

FROM HACKATHON TO PRODUCTION IN A YEAR

Victor Kropp, JetBrains Software Engineer







HI!

I am Victor Kropp

and I want to tell you a story how we went from hackathon to production in a year



and why you should do it to!







48 hours Just few hours of sleep...

100+ participants

Mixed teams and not only developers!

Winners' Cup And valuable prizes too





DO ANYTHING YOU WANT

100 kg musical instrument, drawing robot or a plugin to your favorite IDE







Qt



MANY PROJECTS WENT TO PRODUCTION

dotMemory Unit Toolbox App



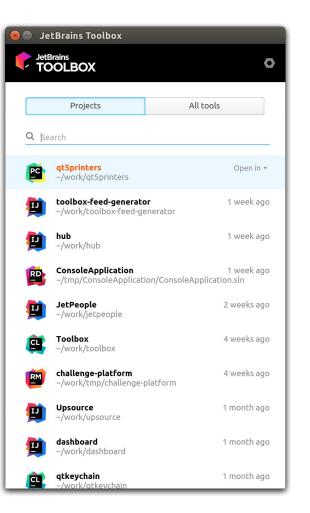




TOOLBOX APP

A control panel for your tools and projects









THE TOOLBOX APP IS SPLIT INTO

Backend Qt C++ **Frontend** QtWebEngine (Chromium 56) JavaScript



RING UI

Our Web UI Controls Library

<u>jetbrains.org/ring-ui</u>

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JetBrains Toolbox Dashboard Projects JetBrains TOOLBOX 0 **Backup Settings** Projects All tools \${user.home}/.jetpass/backu **Backup** location III IntelliJ IDEA Ultimate Install 👻 The most intelligent Java IDE /Users/jetbrains/.jetpass/backu MPS . MPS Filename prefix hub-backup-Install 🔻 DSL development environment PhpStorm PS Archive format zip Install 👻 tar.gz ightning-smart PHP IDE Install 2016.3 Nightly 163.5374 Install 2016.3 EAP 163.4830.18 **Project Rider** RD Every day at 9 am Backup interval ∇ C# IDE Install 2016.2 Nightly 162.1970 Install 2016.2.1 162.1889.1 Regular backup is disabled PyCharm Comm Install 2016.1.2 PC 145.1616.3 Backup files rotation Every 12 hours Developers unt of backup files, 0 - to turn rotation off. Every day at 9 am PE PyCharm Edu Install 👻 Professional tool to learn Every day at 2 am Create backup programming with Python Custom PyCharm Professional PC Install 👻 Backup file Created Full path Python IDE for Professional Groups¹ Access⁰ Authentication General Stevo TheCat **Full Name** Ban user Login catsrule Avatar ST Email



UI IN HTML/CSS/JS

Pros

- ► Nice
- Modern
- Everywhere

Cons

- Embedded browser may be resource consuming
- Frontend expert required





Qt



FRONTEND

React declarative JavaScript library for building user interfaces

facebook.github.io/react

```
class ProjectList extends React.Component {
  render() {
    return (
      <div>
        <div className="project-list search">
          <Icon size={Icon.Size.Size14} glyph={require('search.svg')} />
          <TextInput ref="input" placeholder="Search" />
        </div>
        <div>
          {recentProjects.map((project) => (
            <project project={project} /></project
          ))}
        </div>
      </div>
    );
```

EXAMPLE COMPONENT



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WEBPACK

JS + dependencies are packed into single index.js and index.html:

myWebView->load(QUrl("qttp/indexabbost)\$980"));





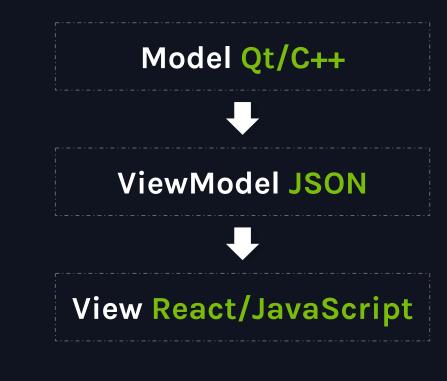
FETCHING PRODUCT DESCRIPTIONS

- ► Single file in **JSON**
- Update regularly
- The same JSON is used in both C++ and JS code



```
"id": "IDEA-U", "name": "IntelliJ IDEA Ultimate",
"description": "The most intelligent Java IDE",
"icon url": "data:image/svg+xml;base64,...",
"licensing": { "product": "Idea" },
"build": "171.972.3", "version": "2017.1.2",
"major version": { "name": "2017.1" },
"package": {
   "os": "windows",
   "type": "nsis", "command": "bin/idea.exe",
    "url": "https://download.jetbrains.com/idea/ideaIU-2017.1.2.exe",
    "size": 407042160,
    "checksums": [ { "alg": "sha-256", "value": "..." } ]
```





SEPARATION OF



Some obvious things worth repeating





DREAM TEAM

CORE DEVELOPERS

Windows

macOS

Linux

AND

UI/UX Designer

UI Developer

IntelliJ Developer







CROSS-PLATFORM DEVELOPMENT

- There are lots of platform specific things
- Every feature must be tested on all supported operating systems





CROSS-PLATFORM DEVELOPMENT

Qt

PLATFORM SPECIFIC

- ► .plist read/write
- Menubar icon theming
- System wide notifications
- ► OS integration



AUTOMATE EVERYTHING

- Continuous Integration server compiles the app after each commit
- and runs tests
- Release is published with a single click



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DESIGN FOR COMPATIBILITY

- Backward compatibility
- Forward compatibility







ALWAYS KEEP SECURITY IN MIND

- ► HTTPS only
- Signed data source
- Checksums for downloads



Qt



DOGFOODING

- Use your own application
- Get early feedback from colleagues



Successful release

OtC







20% project

Side project supported by company



Qt

100,000+ users estimated



Just discovered **@JBToolbox** from **@jetbrains**. Yet another amazing product from Jetbrains. Would definitely recommend.

https://twitter.com/jnzavrl/status/897000758633168897



Vedran Pavić @vedran_pavic

The **@JBToolbox** app makes managing **@jetbrains** tools almost effortless! Highly recommended, see jb.gg/toolbox-app for more details.

https://twitter.com/vedran_pavic/status/753542146842562560



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- Hackathons are fun
- There is a lot to be done afterwards
- HTML UI is awesome
- Team is the most important

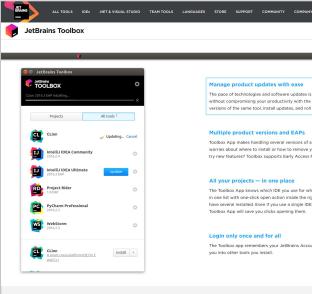




TOOLBOX APP

Check it out at jetbrains.com/toolbox/app

Follow @JBToolbox for updates





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The pace of technologies and software updates is ever-accelerating. Stay up-to-date without compromising your productivity with the Toolbox App: easily maintain several versions of the same tool, install updates, and roll them back instantly if needed.

Multiple product versions and EAPs

Toolbox App makes handling several versions of a product easy and painless. No more worries about where to install or how to remove your favorite tool. Curious enough to try new features? Toolbox supports Early Access Programs too.

All your projects - in one place

The Toolbox App knows which IDE you use for which project. It shows all your projects in one list with one-click open action inside the right IDE, and in its right version if you have several installed. Even if you use a single IDE and have multiple projects, the Toolbox App will save you clicks opening them.

Login only once and for all

The Toolbox app remembers your JetBrains Account and uses it to automatically log you into other tools you install.





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Toolbox App





THANKS!

Any questions?

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(°°) Thank you!

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