

# Mozilla Addon Builder Package Building System

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<http://github.com/zalun/FlightDeck/raw/master/Docs/Package%20Building%20System.pdf>

If in doubts, please take a look at the accompanied slides at

<http://github.com/zalun/FlightDeck/raw/master/Docs/Addon%20Builder%20-%20Build%20System.pdf>

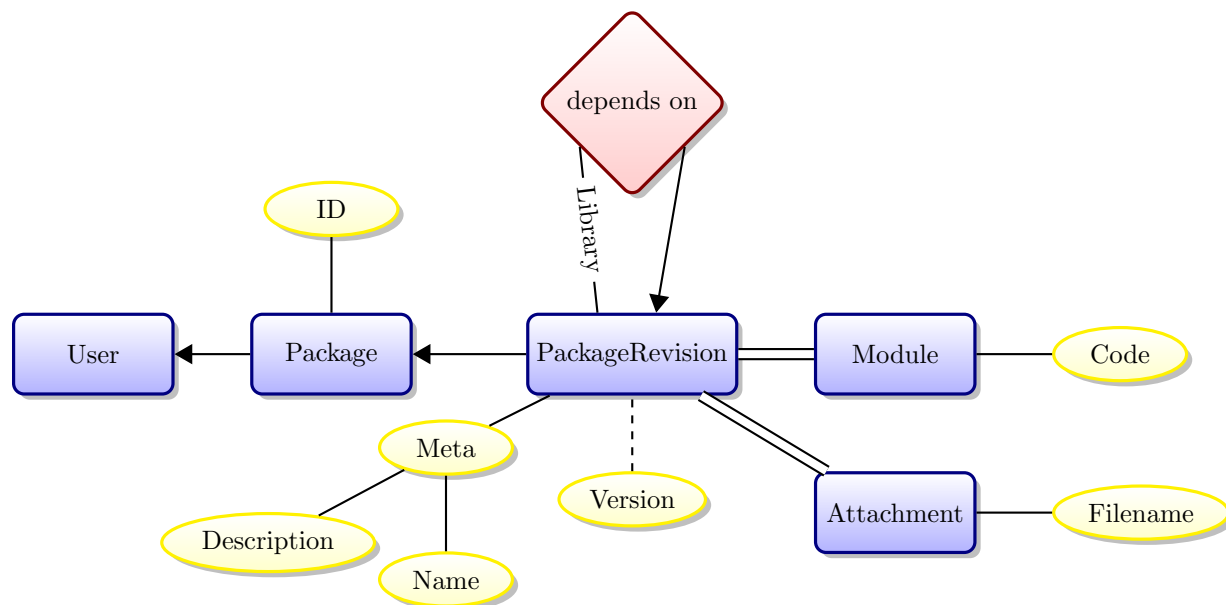
## 1 Assumptions for the current iteration

1. Name of the Package is not unique anymore.  
Packages are identified by it's *unique ID*. There may and probably often will be many Packages with the same name<sup>1</sup>.  
`/library/123456/`
2. Version is a tag.  
Version is important. It is used to tag major *Revisions*. If a package is called without any Version specified, the latest versioned Revision will be used.  
`/library/123456/version/0.1/`
3. Revision Number is used to precisely identify a Revision.  
It is completely parallel to the Package Version  
`/library/123456/revision/654/`
4. No collaborative editing.  
That means there is no connection between Packages owned by different Users.
5. Package remembers wich SDK version was used to build it.  
This is very complicated also on the front-end side. It will be created during the next iteration.

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<sup>1</sup>Check if it will not make any problem with Addons and uploading to AMO

## 2 Logical structure



## 3 Exporting XPI

Be aware that it is possible and common to export XPI<sup>2</sup> from partially unsaved data. This happens when User will use the "Try in browser" functionality. In this case XPI may not be sent to AMO<sup>3</sup>.

### 3.1 Creating directory structure

Directory structure should be as close as standard Jetpack SDK as possible. Jetpack SDK should be copied to a temporary directory as more than one Addon compilation could take action at the same time. Desired revisions of Libraries and Addons will be exported into **packages** directory.

```
/tmp/jetpack-sdk-{\hash\}/
|-- bin/
|   |-- activate
|   |-- cfx
|   '-- [...]
|-- packages/
|   |-- jetpack-core/
|   '-- [...]
|-- python-lib/
|-- static-files/
'-- [...]
```

Figure 1: Excerpts from a copied Jetpack SDK

<sup>2</sup>An XPI (pronounced "zippy" and derived from XPInstall) installer module is a ZIP file that contains an install script or a manifest at the root of the file, and a number of data files.

<sup>3</sup><http://addons.mozilla.org/>

## 3.2 Export Packages with Modules

1. Create Package and its Modules directories  
`/tmp/packages_{hash}/{Package:name}/`  
`/tmp/packages_{hash}/{Package:name}/lib/`
2. Use collected data to create the Manifest.  
`/tmp/packages_{hash}/{Package:name}/package.json`
3. Create Module files  
Iterate over the assigned Modules and create a ".js" file with its content inside Package's lib/ directory.
4. Export dependencies  
Iterate over Libraries on which a Package depends and repeat this section (*Export the Package with Modules*) for every Library.

## 3.3 Building XPI

System is already in a virtual environment knowing about Jetpack SDK. It is enough to change directory to `/tmp/packages_{hash}/{Package:name}/` and call `cfx xpi`. The `{Package:name}.xpi` file will be created in current directory. Its location is then send to the front-end to be used in further actions, usually calling the *FlightDeck Addon*<sup>4</sup> to download and install the XPI.

## 3.4 Uploading to AMO

Create XPI from the database object. Use `mechanize` lib to login to AMO and upload the file faking it was done directly from the browser.

**To be continued...**

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<sup>4</sup>FlightDeck Addon is a Jetpack extension allowing to temporary installation of the XPI. It needs to be called with an URL of the XPI.