFX?

- **PIP** – open source medical image analysis tool for for use with cancer research projects at the Department of Pathology and Laboratory Medicine of Johns Hopkins Hospital
- **Alt.Text** – tool for exploring alternatives in text documents
- **ESPLab** - JavaFX 8 GUI for ESP devices




We know there is a lot more …




# ControlsFX Features

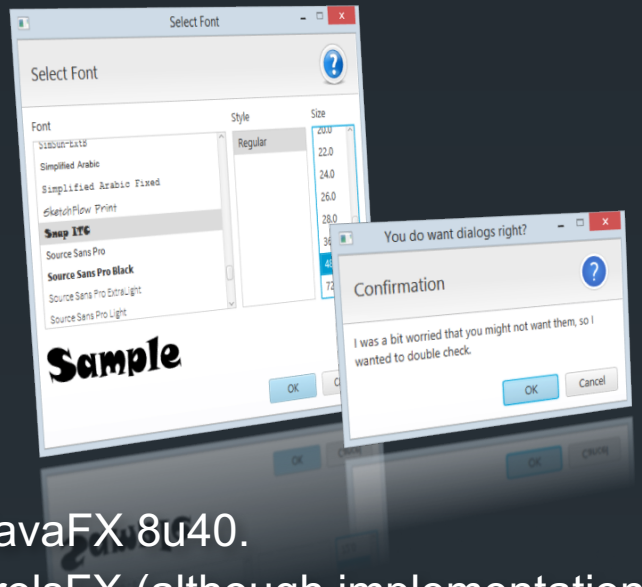
# Dialog API

## The beginning

- Featured since the first ControlsFX release
- Enjoys wide popularity
- Quickly became the de-facto Dialog API for JavaFX
- Became a “victim of its own success”
  - Accepted and promoted to be a part of JavaFX, starting with JavaFX 8u40

# Dialog API

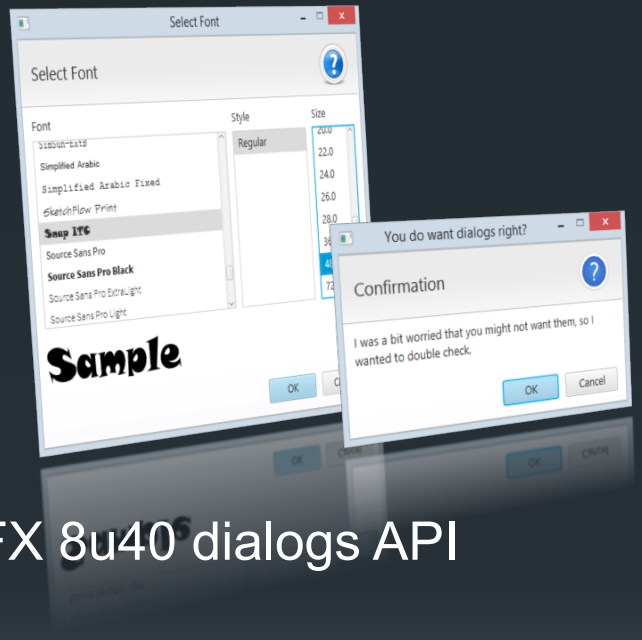
## Current status




- Huge amount of API development in JavaFX 8u40.
- Totally different API compared to ControlsFX (although implementation is the same).
- What happened to the ‘original’ ControlsFX dialogs:
  - When our dialogs went into JavaFX, we deprecated our alternate API.
  - We have now removed the deprecated dialogs from ControlsFX
  - All dialogs that are now offered in JavaFX are not offered in ControlsFX
  - ControlsFX now uses the new, official API to provide dialogs not available in JavaFX itself.

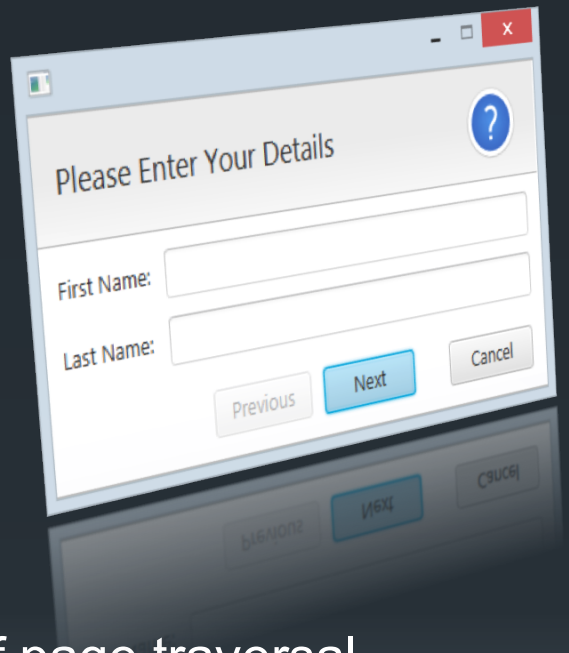
# Dialog API

## openjfx-dialogs



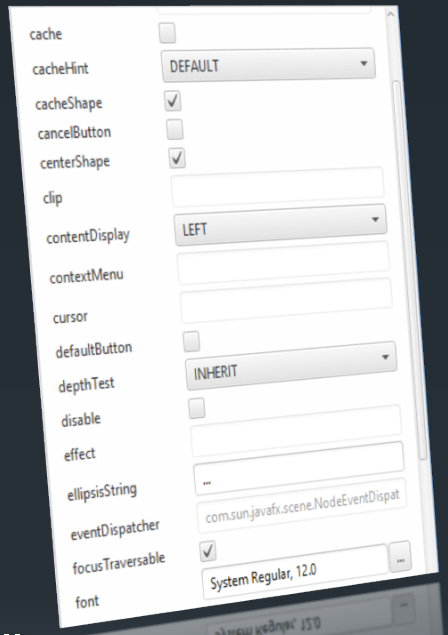

- openjfx-dialogs is a fork of JavaFX 8u40 dialogs API
- Works fine in 8u20
- Fork is manually updated when necessary from openjfx
- Available online under OpenJDK license (GPL + Classpath):
  - http://bitbucket.org/controlsfx/openjfx-dialogs

# Wizard API




- First iteration , based on openjfx-dialogs
- WizardPane based DialogPane
- Wizard.Flow interface defines the logic of page traversal
- Wizard.LinearFlow – simple linear flow
- Custom flows can be easily defined
- Wizard  handles page history automatically

# Property Sheet



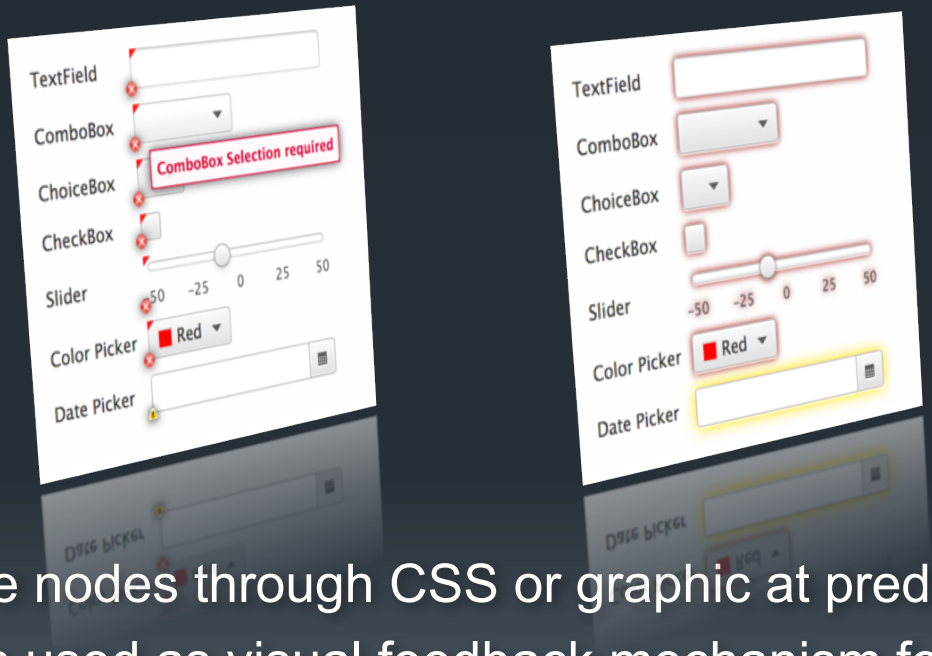

- Support for JavaBeans properties, as well as custom property models
- Includes prebuilt editors as well as ability to register custom ones
- Property grouping by name or category
- Property filtering
- Can also be used to implement simple forms.

# Action API

- JavaFX is missing an Action API, so we implemented it.

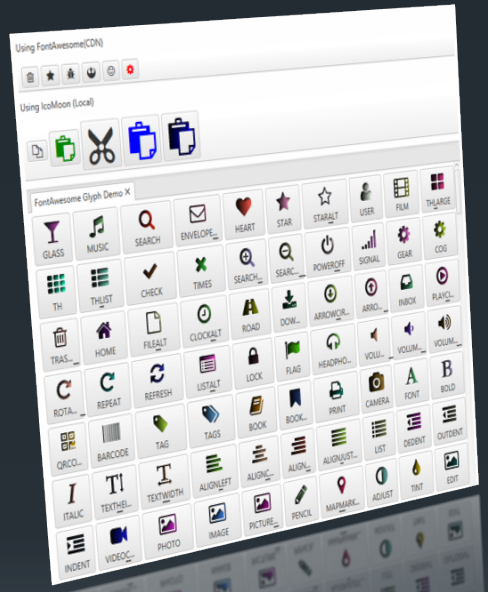
- Action is an `EventHandler<ActionEvent>` implementing all common properties.
- Can create UI controls such as buttons, menu items, etc from an Action
- Can define an ‘action tree’ to effortlessly build ToolBar, MenuBar and ContextMenu
- `@ActionProxy` annotation. Methods annotated with it become actions automatically

# Decoration / Validation API




- Can decorate nodes through CSS or graphic at predefined positions
- Decoration is used as visual feedback mechanism for Validation API
- Validation API is designed to be lightweight but flexible

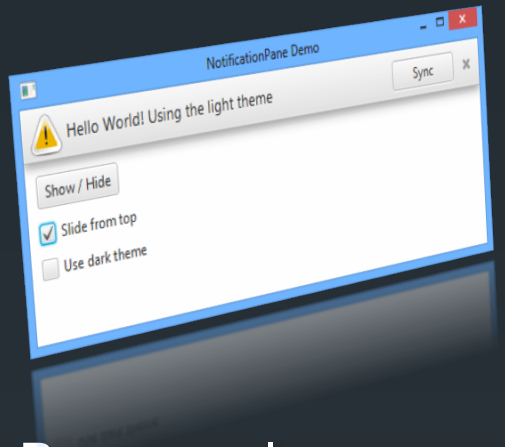
# Glyph Font API

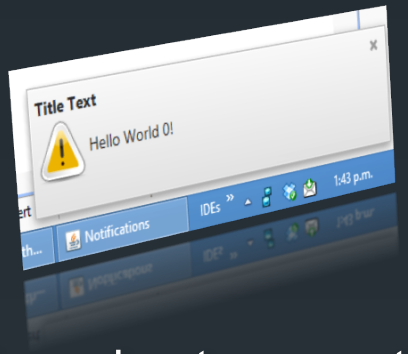



- Inspired by Jens Deters' excellent FontAwesomeFX  library
- Supports any icon fonts,  such as FontAwesome, IcoMoon etc
- Extended use of icon fonts in Action API:

```
@ActionProxy(text="Action Text", image="font>FontAwesome|STAR")
```

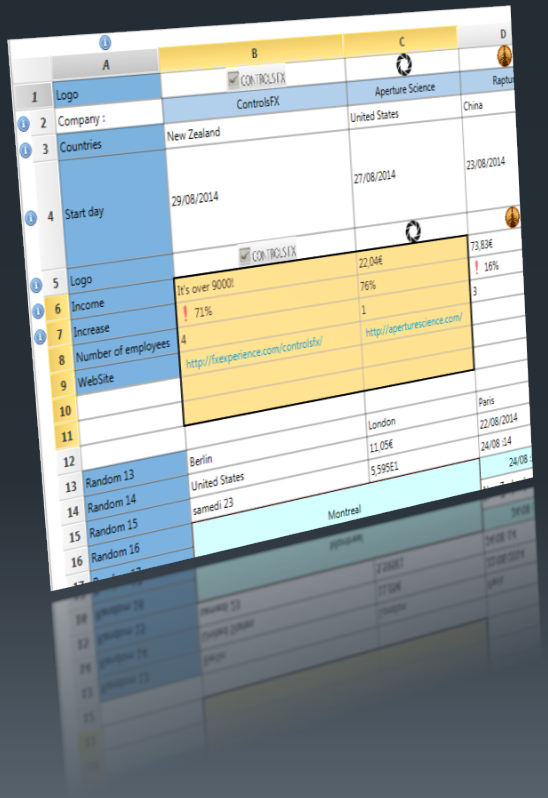
# Notification API




- NotificationPane: overlay pane, animates in and out, support for graphics, text, controls, has several visual styles
- Notifications: Similar to NotificationPane but a separate window. Can appear in one of nine locations on the screen, support for stacking multiple notifications and showing complex screen graphs. Fades out after a set duration.

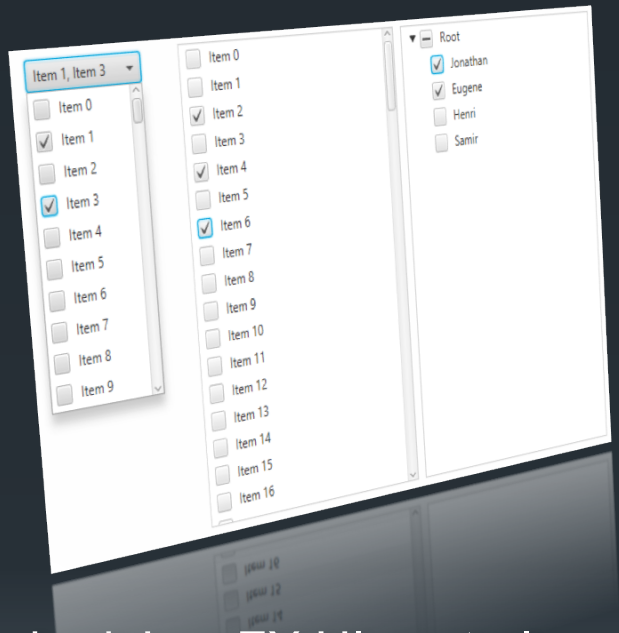
# SpreadsheetView




TableView-like control that supports:

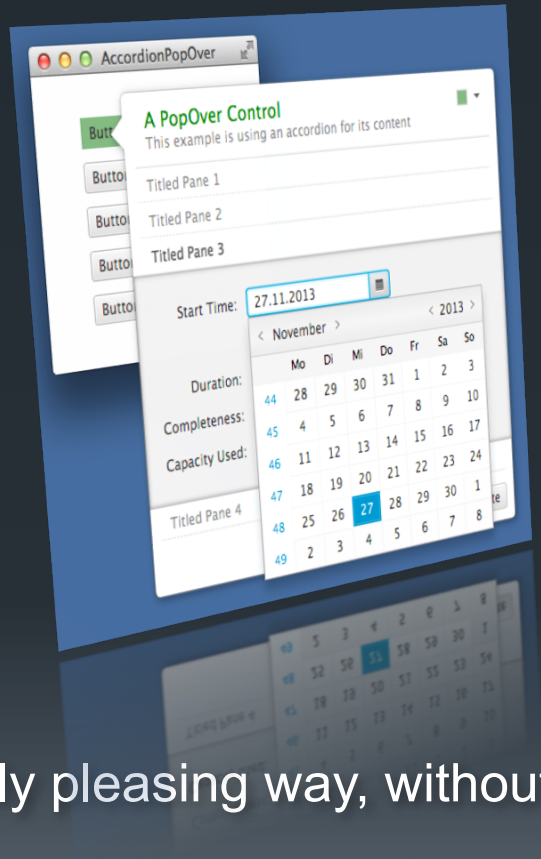
- Cell spanning
- Fixed rows and columns
- Cell editing

# CheckComboBox
# CheckListView
# CheckTreeView



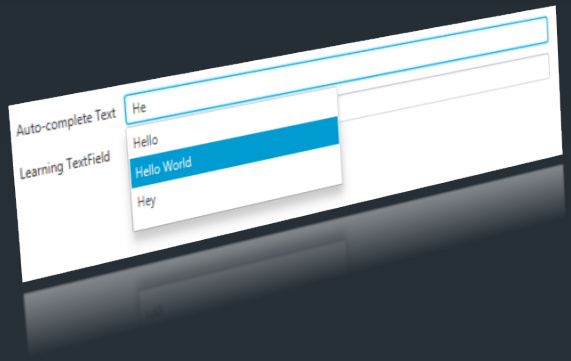

- All three controls extend the standard JavaFX UI control
- Adds support for a ‘check model’, to allow developers to easily
  - Check specific indices / items
  - Retrieve checked indices / items

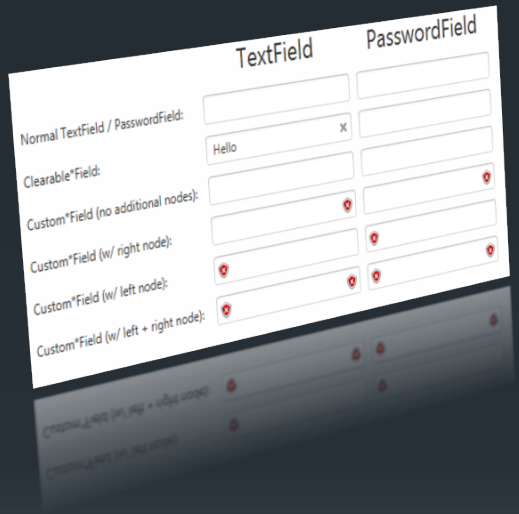
# PopOver




Provides information in a visually pleasing way, without interfering with user's workflow.

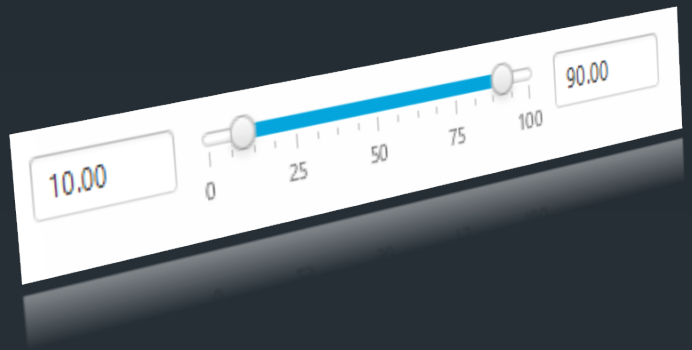
# TextField API



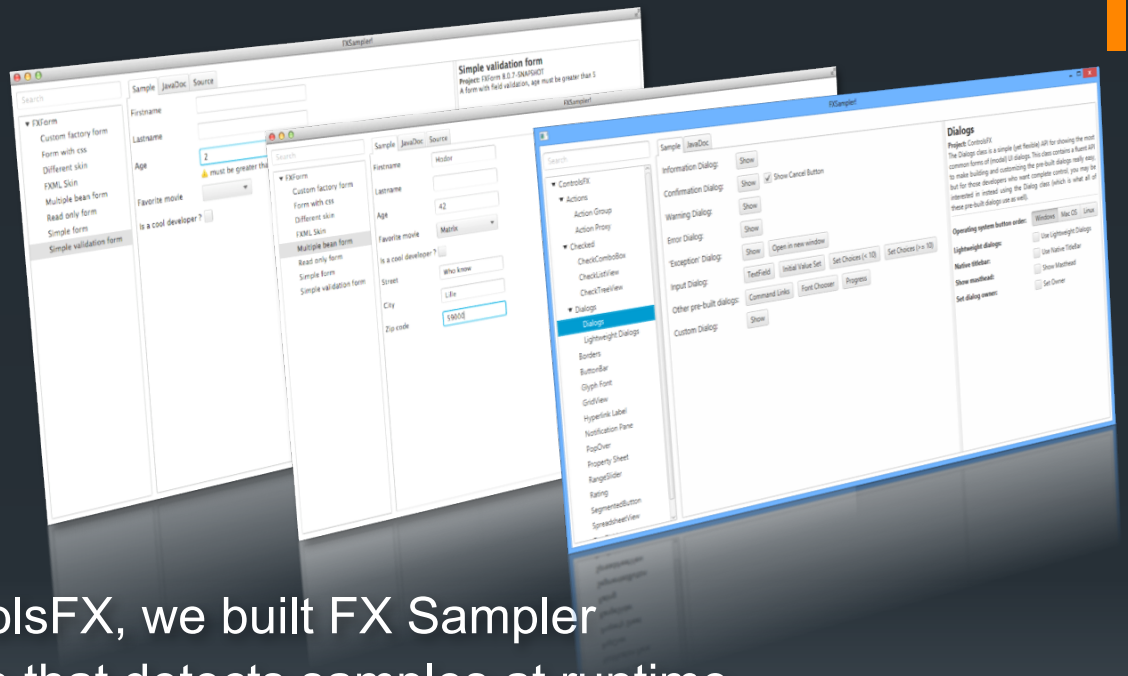

- Autocomplete TextField
- Clearable Fields
- Decorated Fields, where nodes can be placed within the text area.
  - Text does not go underneath the decoration!

# Range Slider




- Standard JavaFX slider but with two draggable thumbs, instead of one.
- Thumbs represent low and high values.
- User can drag range bar to concurrently adjust both values

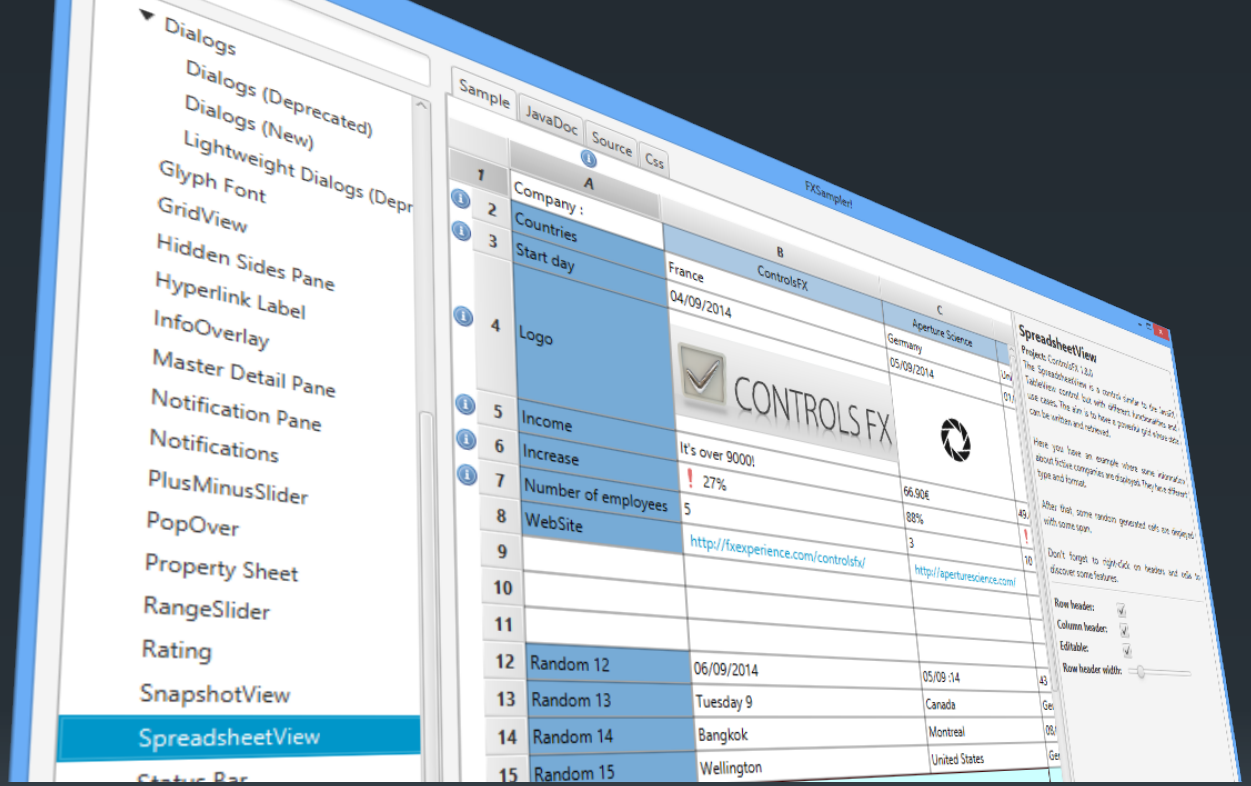
# FX Sampler



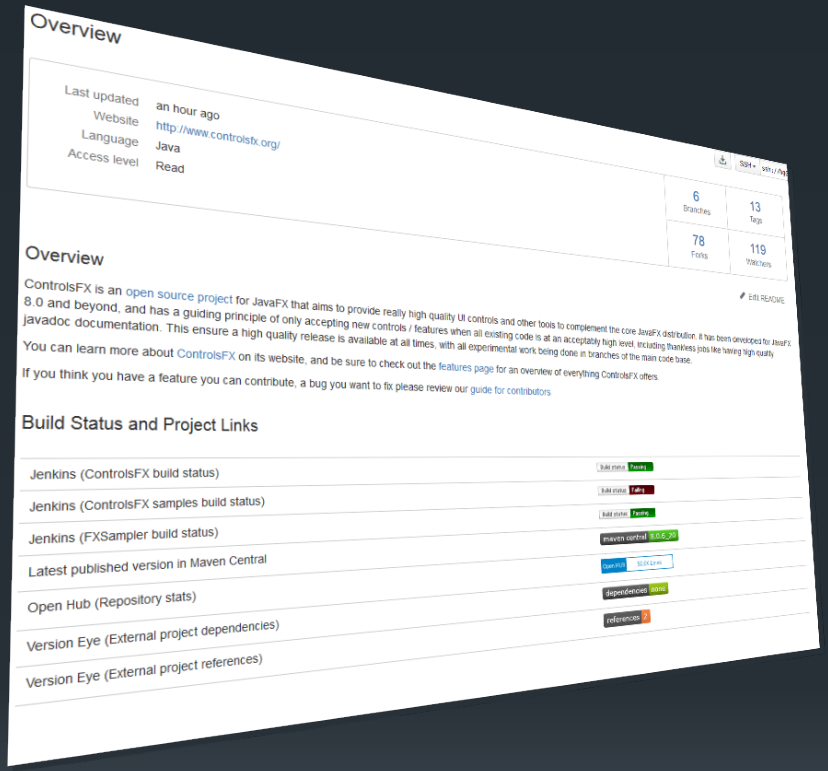
- To demonstrate ControlsFX, we built FX Sampler
- Standalone application that detects samples at runtime
- Can be used by anyone wanting to demonstrate their samples
  - E.g. JFXtras, FlexGanttFX and FXForm2 use it
  - Overall 19 downloads of the last release

# Even more controls

- Border API: wraps nodes and panes with a border
- BreadCrumbBar: Simple navigator for hierarchical page structures
- GridView: fast, virtualized grid container. Great for showing images
- HiddenSidesPane: Pane with possible hidden side panes
- HyperlinkLabel: Label with clickable links
- InfoOverlay: Designed to show text comment over a node
- MasterDetailPane: Details pane can be made invisible on demand.
- PlusMinusSlider: Allows continuous scrolling through large datasets
- Rating: Shows star rating, including partial ratings
- SegmentedButton: Visually groups toggle buttons together
- SnapshotView: Draw a bounding box on screen graph and get selection




# Demonstration




# Getting Involved

# Getting Started
## - In Six Simple Steps!

1. The following software is required:
   - Mercurial
   - Gradle
   - JDK 8u40
2. You'll need a Bitbucket account
   - Accounts are free from http://bitbucket.org

# Getting Started
## - In Six Simple Steps!

3. Fork the repo.
   - Go here to create your own fork
     - https://bitbucket.org/controlsfx/controlsfx/fork

4. Clone your fork:
   - hg clone https://<username>@bitbucket.org/<username>/<forkname>
   - e.g.
     - hg clone https://eryzhikov@bitbucket.org/eryzhikov/controlsfx

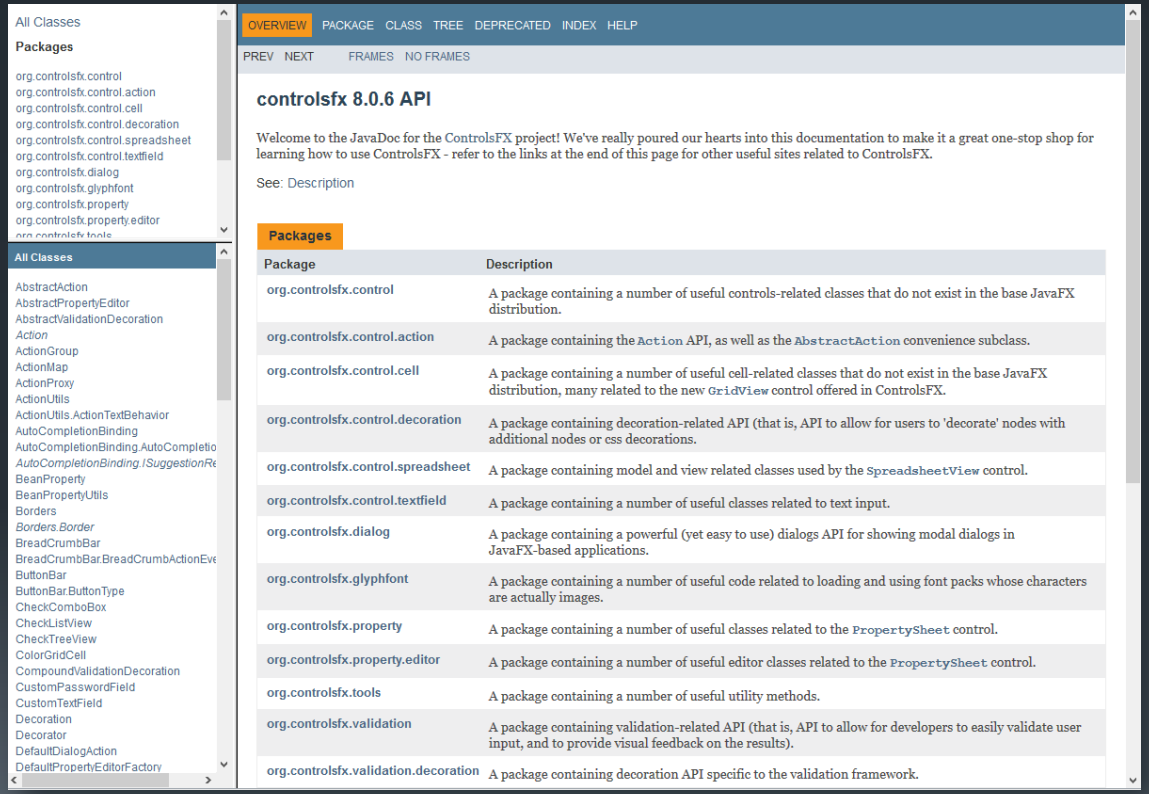
# Getting Started
## - In Six Simple Steps!

5. Build your clone. From clone root directory, run:
   - gradle clean assemble
6. Run your clone:
   - gradle run

# Where is ControlsFX?

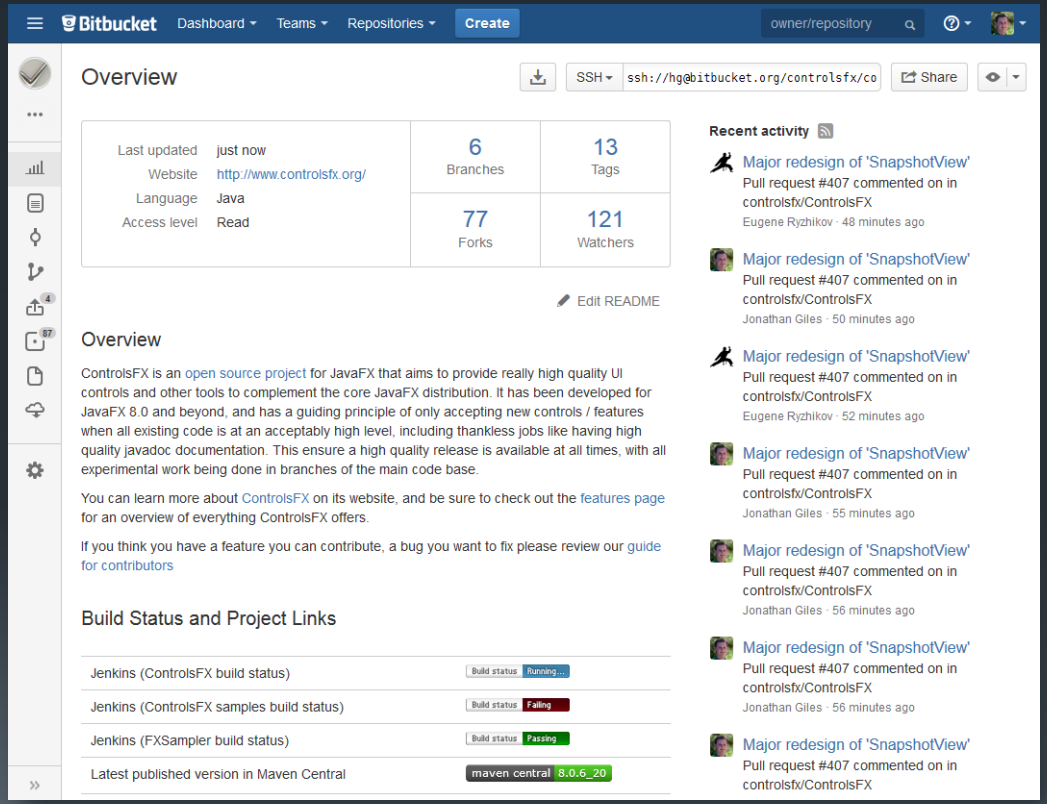
ControlsFX.org

# Where is ControlsFX?



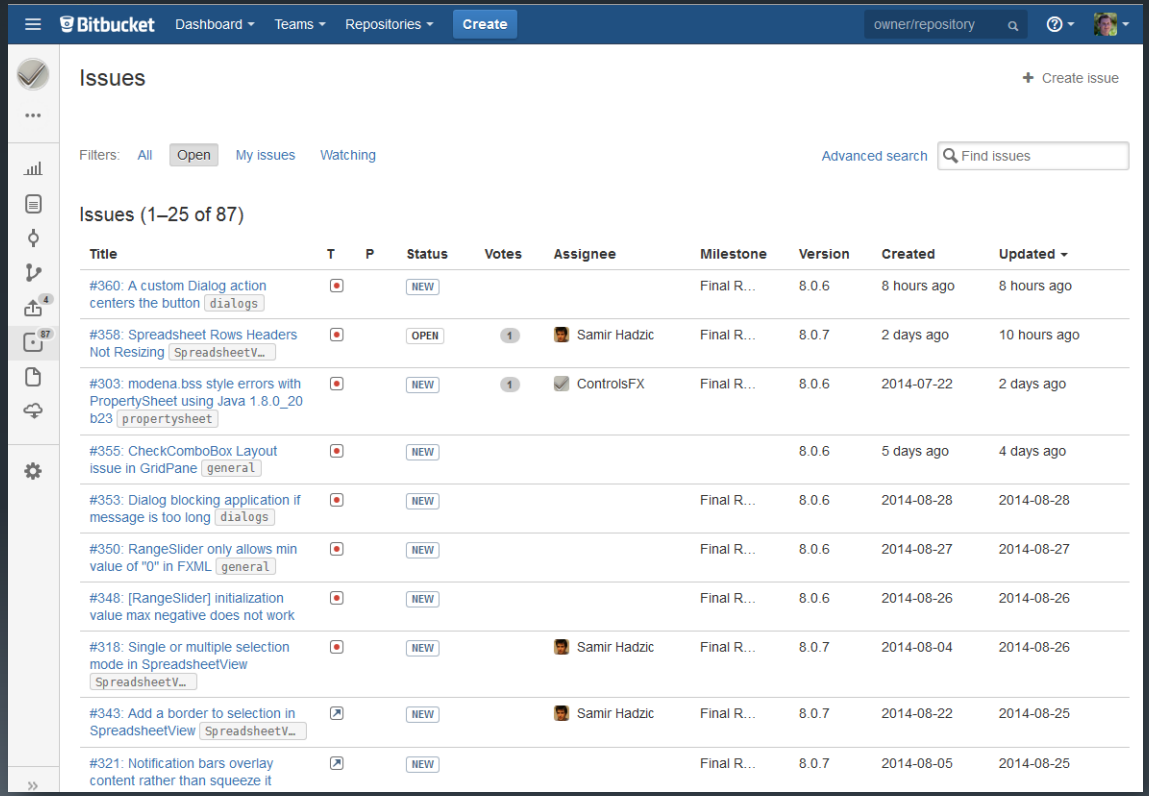

docs.controlsfx.org

# Where is ControlsFX?



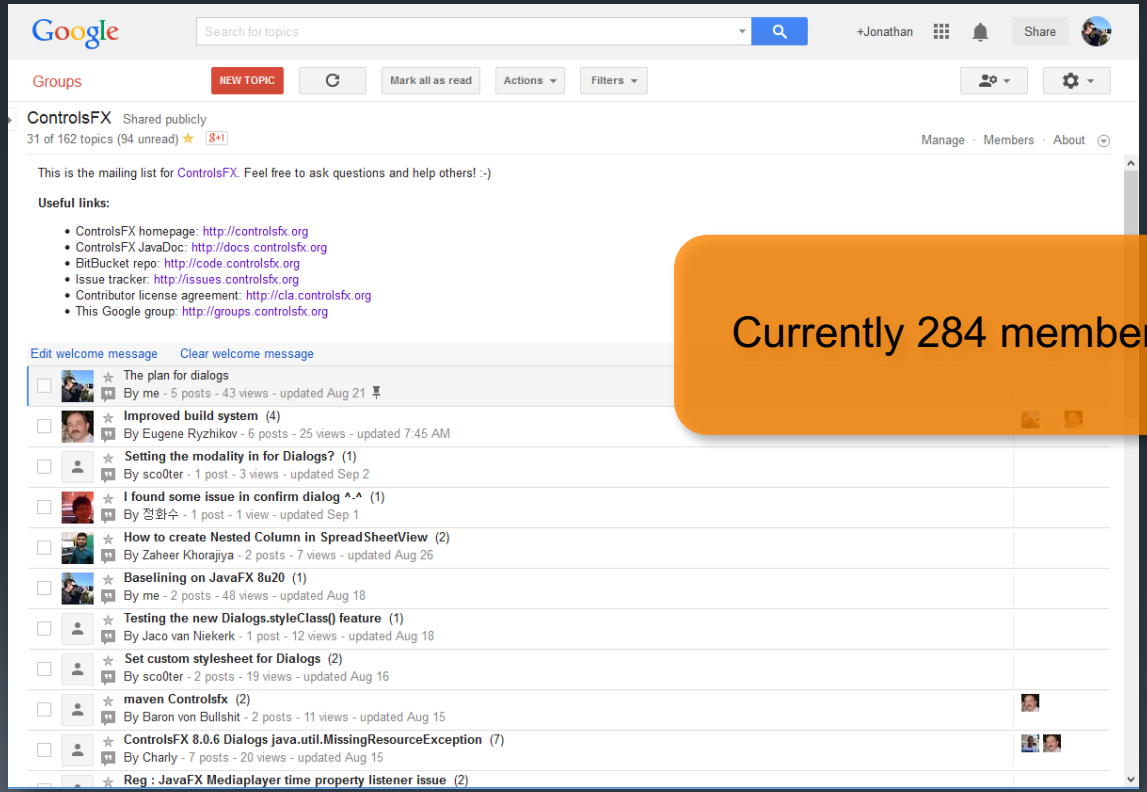

code.controlsfx.org

# Where is ControlsFX?




issues.controlsfx.org

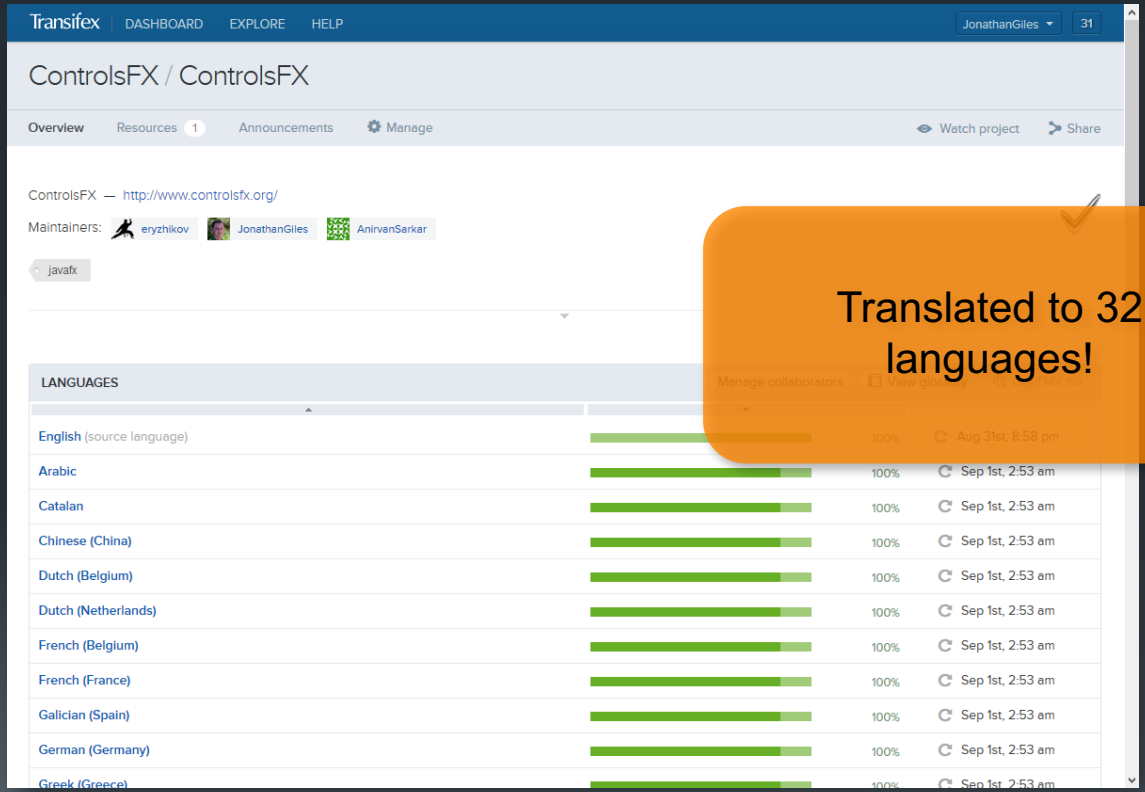
# Where is ControlsFX?




Currently 284 members!

groups.controlsfx.org

# Where is ControlsFX?




Translated to 32 languages!

i18n.controlsfx.org

# Where is ControlsFX?
## - at Maven Central

- Stable builds are available in Maven Central at http://releases.controlsfx.org:

  groupId : org.controlsfx

  artifactId : controlsfx

- Our CI server pushes latest snapshots every hour to http://snapshots.controlsfx.org

# How To Contribute

- ControlsFX is open source
- ControlsFX has a CLA that needs signing (http://cla.controlsfx.org)

- Everyone works in their own fork
- All contributions are submitted as pull requests

- Pull requests are reviewed and merged ASAP.

# How To Contribute

- Pull request stats:
  - Jonathan is naughty – he commits directly to the repo
  - Everyone else:
    - Over 550 pull requests have been merged
    - Around 50 have been declined
    - Another 11 or so are pending review

# What Should You Contribute

- Anything!
  - (although acceptance is not guaranteed)
- If in doubt, post to controlsfx-dev and ask

- Bug fixes, javadocs, samples are just about always welcome.
- New features can be discussed on a per-feature basis
  - Our focus on quality means we don’t want to accept all features

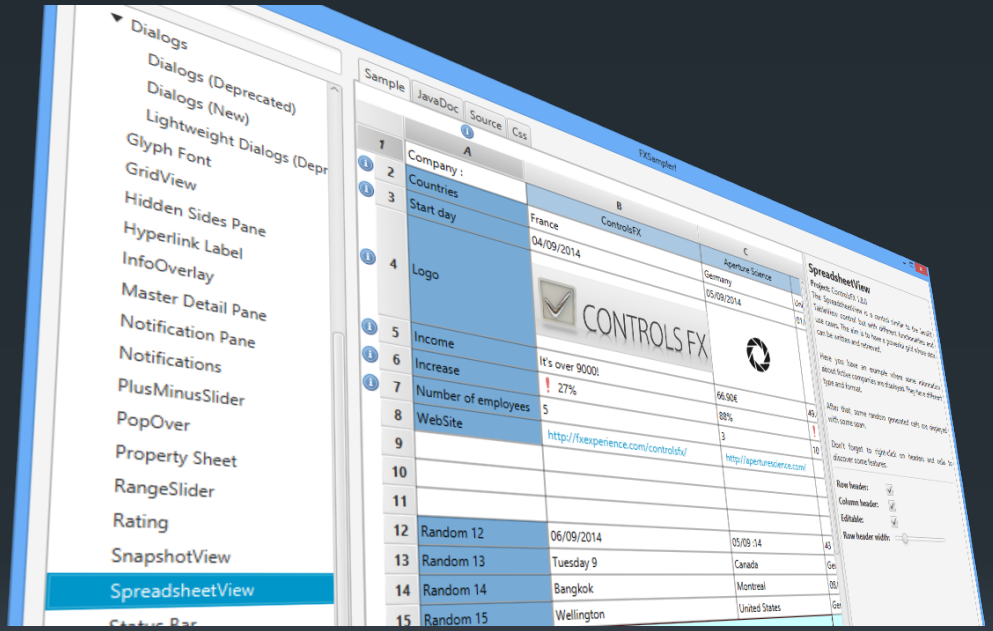
# Future Plans

# Future Plans

- We have a lot still to do! Ideas include:
  - Improve Scene Builder support
  - Accessibility support (using new a11y API in JavaFX 8u40)
  - Research / implement a GlassPane API
    - Rewrite decoration / validation API to use this
    - Reintroduce lightweight dialogs
  - TableView improvements
    - Improved search / filter tools
  - Docking framework

# Future Plans - JideFX

- JIDE Software has contributed all their JideFX work to ControlsFX
- JideFX is a huge collection of UI controls and API, including:
  - **JideFX Common**: Searchable, IntelliHints, ShapedPopup and a bunch of utilities
  - **JideFX Converters**: Collection of ObjectConverters (compatible with JavaFX StringConverter)
  - **JideFX Comparators**: Collection of comparators
  - **JideFX Decoration**: Inject a decoration node to any existing node without affecting the layout
  - **JideFX Validation**: Provides complete validation support for any JavaFX controls
  - **JideFX Fields**: Contains several TextField and ComboBoxBase subclasses such as MaskTextField, FormattedTextField, many PopupFields, FormattedComboBoxes, and Spinners for different data types.


Dialogs
Dialogs (Deprecated)
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Glyph Font
GridView
Hidden Sides Pane
Hyperlink Label
InfoOverlay
Master Detail Pane
Notification Pane
Notifications
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RangeSlider
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SnapshotView
SpreadsheetView
Sample
JavaDoc
Source
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Company :
Countries
Start day
Logo
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WebSite
Random 12
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Random 14
Random 15
France
ControlsFX
Germany
Aperture Science
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Montreal
United States
SpreadsheetView

# Wrapping Up

# Conclusion

- ControlsFX is a growing project
- It depends on the community
  - Don’t be a passive user – get active and help grow the project!
- Development is done in lieu of family time, and is unpaid
  - Expectations should be calibrated accordingly.
  - ControlsFX would gladly accept donations from generous benefactors
- Show your appreciation by ranking this session highly!

CONTROLS FX

# Thanks for attending!
# Question Time!

http://www.controlsfx.org

http://code.controlsfx.org

http://groups.controlsfx.org