

CS499 - OPEN SOURCE SOFTWARE DEVELOPMENT

Lecture #06: How to contribute to Open Source Software: the Process

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WHAT IS IT ABOUT

- It is about contributing to Open Source!!!
 - Many ways to do it HOW?
 - Code
 - Documentation
 - Support
 - Translation
 - Issues
 - etc.

AND... HOW TO CONTRIBUTE?



<https://www.triggerandfreewheel.com/comic/not-so-fast-buddy>

II III

It can be tough!



CONTEXT

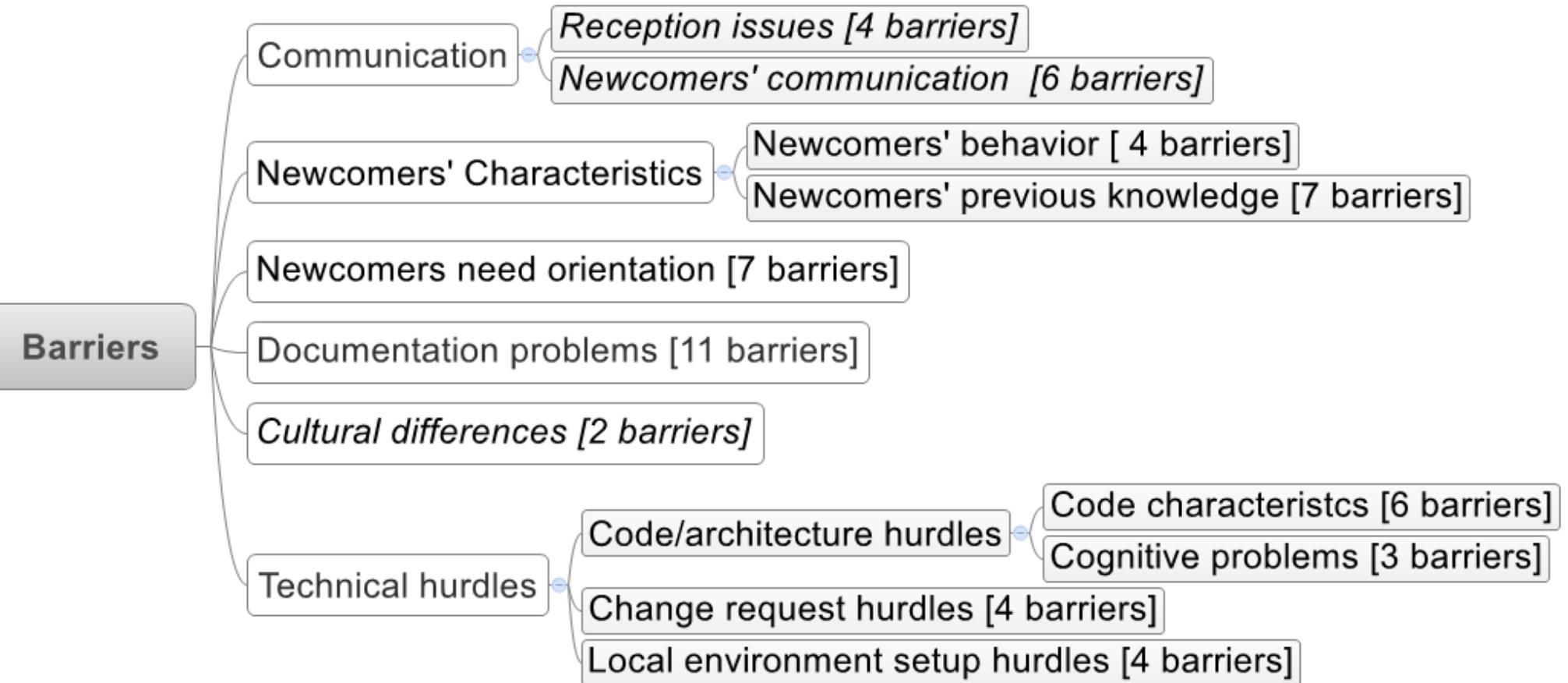
“Newcomers are explorers who must orient themselves within an unfamiliar landscape...”

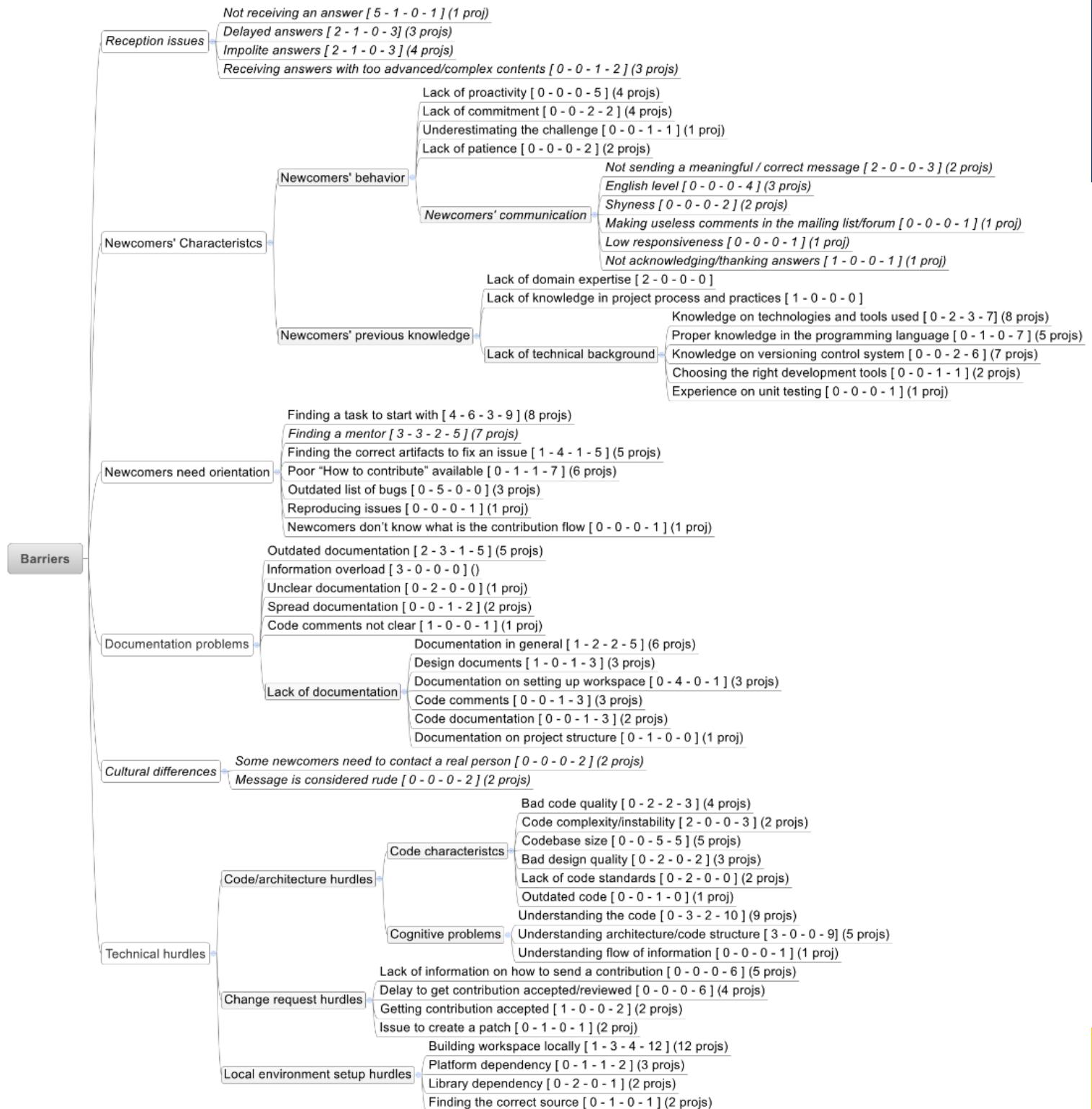
[Dagenais et al. 2010]



... and need support on their first steps

B. Dagenais, H. Ossher, R.K.E Bellamy, M.P. Robillard and J.P. de Vries, **Moving into a new software project landscape**, in ICSE 2010.





AND... HOW TO CONTRIBUTE?

- Yet...
 - **Proactivity**
 - **Social skills**
 - **Technical skills**
- Deviate from some barriers
- Persist to overcome others

AND... HOW TO CONTRIBUTE?

- Contribution process is project-dependent
 - **How to interact**
 - **Tools and support infrastructure**
 - **Submission and Review process**

**Learn about the
project and skills**

**Find a task to
start with**

**Submit your
contribution**

**Setup your local
workspace**

**Study and change
the code**

Support from the community

OPEN SOURCE == COMMUNITY

- Do not hide
- Do not be afraid of them
- Do not mind the rude/offensive messages
 - Understand responder's side
- Always: do your part
 - Standards
 - Respect
 - Be Proactive



LEARN ABOUT THE PROJECT!

- Project page
- Where is the repo/source code?
- Issue tracker
- Communication means
- Wikis, documentation repos, etc.



\$ git clone 🍕

The screenshot shows the mbed Compiler IDE interface. On the left, the 'Program Workspace' sidebar lists various projects, with 'TextLCD_HelloWorld' selected. Inside this project, the 'TextLCD' folder contains 'TextLCD.cpp' and 'TextLCD.h', and the 'main.cpp' file is currently open. The main workspace shows the code for 'main.cpp':

```
1 // Hello World! for the TextLCD
2
3 #include "TextLCD.h"
4 #include "mbed.h"
5
6 TextLCD lcd;
7
8 int main()
9 {
10     lcd.pr...
```

To the right of the code editor is a terminal window displaying the output of a command-line session:

```
programoholic@programoholic-eME732Z: ~/workspace/heroapp
File Edit View Search Terminal Help
eiver/htmlfi 20% building modules 87/88 modules 1 active ...roapp/node_modules/json3/lib/jso 20% building modules 88/89 modules 1 a
app/node_modules/debug/src/deb 20% building modules 88/90 modules 2 active ...dules/webpack/buildin/amd-optio 20% building modules
les/3 active .../lib/transport/lib/buffered-send 20% building modules 88/92 modules 4 active ...s-client/lib/transport/lib/poll 20%
modules 89/92 modules 3 active ...s-client/lib/transport/lib/poll 20% building modules 89/93 modules 4 active ...lib/transport/bro
ct-x 20% building modules 89/94 modules 5 active ...p/node_modules/require-port/ind 20% building modules 89/95 modules 6 active ...
les/querystringify/ind 20% building modules 90/95 modules 5 active .../node_modules/querystringify/ind 20% building modules 91/95 m
tive .../node_modules/querystringify/ind 21% building modules 92/95 modules 3 active .../node_modules/querystringify/ind 21% build
92/96 modules 4 active ...pace/heroapp/node_modules/ms/ind 21% building modules 93/96 modules 3 active .../node_modules/querystrin
ystringify/indDate: 2017-09-27T09:53:51.488Z
Hash: 8a5a81f4e7c685bfec38
Time: 10340ms
chunk {inline} inline.bundle.js, inline.bundle.js.map (inline) 5.83 kB [entry] [rendered]
chunk {main} main.bundle.js, main.bundle.js.map (main) 1.06 kB {vendor} [initial] [rendered]
chunk {polyfills} polyfills.bundle.js, polyfills.bundle.js.map (polyfills) 323 bytes {inline} [initial] [rendered]
chunk {styles} styles.bundle.js, styles.bundle.js.map (styles) 56.8 kB {inline} [initial] [rendered]
chunk {vendor} vendor.bundle.js, vendor.bundle.js.map (vendor) 338 kB [initial] [rendered]

ERROR in /home/programoholic/workspace/heroapp/src/app/app.module.ts (8,10): Module ''/home/programoholic/workspace/heroapp/node_m
lar/material/material'' has no exported member 'MaterialModule'.
ERROR in Error: MaterialModule is not an NgModule
    at _getNgModuleMetadata (/home/programoholic/workspace/heroapp/node_modules/@angular/compiler-cli/src/ngtools_impl.js:140:15)
    at _extractLazyRoutesFromStaticModule (/home/programoholic/workspace/heroapp/node_modules/@angular/compiler-cli/src/ngtools_im
)
    at /home/programoholic/workspace/heroapp/node_modules/@angular/compiler-cli/src/ngtools_impl.js:129:27
    at Array.reduce (native)
    at _extractLazyRoutesFromStaticModule (/home/programoholic/workspace/heroapp/node_modules/@angular/compiler-cli/src/ngtools_im
)
    at Object.listLazyRoutesOfModule (/home/programoholic/workspace/heroapp/node_modules/@angular/compiler-cli/src/ngtools_impl.js:9
    at Function.NgTools_InternalApi_NG_2.listLazyRoutes (/home/programoholic/workspace/heroapp/node_modules/@angular/compiler-cl
api.js:91:39)
    at AotPlugin._getLazyRoutesFromNgtools (/home/programoholic/workspace/heroapp/node_modules/@ngtools/webpack/src/plugin.js:207:
    at _donePromise.Promise.resolve.then.then.then.then.then.then.then.then.then.then.then.then.then.then.then.then.then.then.then.then.
s:443:24)
    at process._tickCallback (internal/process/next_tick.js:109:7)

webpack: Failed to compile.
```

Guidelines for setting up a local workspace

Oliver Kopp edited this page on Feb 14 · 35 revisions

Prerequisites:

- Java Development Kit ([Download JDK from Oracle](#) - or execute `choco install jdk8` when using [Chocolatey](#))

An indication that `JAVA_HOME` is not correctly set or no JDK is installed is following message:

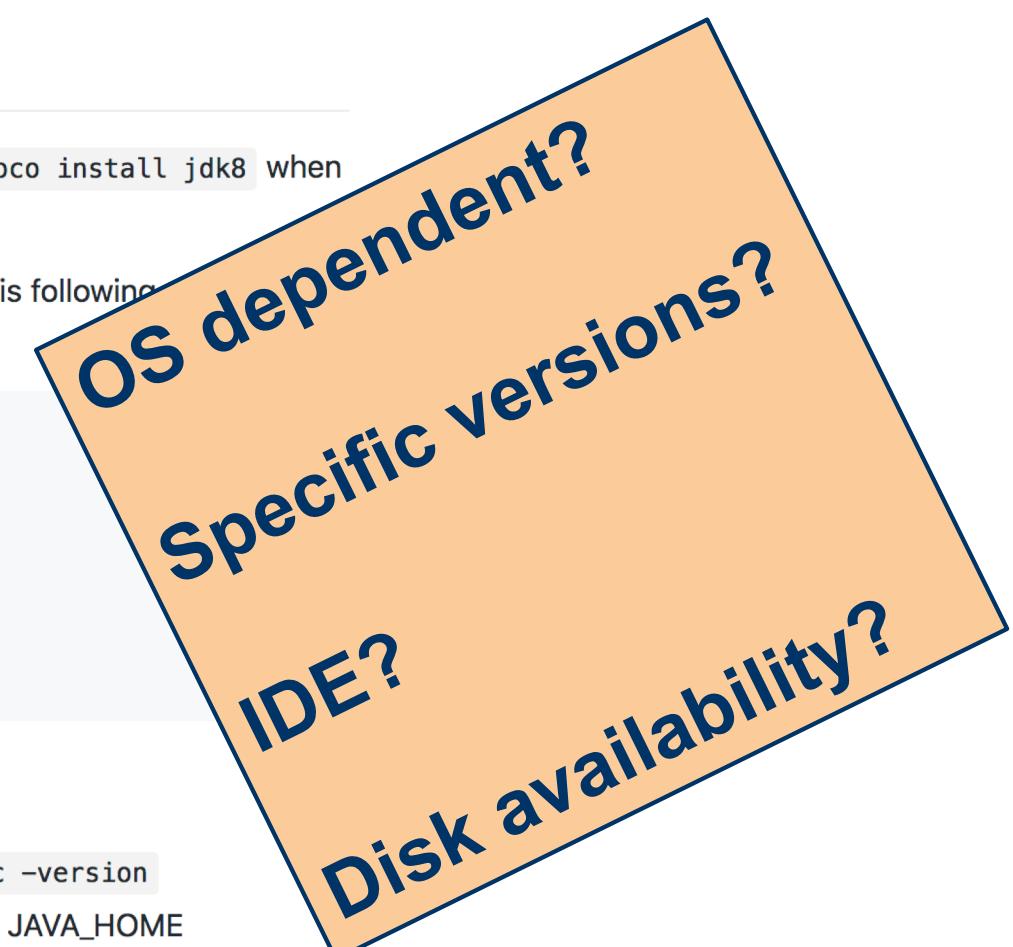
```
compileJava FAILED

FAILURE: Build failed with an exception.

* What went wrong:
Execution failed for task ':compileJava'.
> java.lang.ExceptionInInitializerError (no error message)
```

Ensure you have a Java SDK installed

- In the command line (terminal in Linux, cmd in Windows) run `javac -version`
- If `javac` is not found, check your PATH environment variable, your `JAVA_HOME` environment variable or install the most recent SDK





VM

FINDING A TASK



FINDING A TASK

- Read the project guidelines

Finding something to fix/improve

All issues on Clippy are mentored, if you want help with a bug just ask @Manishearth, @llogiq, @mcarton or @oli-obk.

The screenshot shows a GitHub repository page for **TryGhost / Ghost**. The page displays the **CONTRIBUTING.md** file. At the top, there is a sidebar with several items listed:

- Some issues on an issue
- Issues may issues, wh
- T-AST** iss structure i compare w
- E-medium** mostly cla
- T-middle** useful, tho Clippy's u

The main content area shows the file's content, which starts with:

Welcome to the contributing guide for Ghost!

So you're interested in giving us a hand? That's awesome! We've put together some guidelines that should help you get started quickly and easily. If you need help with contributing, visit the #ghost IRC channel on freenode. Thank you for stopping by!

Quick Links: [feature roadmap](#) - [support forum](#) - [documentation](#) - [developer wiki](#) - [community guidelines](#) - [dev blog](#)

FINDING A TASK



GitHub Help

Version ▾

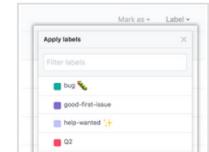
[Building a strong community](#) / [Helping new contributors find your project with labels](#)

Helping new contributors find your project with labels

Apply the `help wanted` and `good first issue` labels to issues in your repository to highlight opportunities for people to contribute to your project.

You can apply these labels to issues in your public repository so that people can find them when searching by labels. For more information about searching by labels, see "[Searching issues and pull requests](#)."

- 1 On GitHub, navigate to the main page of the repository.
- 2 Under your repository name, click **Issues**.
- 3 Select the checkbox next to the items you want to apply a label to.
- 4 In the upper-right corner, click **Label**, then start typing `help wanted` or `good first issue`. Click the label's name to associate it with the selected items.



- Reproduce the issue
- Confirm with the community
- Make the community aware
- **Dive into the code!**



DIVE INTO THE CODE

A man in a dark suit and tie stands on the left side of the frame, looking towards the right. The background is a green digital grid or binary code pattern. Large, white, bold text is overlaid diagonally across the image, reading "WHERE IS IT?????".



APPLY YOUR CHANGES



WHILE MAKING CHANGES

- Beware the standards
 - Are tests needed?
 - Re-read the contribution guideline

```
Dim xz As Int16
Dim sTempResult As String
Dim ActualIterations As Int16

'Loop as needed
For x = 1 To Iterations
    ActualIterations x+= 1
    If bDeep Then
        While Not Finished
            DeepCopy(x)
        End While
    Else
        If Finished() x
            ShallowCopy()
        End If
    Next x
End Function

Friend Function IsDigit(ByVal rsCheck As
    Dim bIsDigit As Boolean
    Dim nZero As Integer
    Dim nShort As Short

    nAsciiChar = Asc(rsCheck)
    bIsDigit = False
    For sChar = 0 To Len(rsCheck)
        nAsciiChar = Asc(Mid(rsCheck,
        If nAsciiChar < nZERO Or nAsciiChar > nNINE Then
            bIsDigit = True
        End If
    Next sChar
    bIsDigit
End Function
```

I AM DONE

SUBMITTING YOUR CHANGES

- Check the submission process
 - Pull-request?
 - Code review system (Gerrit)
- Tools and needs
 - License Agreement
 - Release notes changing

Re-read the contribution guidelines

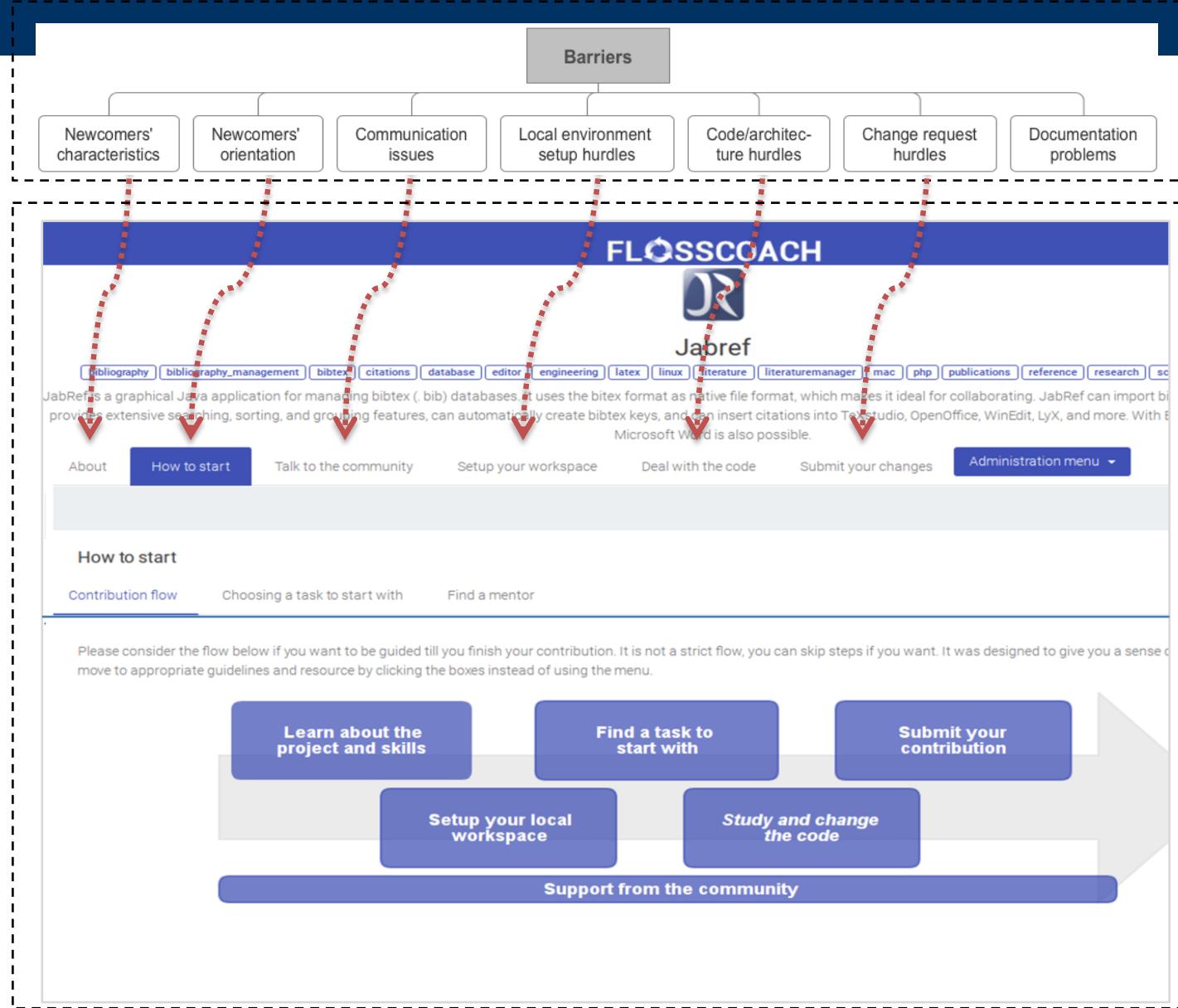
- Change in CHANGELOG.md described
- Tests created for changes
- Manually tested changed features in running JabRef
- Screenshots added in PR description (for bigger UI changes)
- Ensured that the git commit message is a good one
- Check documentation status (Issue created for outdated help page at help.jabref.org?)

FOLLOW UP YOUR SUBMISSION

- Own it!
- Be responsive
- Revise it
- Discuss it

make it
happen.

Let us help you



www.flosscoach.com