



Android Input Framework

David Lau • China



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(zy)

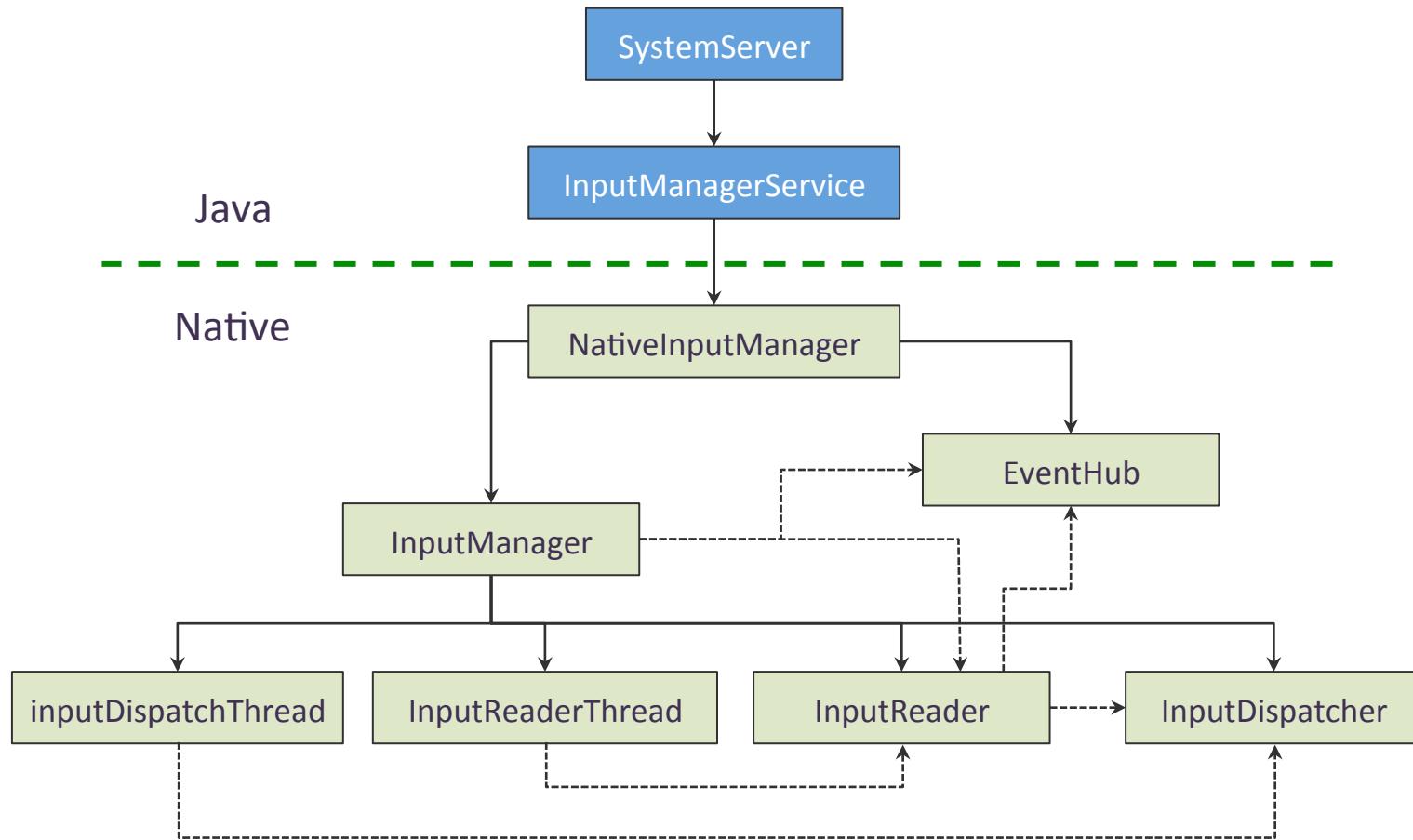


世界第一台打字机

图片来源: <http://www.todayonhistory.com/7/24/ShiJieDiYiTaiDaZiJiDanSheng.html>

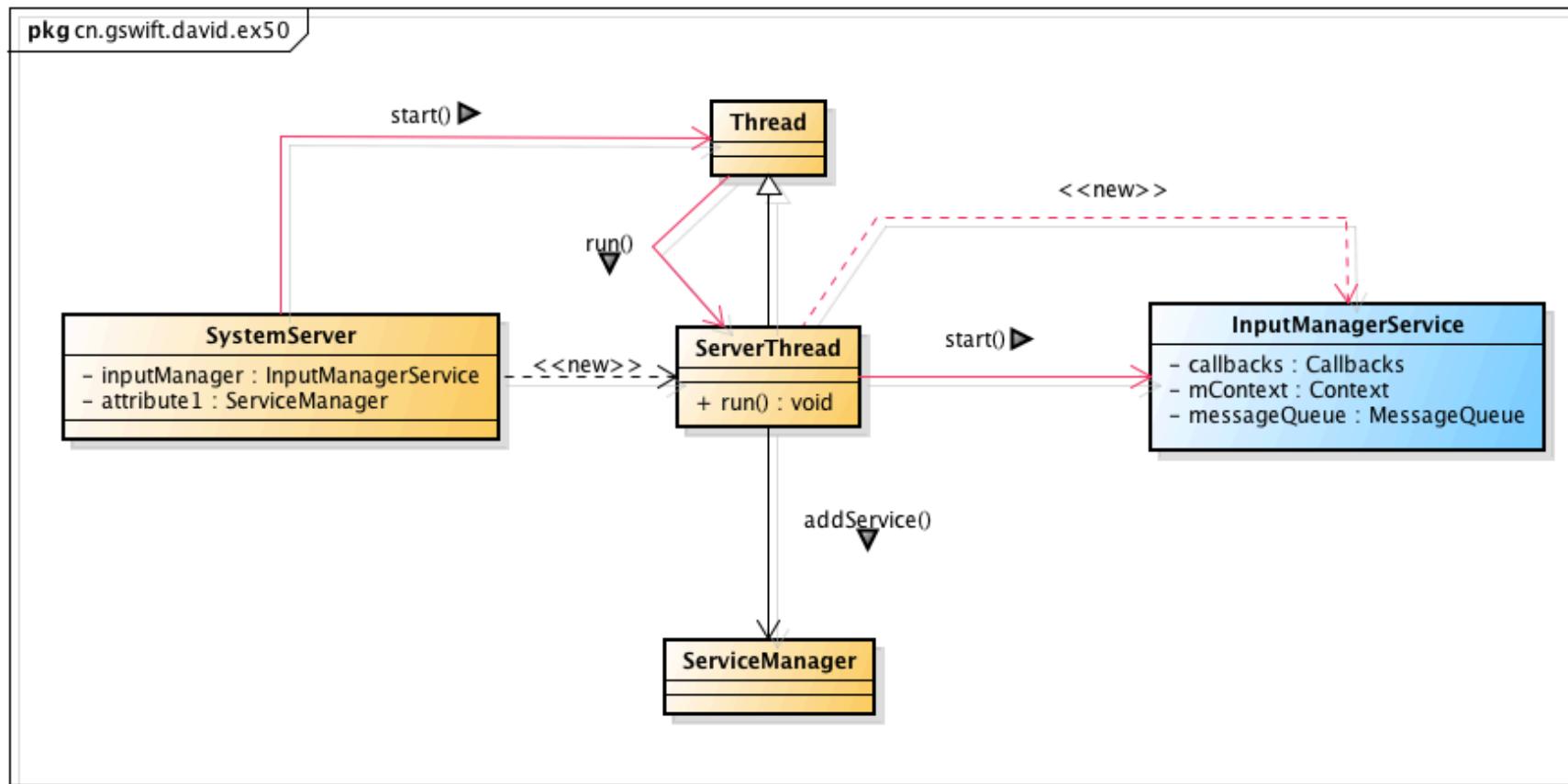


Input Framework Startup



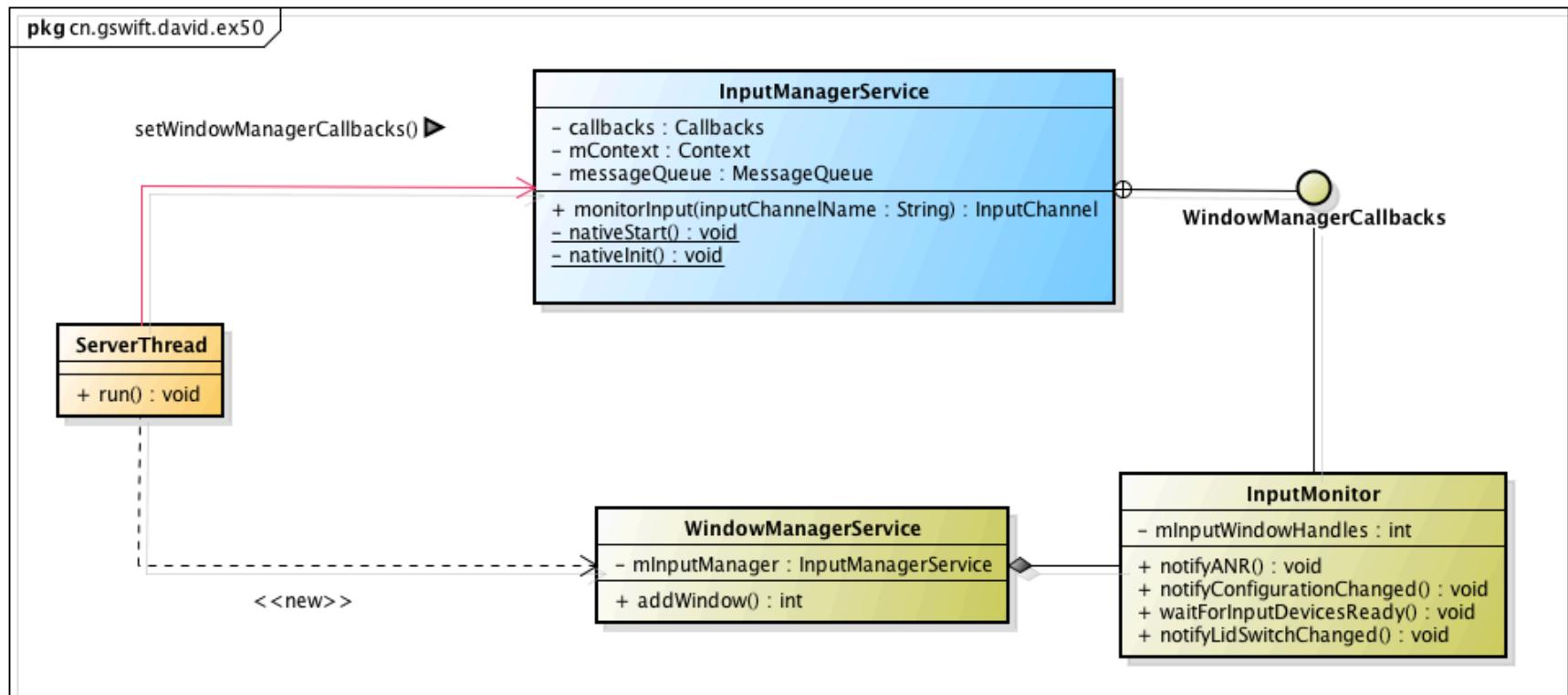
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Create a InputManagerService Instance



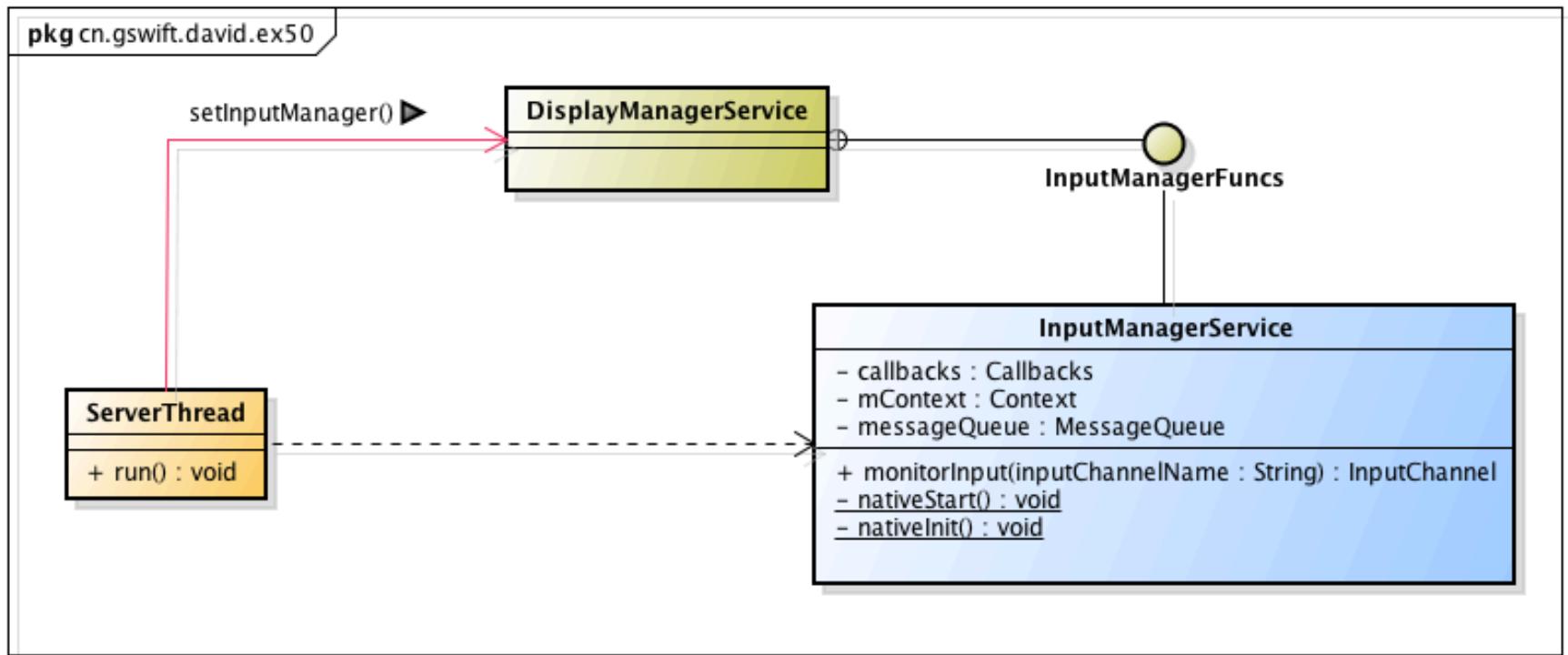
set WindowManagerCallbacks()

CJyp



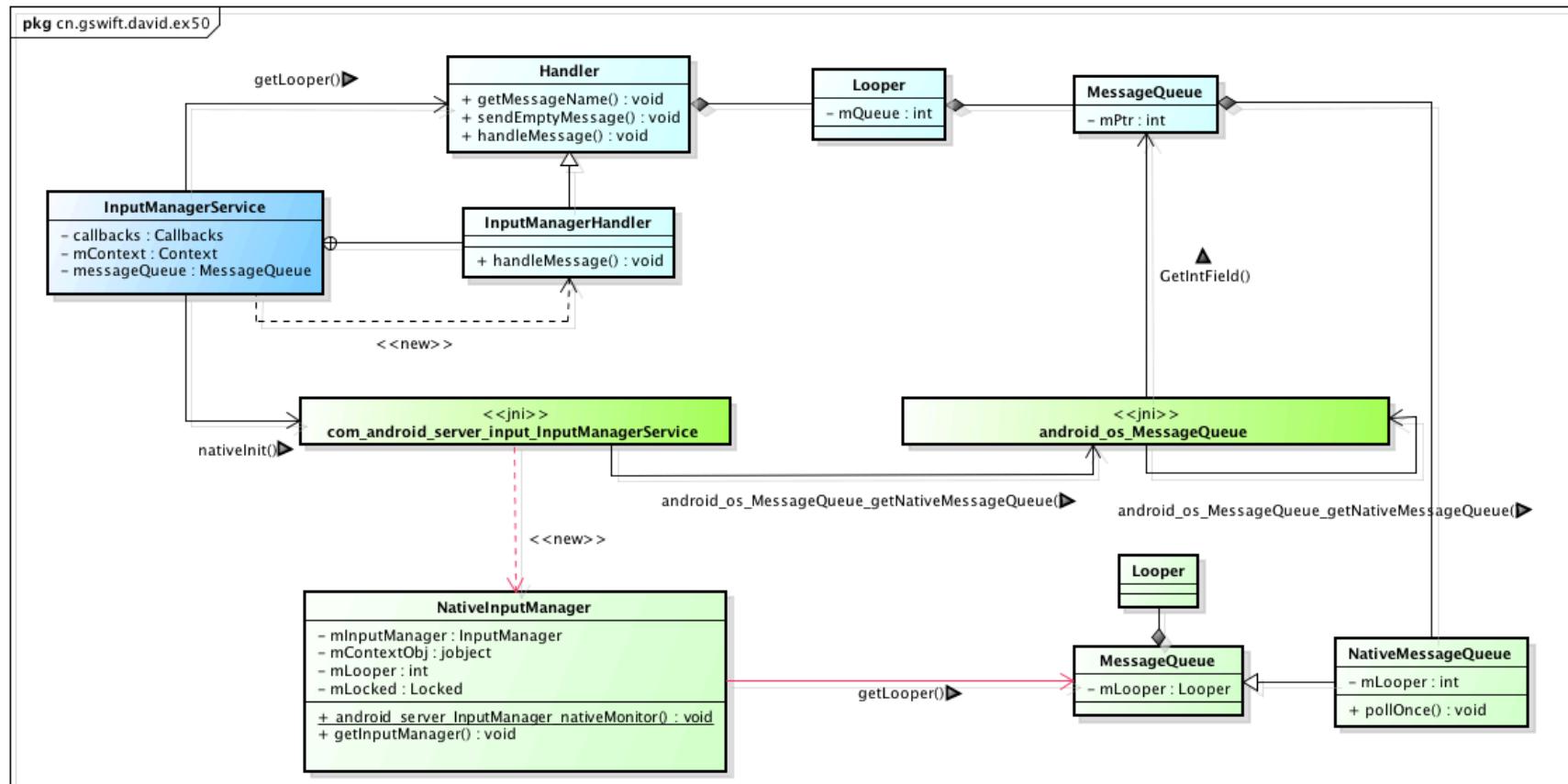
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IMS and DMS



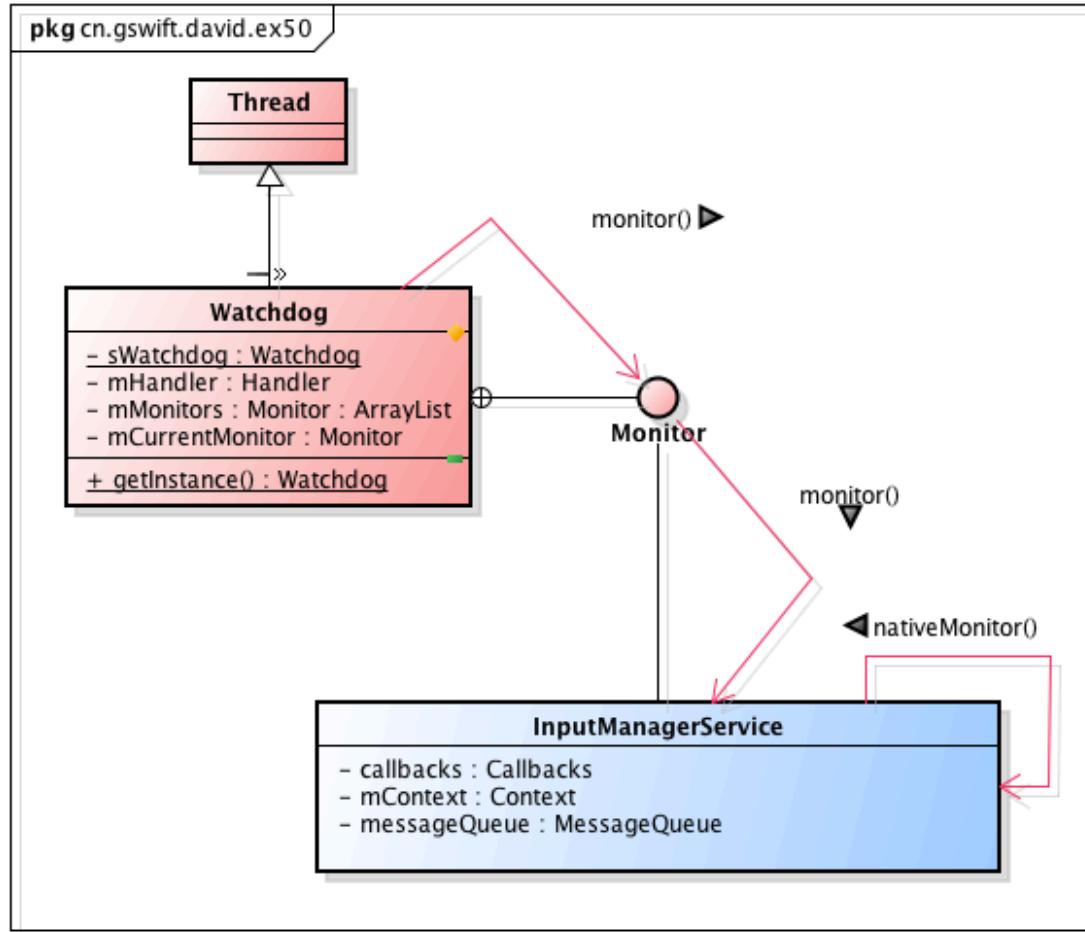
Create a NativeInputManager

(3y)



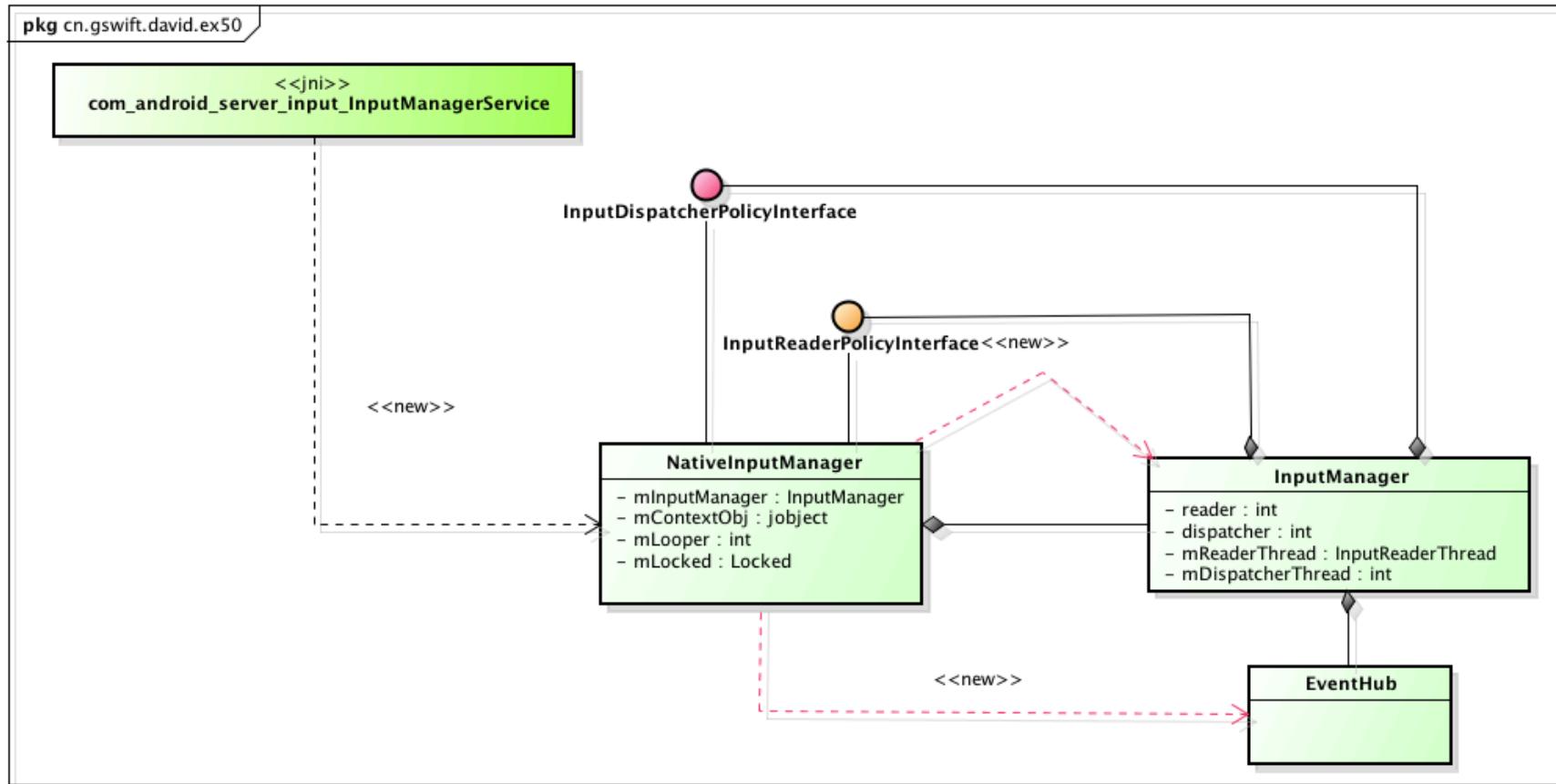
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Monitor



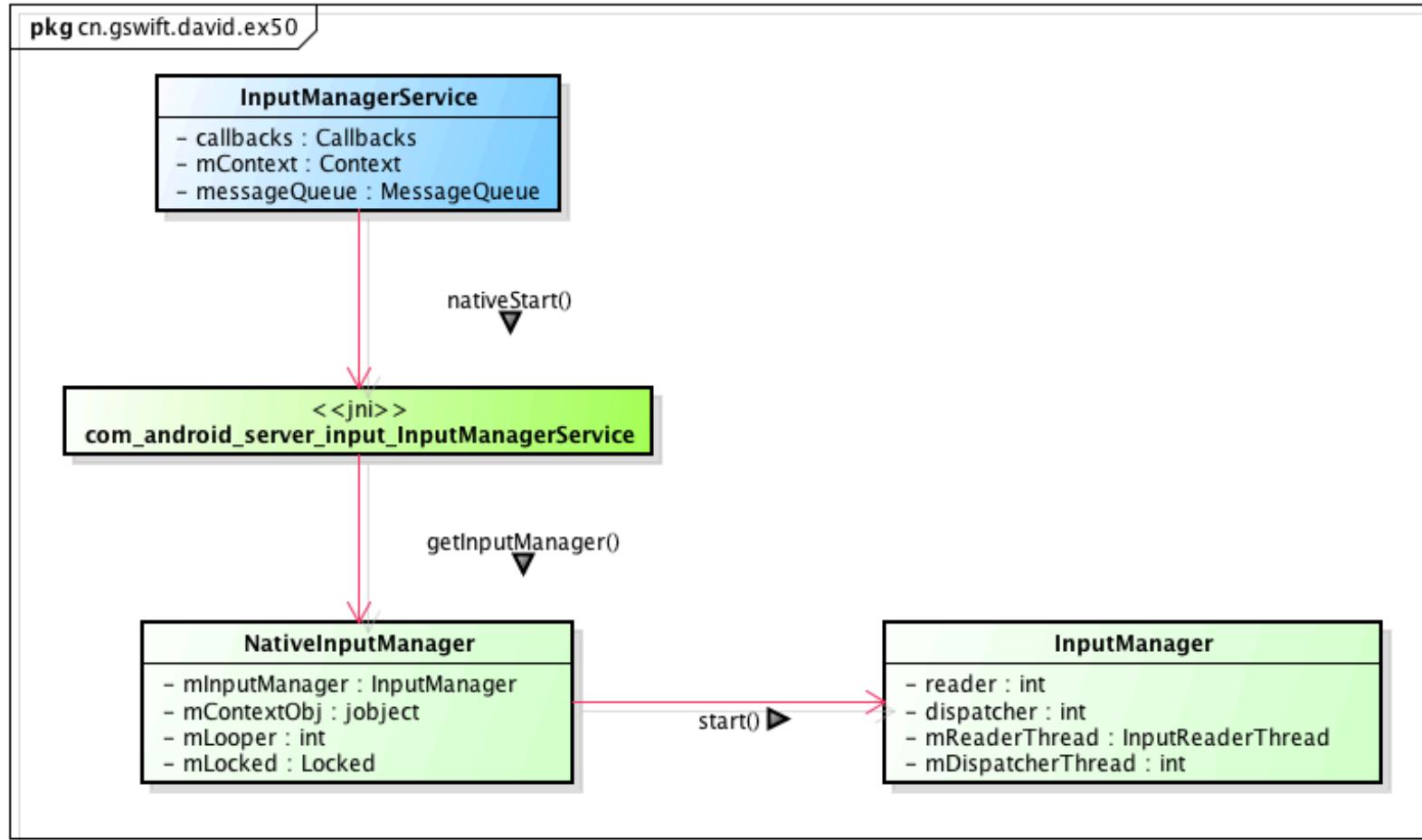
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Create a native InputManager and eventhub



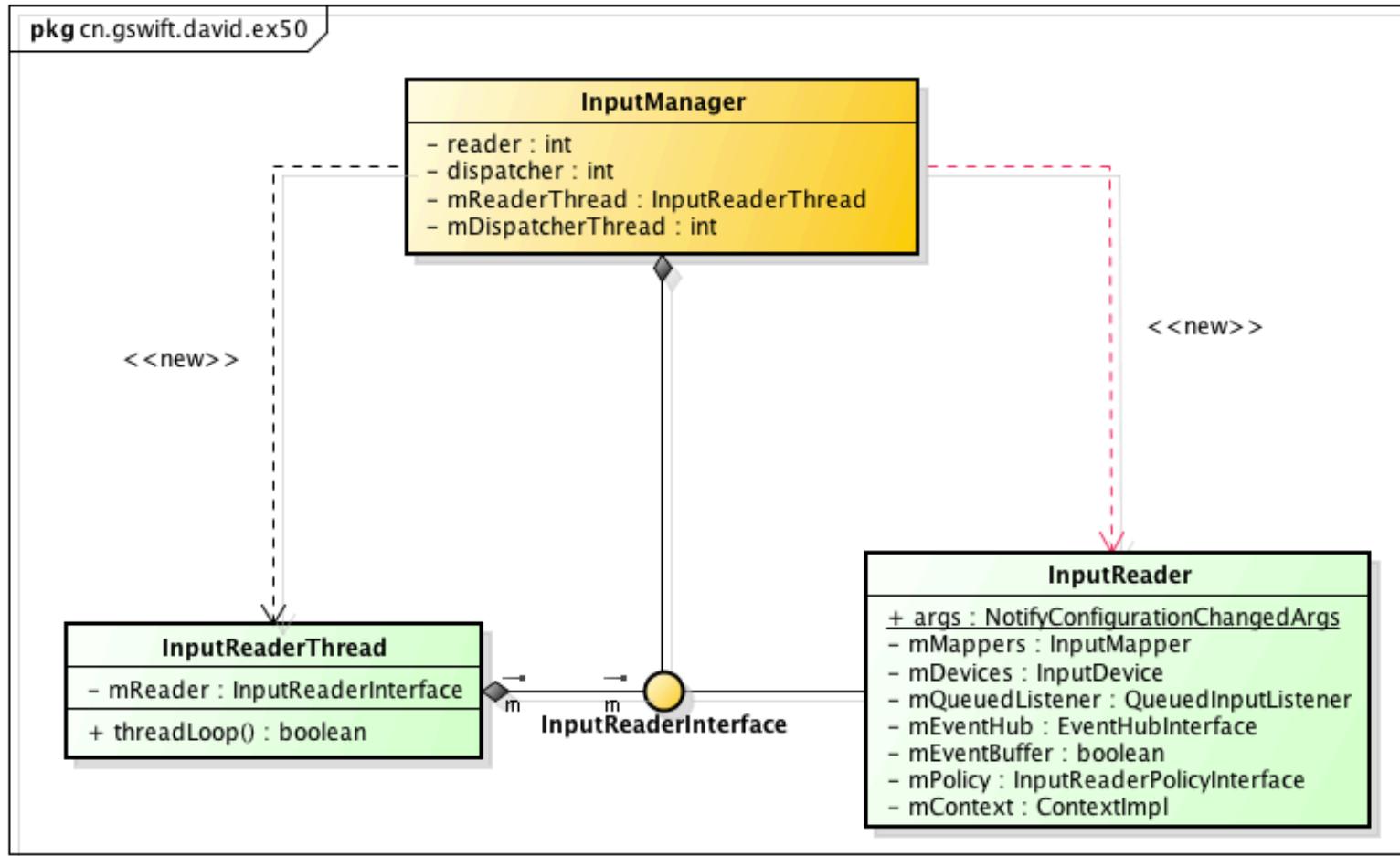
Start the native InputManager

CJyp



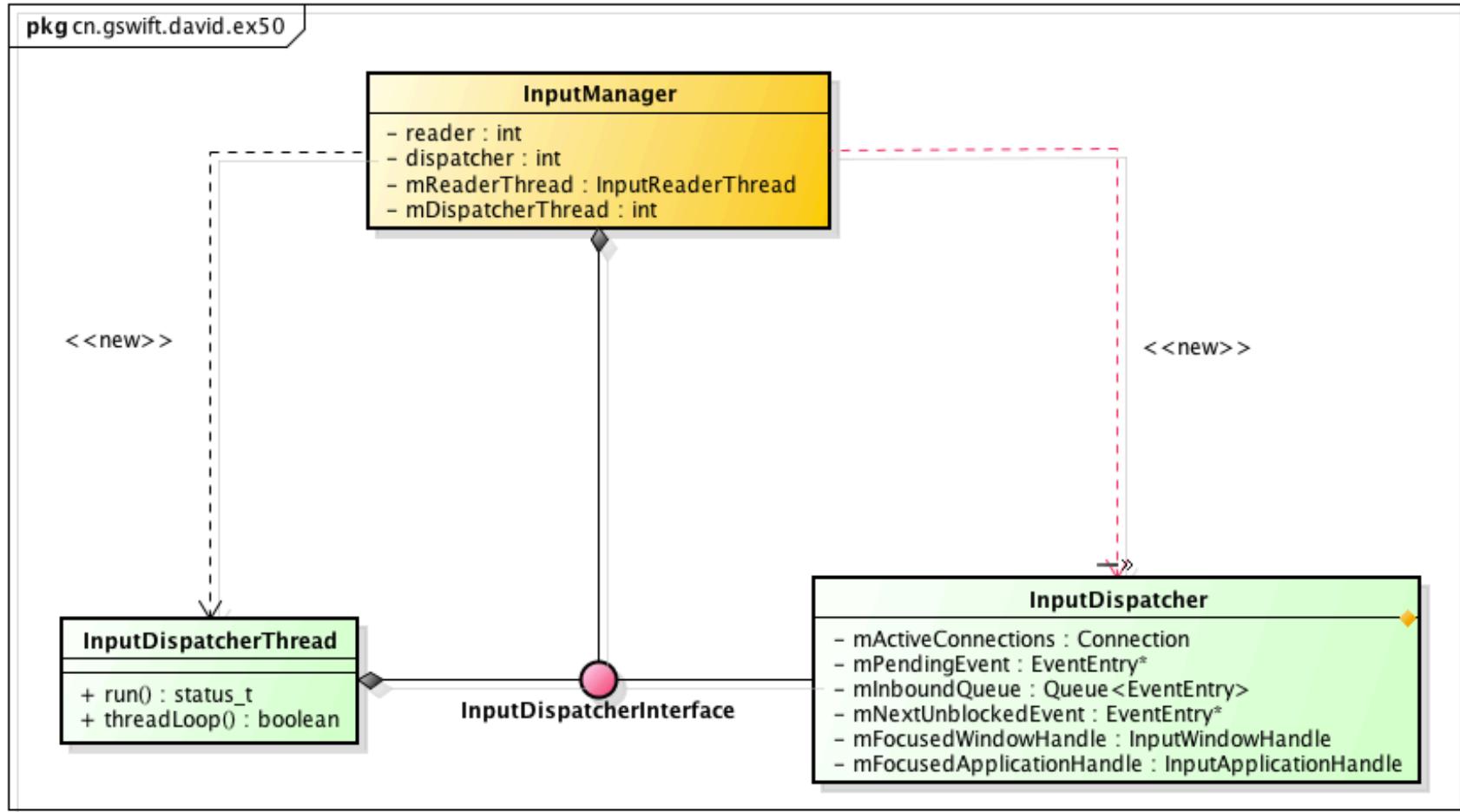
Create a native InputReader

CJy

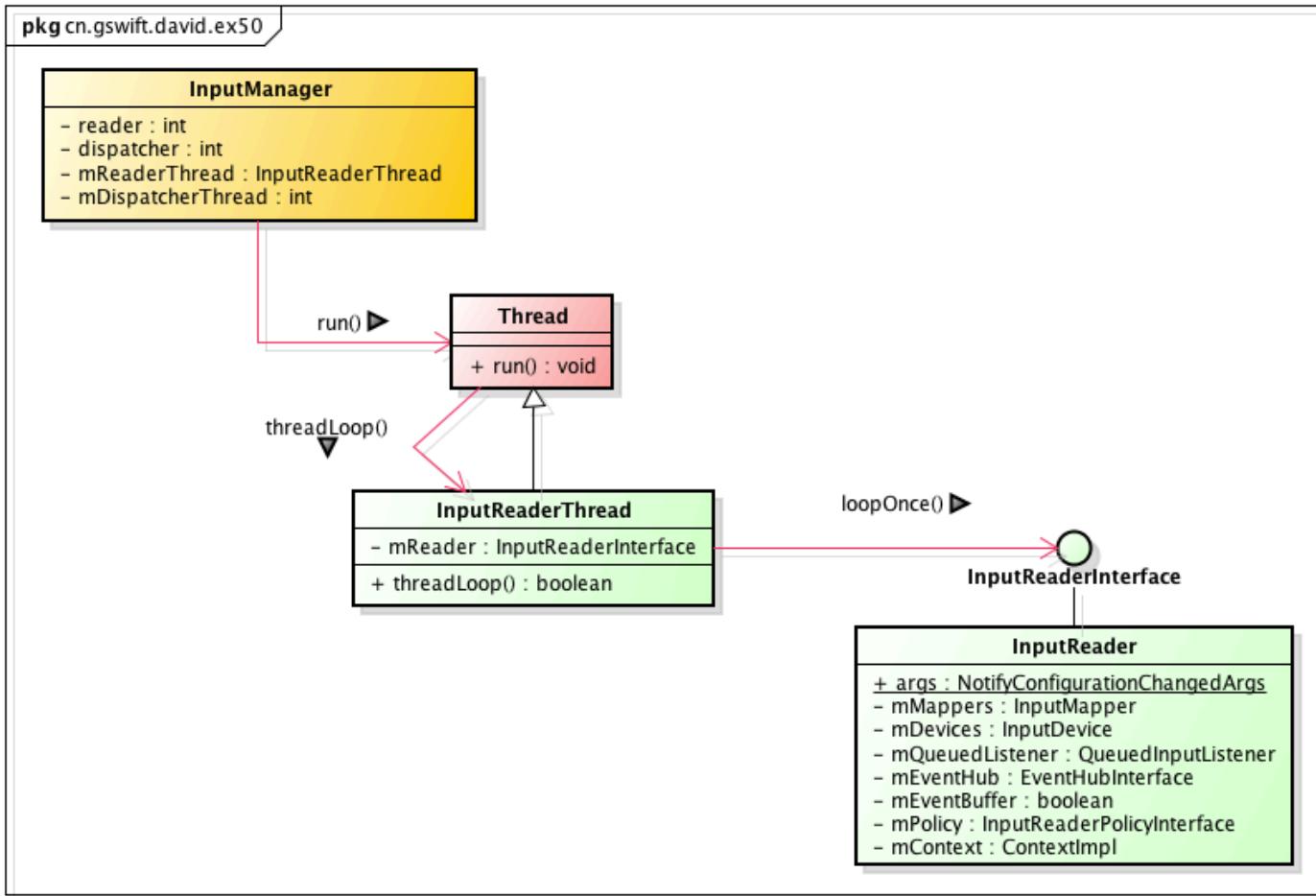


67yp

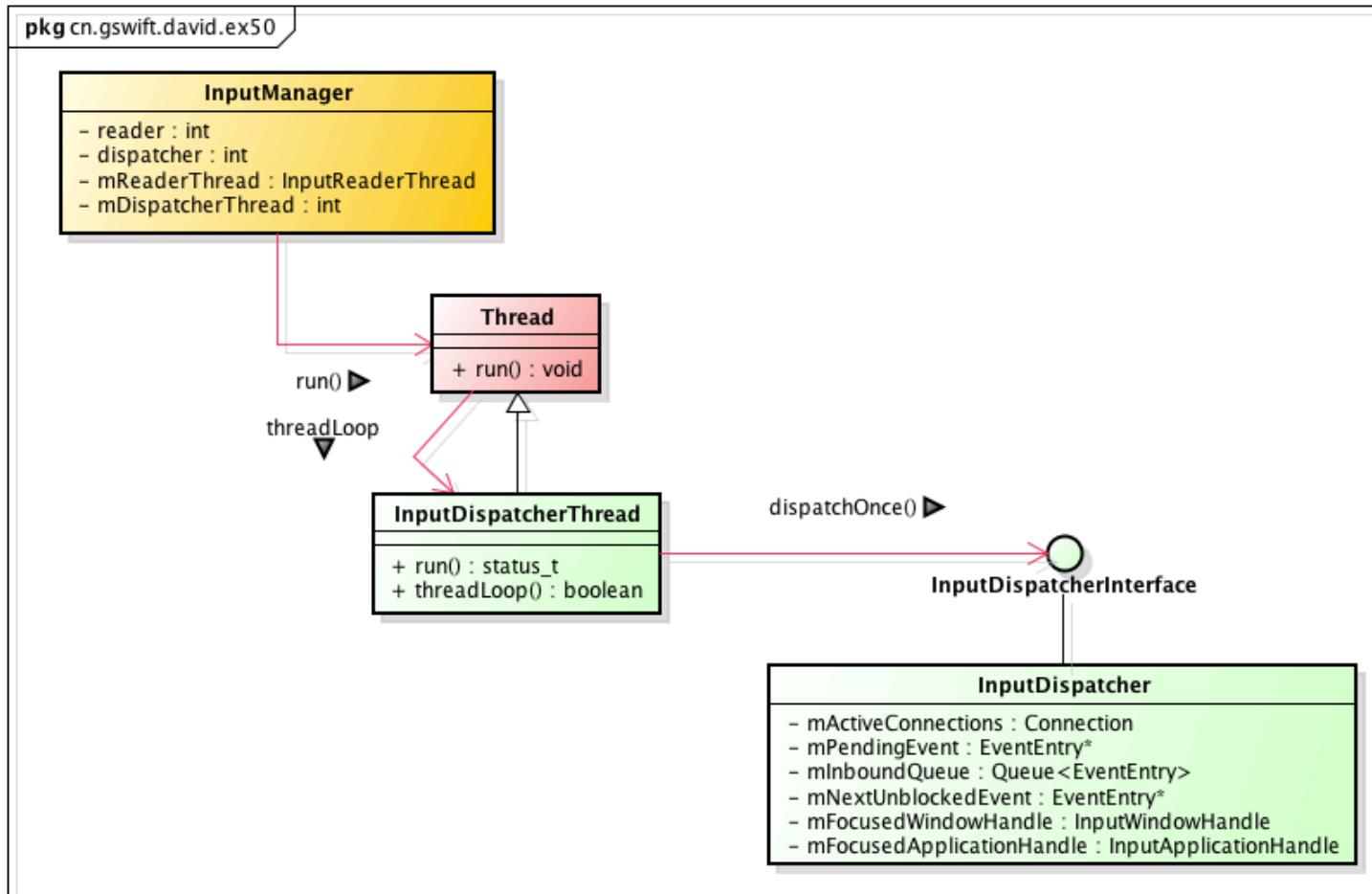
Create a native InputDispatcher



CJy

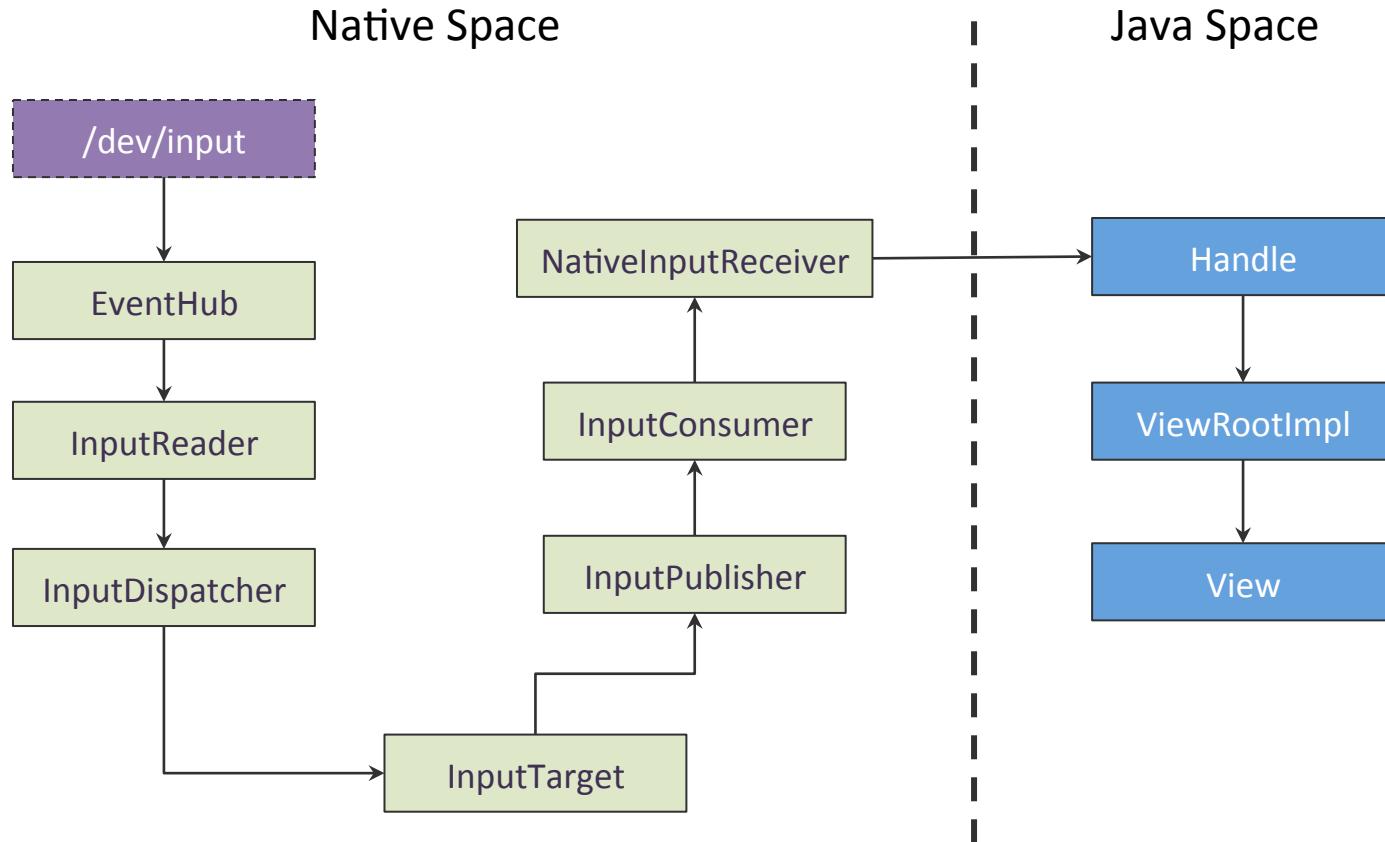


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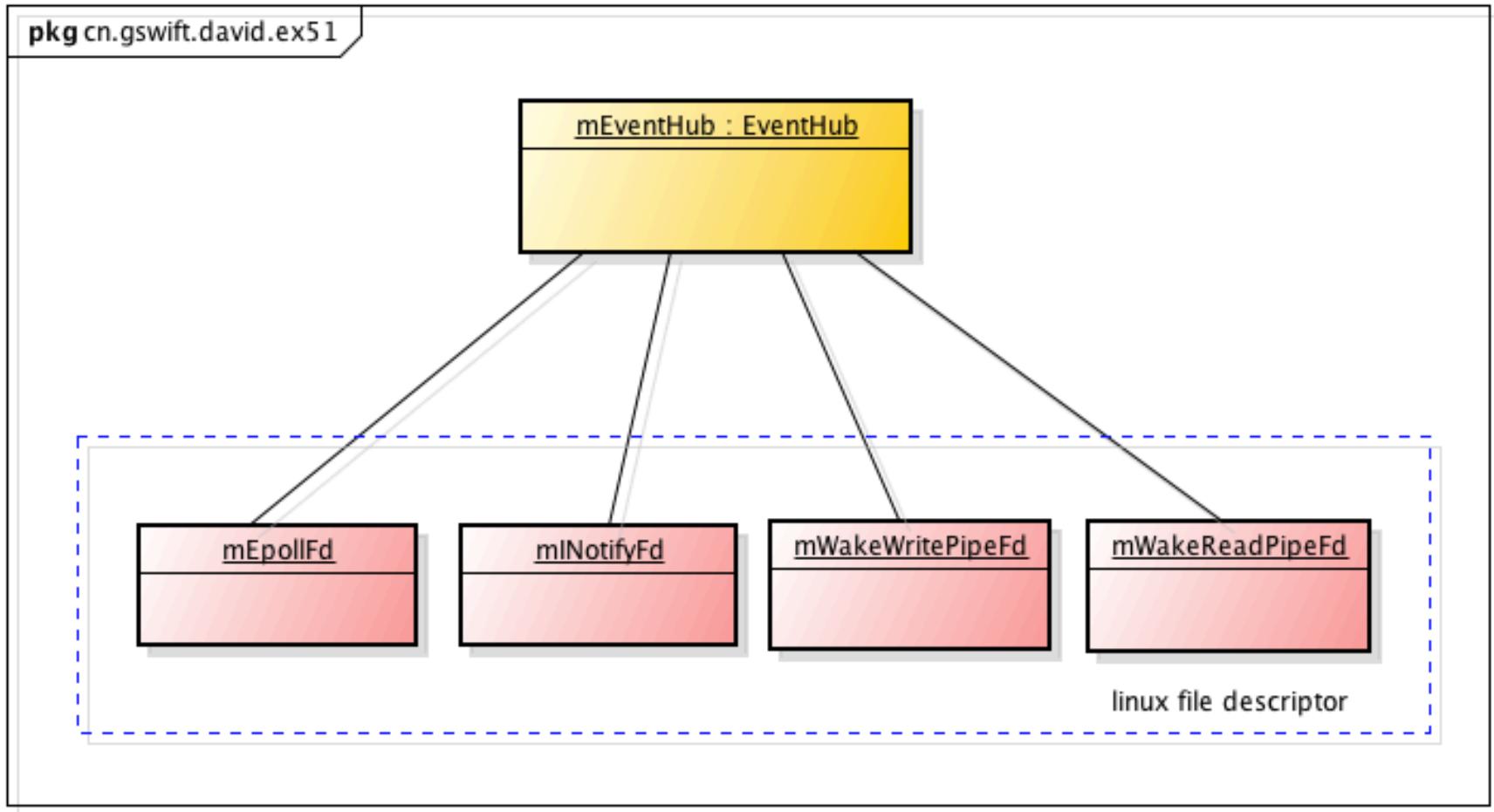


View get the input event



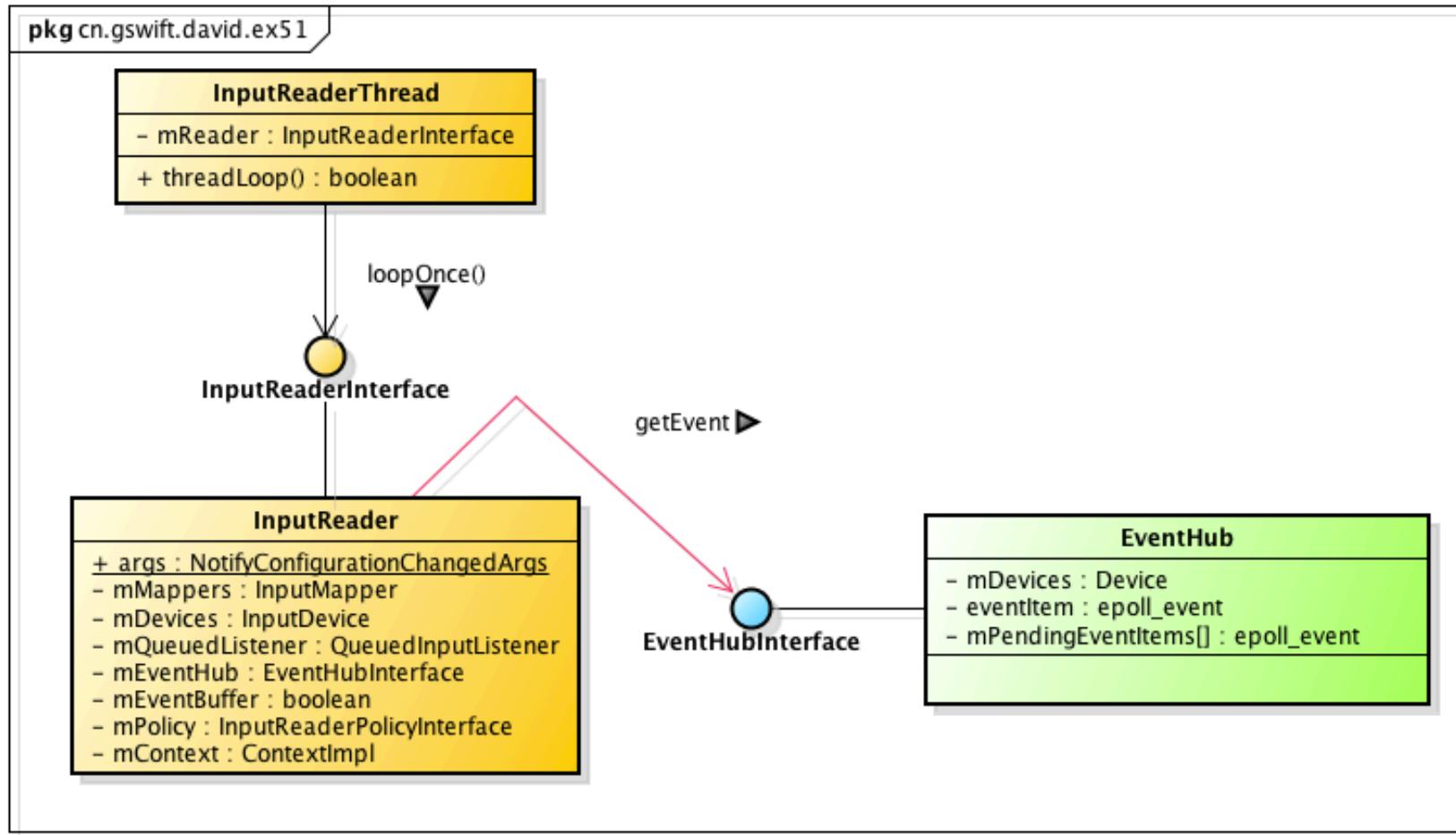
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EventHub



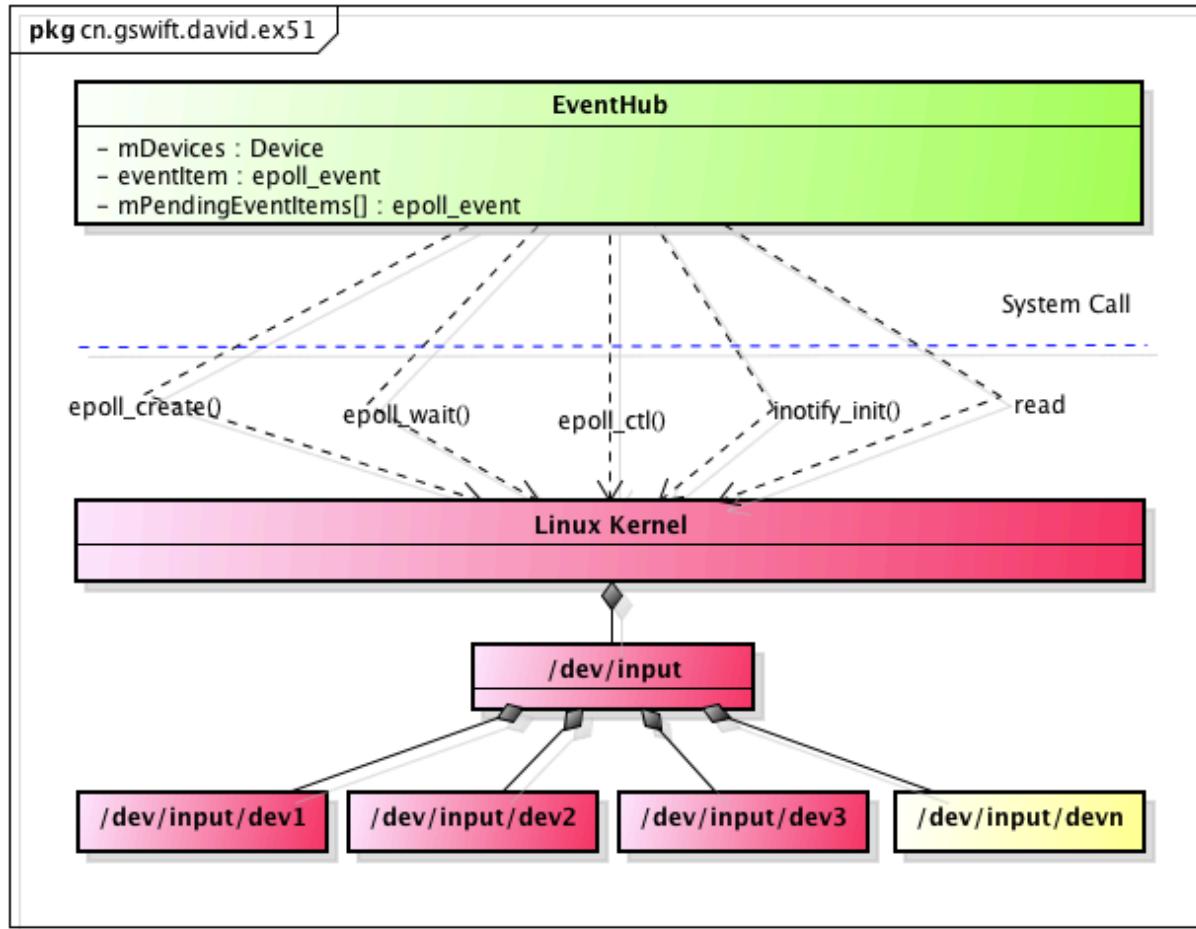
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Get event from EventHub



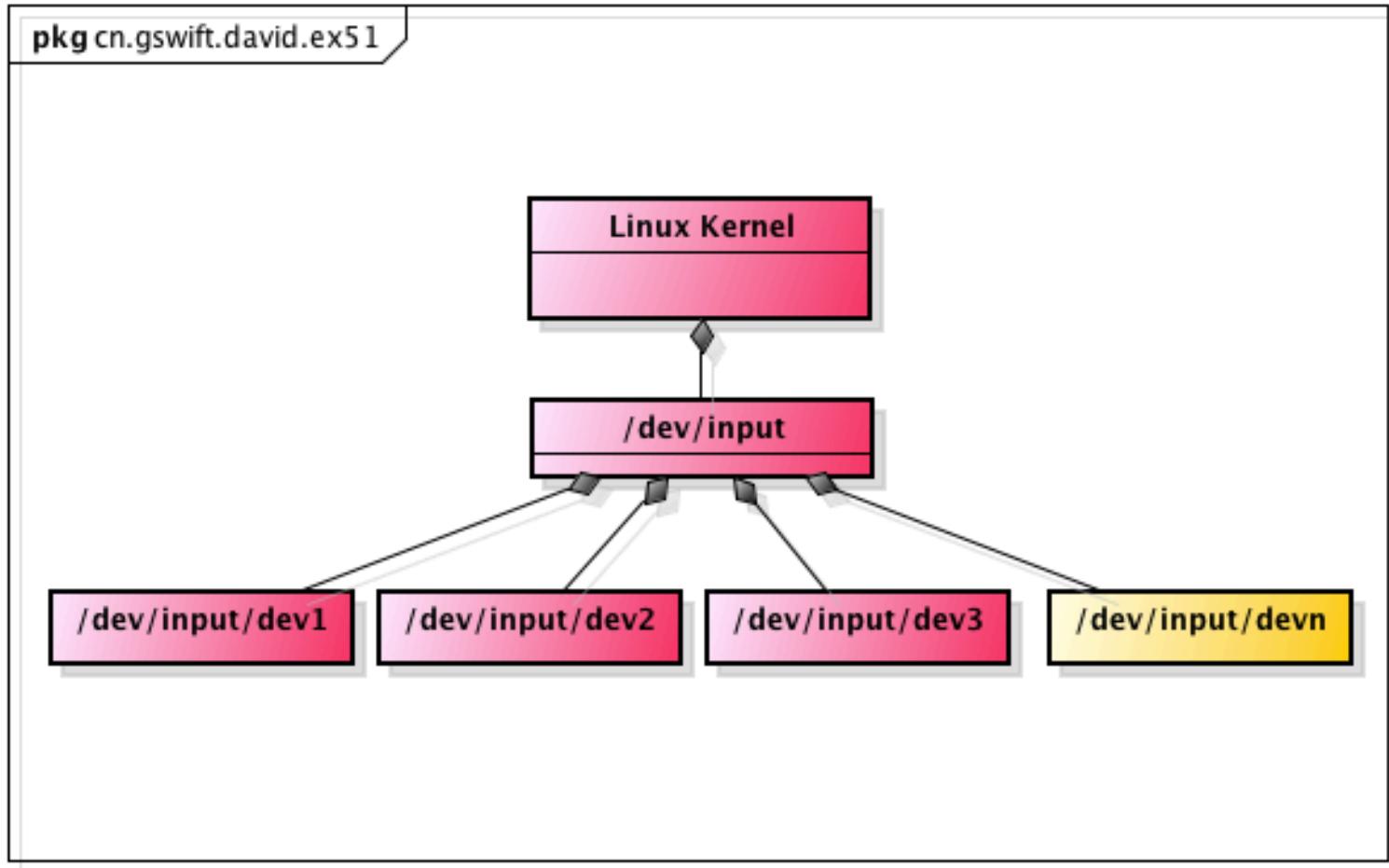
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EventHub & dev/input



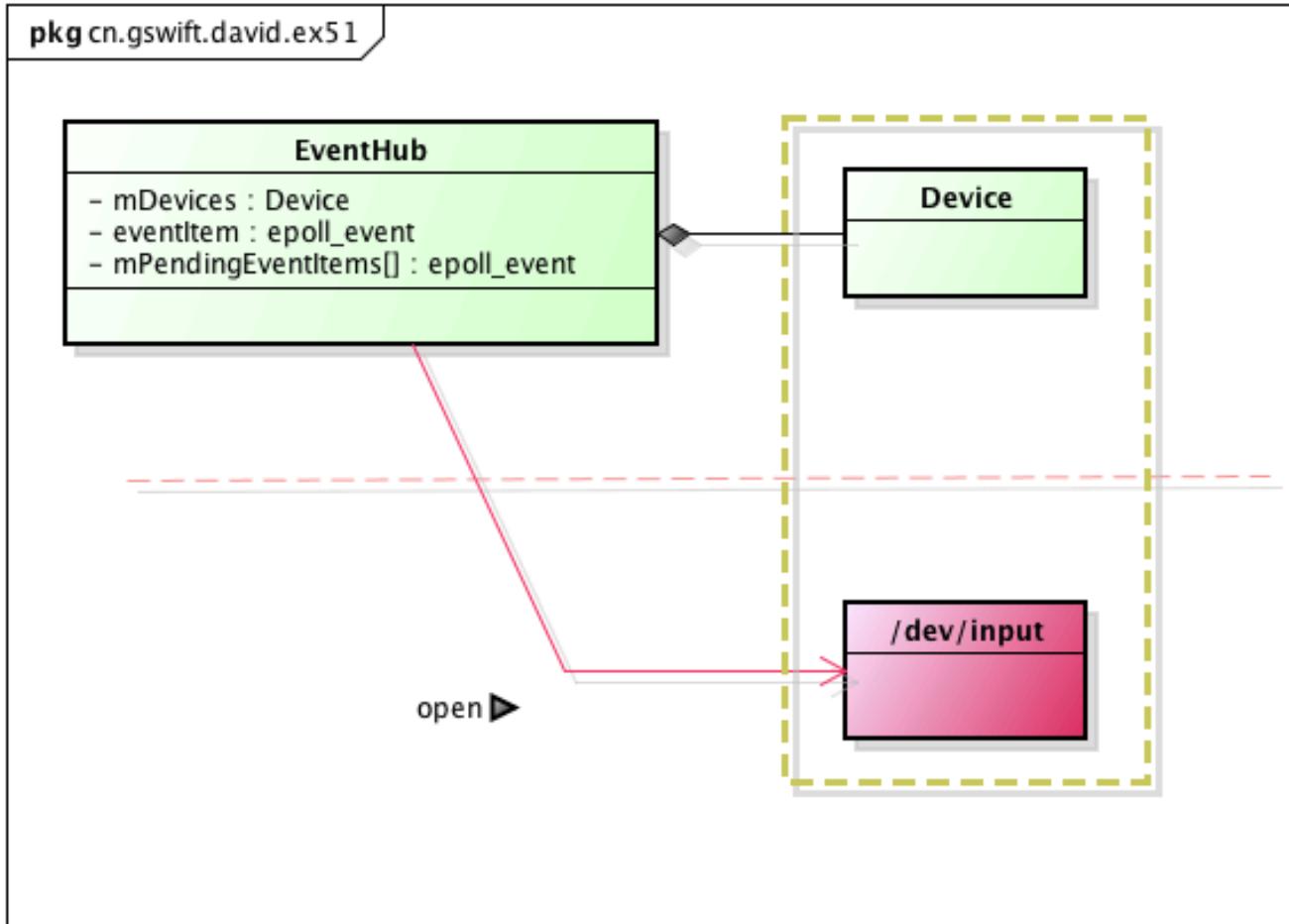
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/dev/input



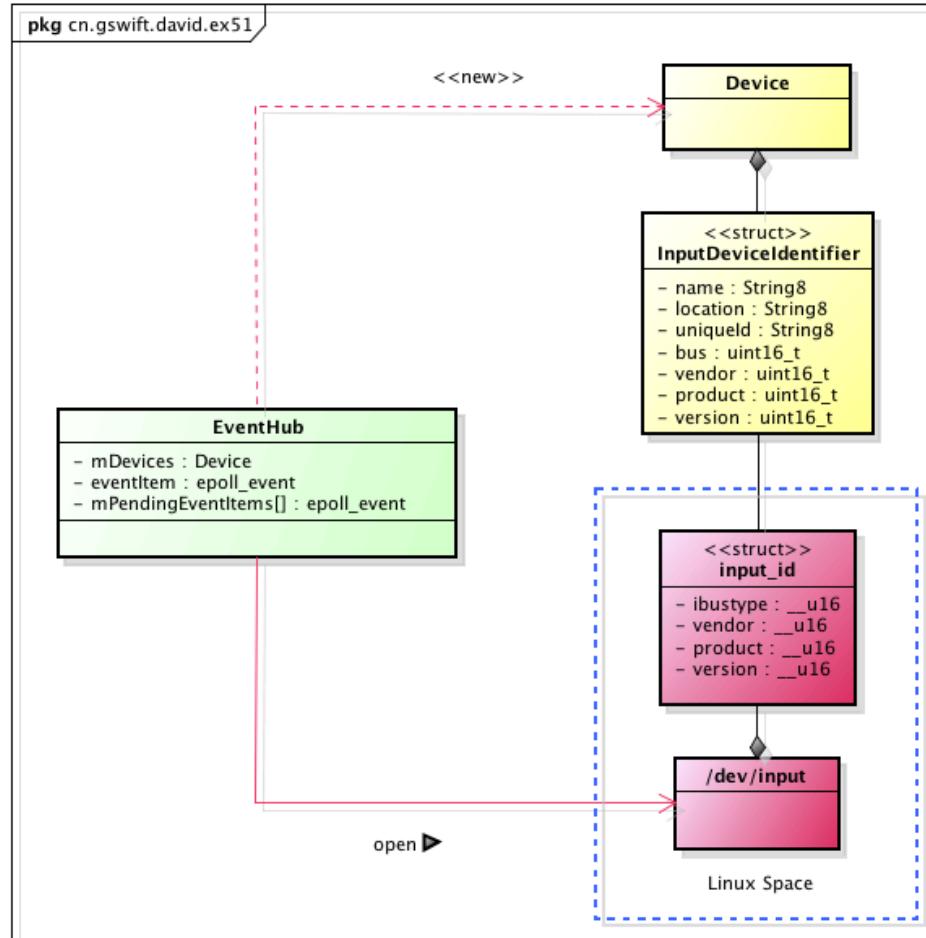
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Open dev/input



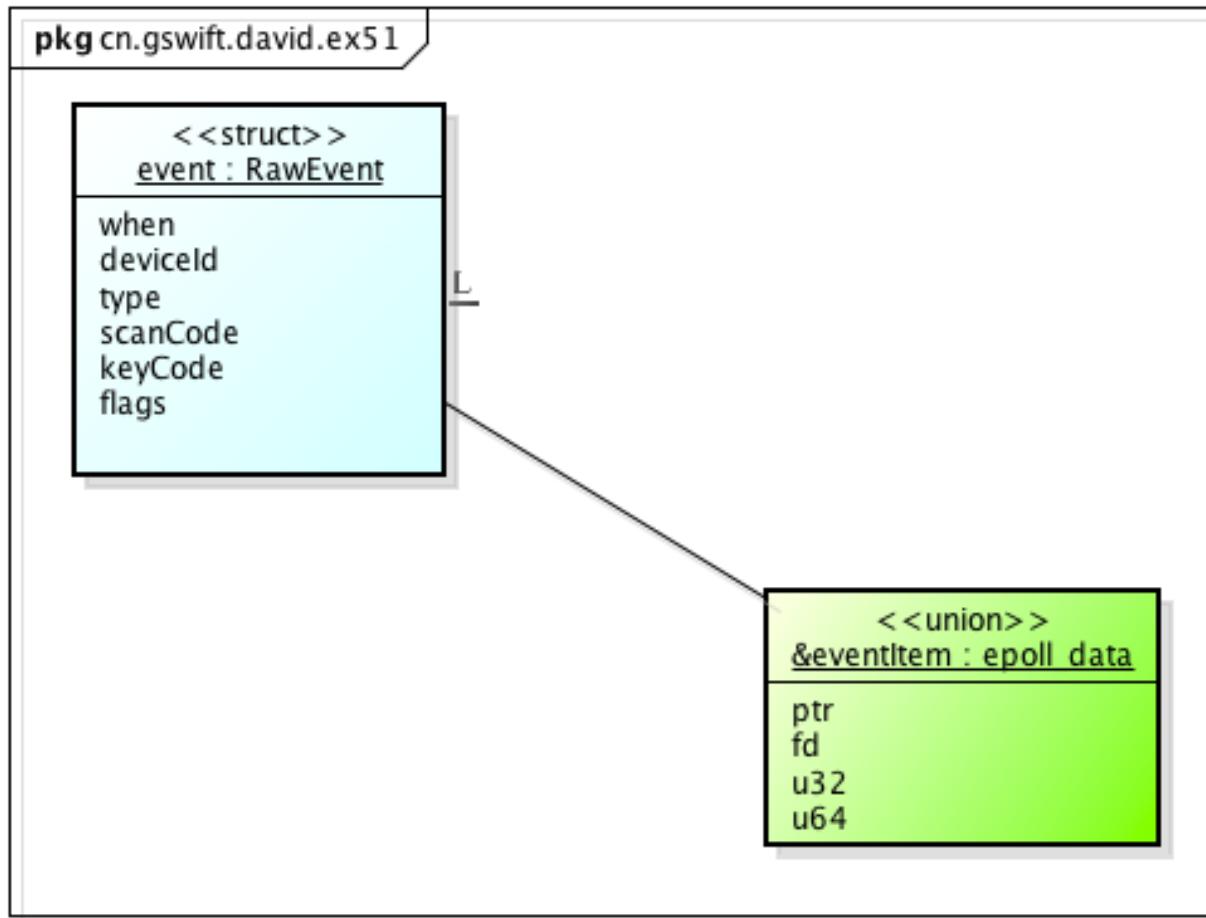
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Open dev/input



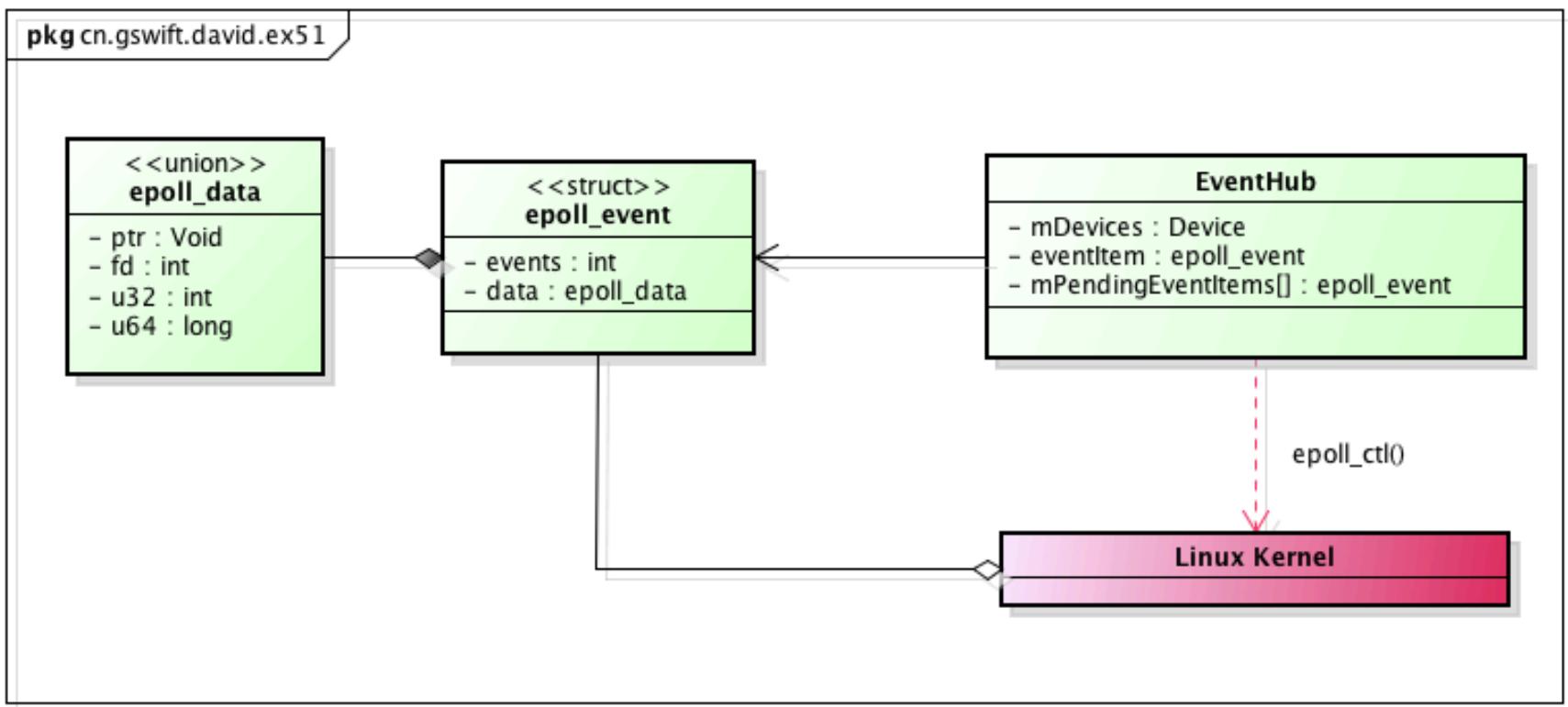
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Event Data



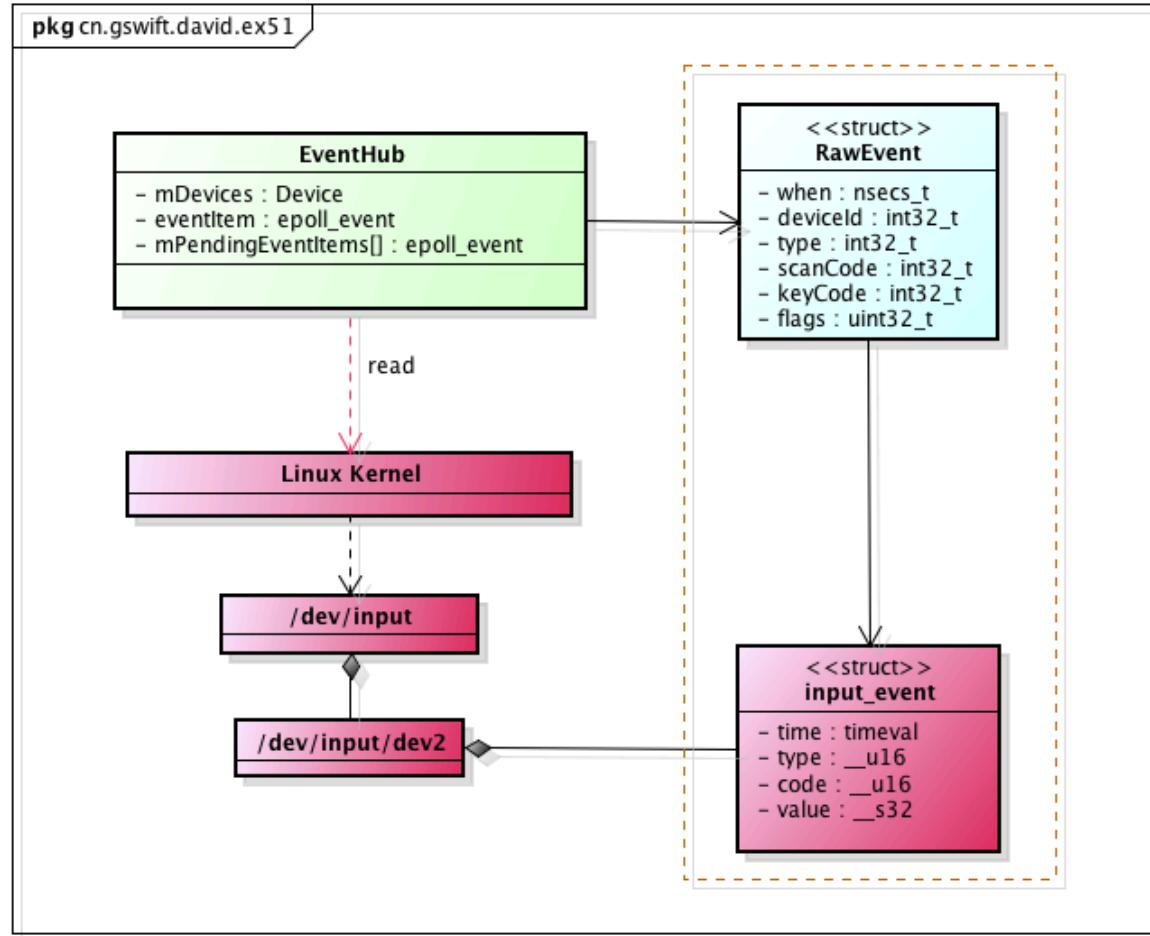
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Epoll event



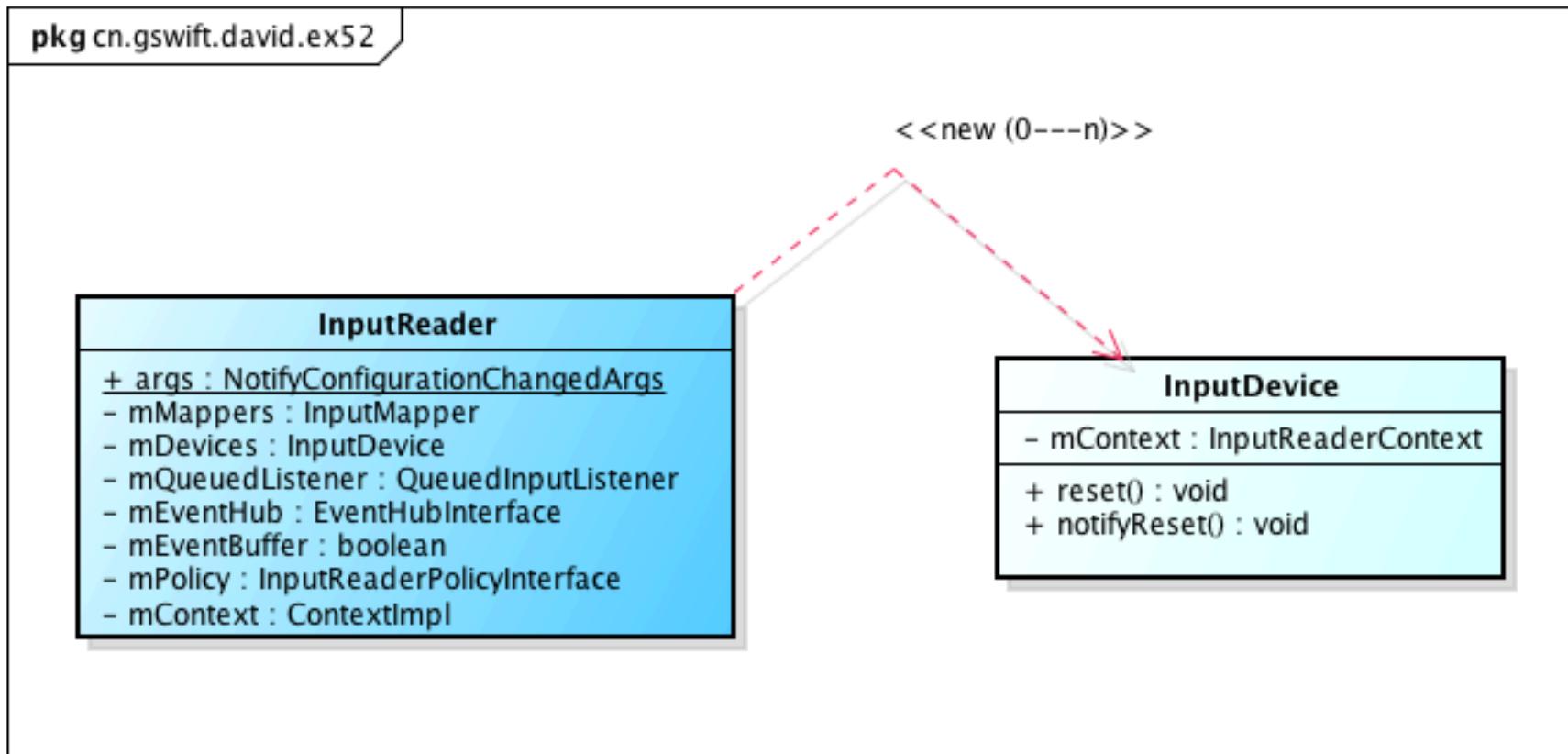
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Read the input_event data



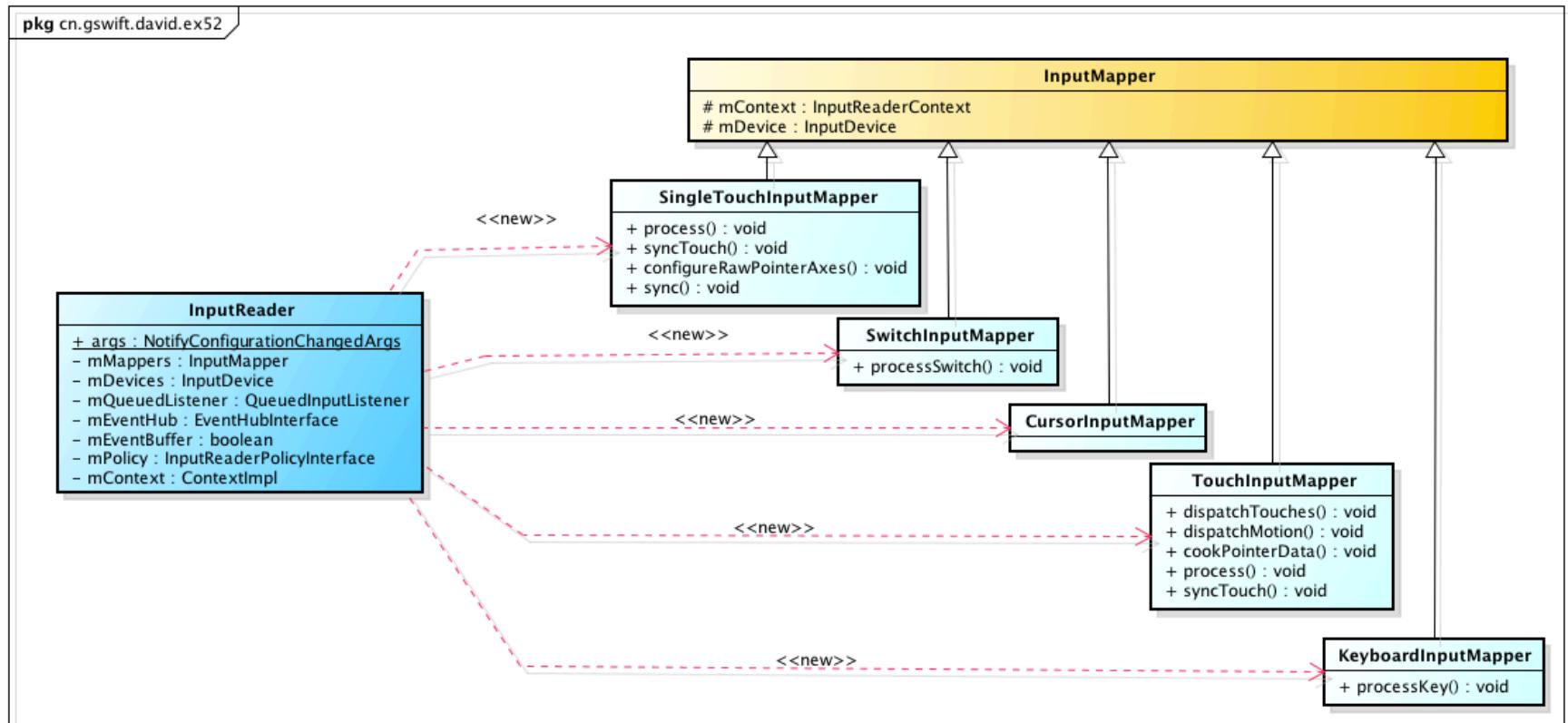
Create a native InputDevice

CJy



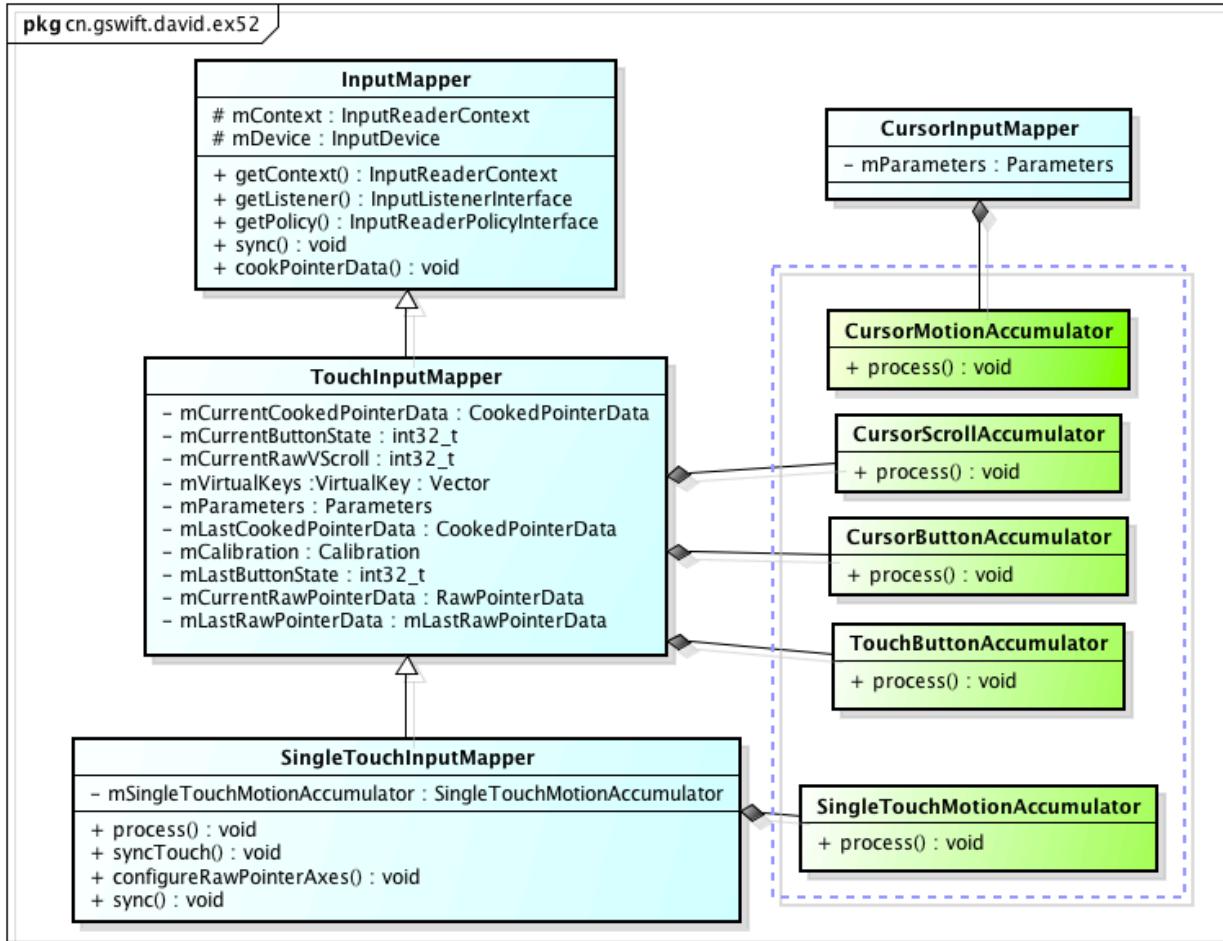
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InputMapper



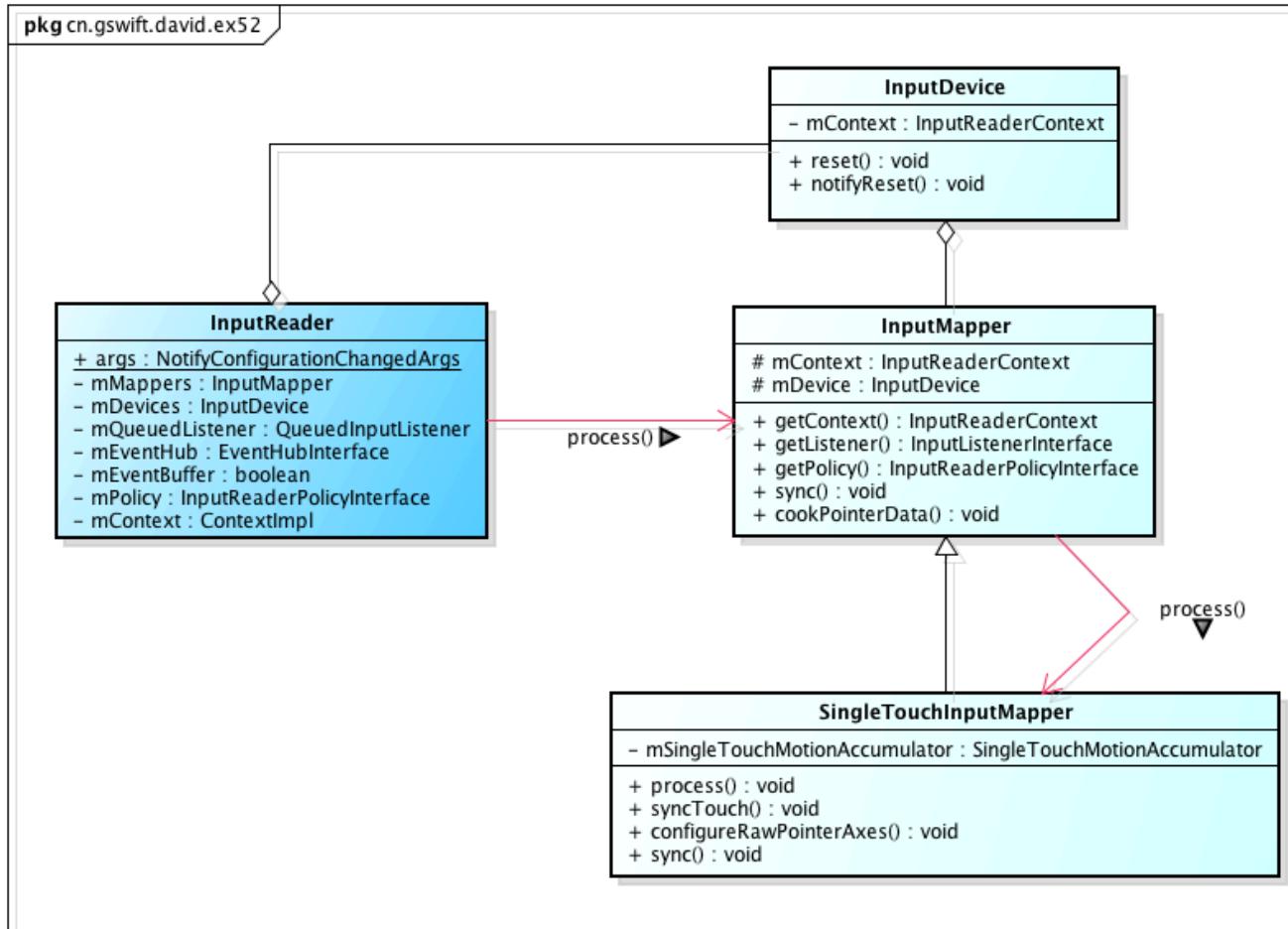
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InputMapper



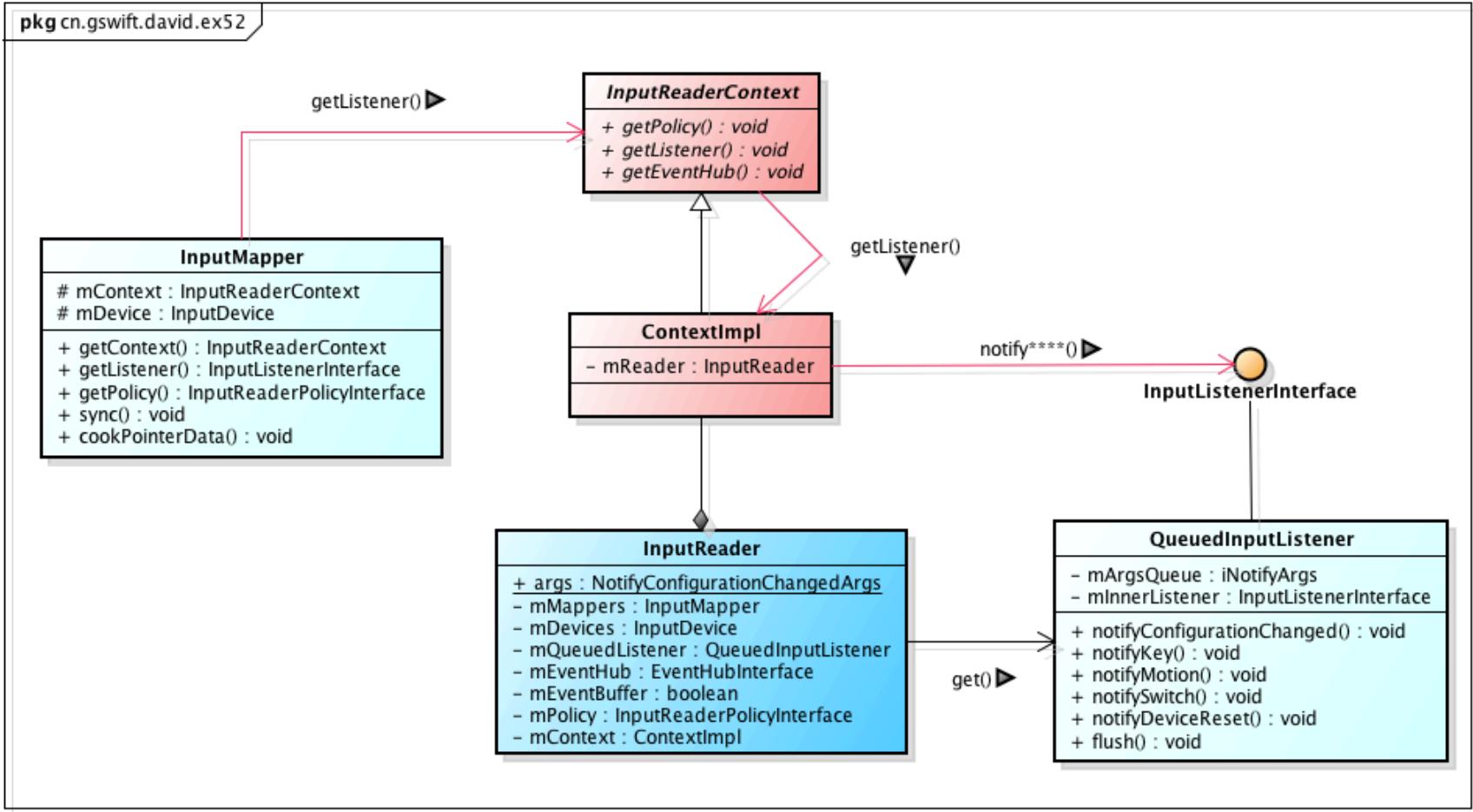
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Process InputMapper



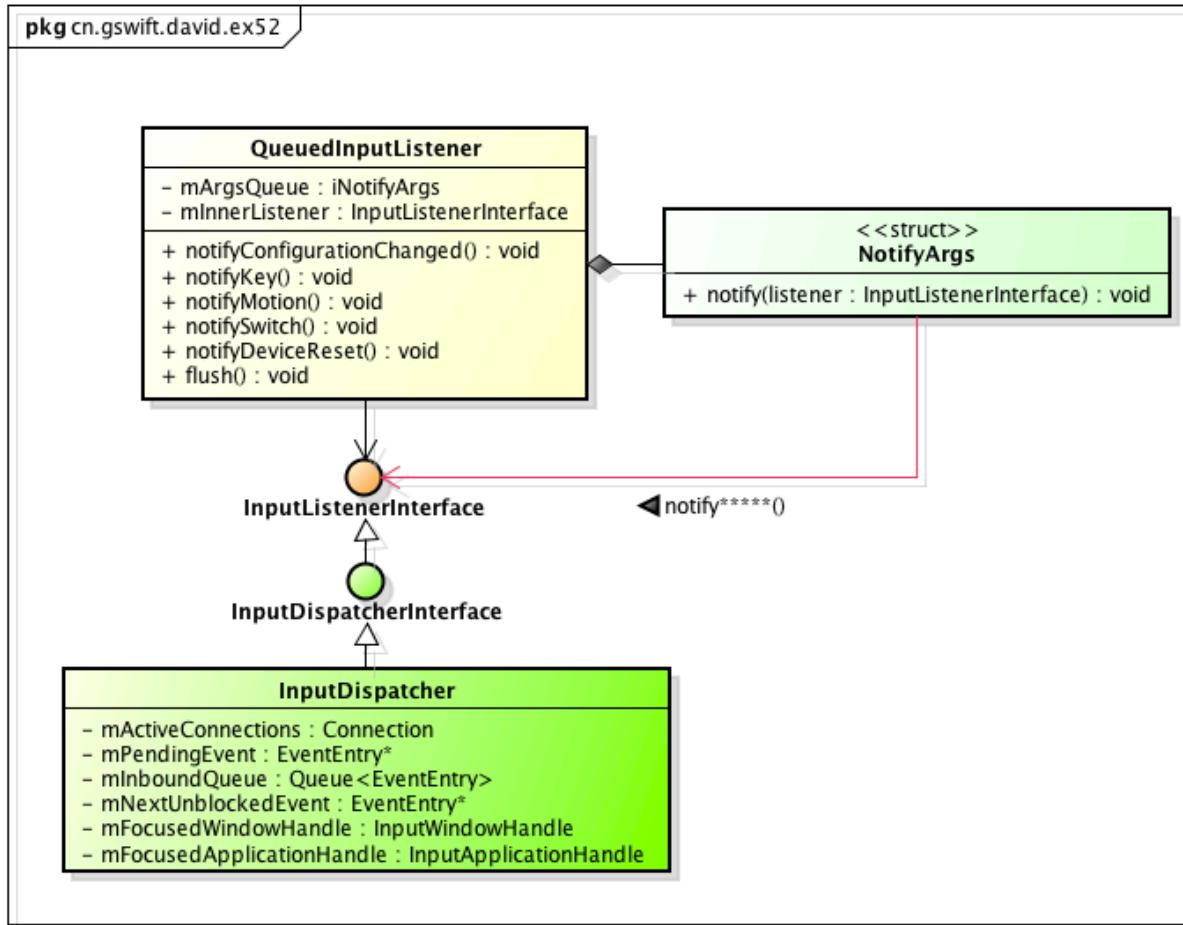
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InputListenerInterface



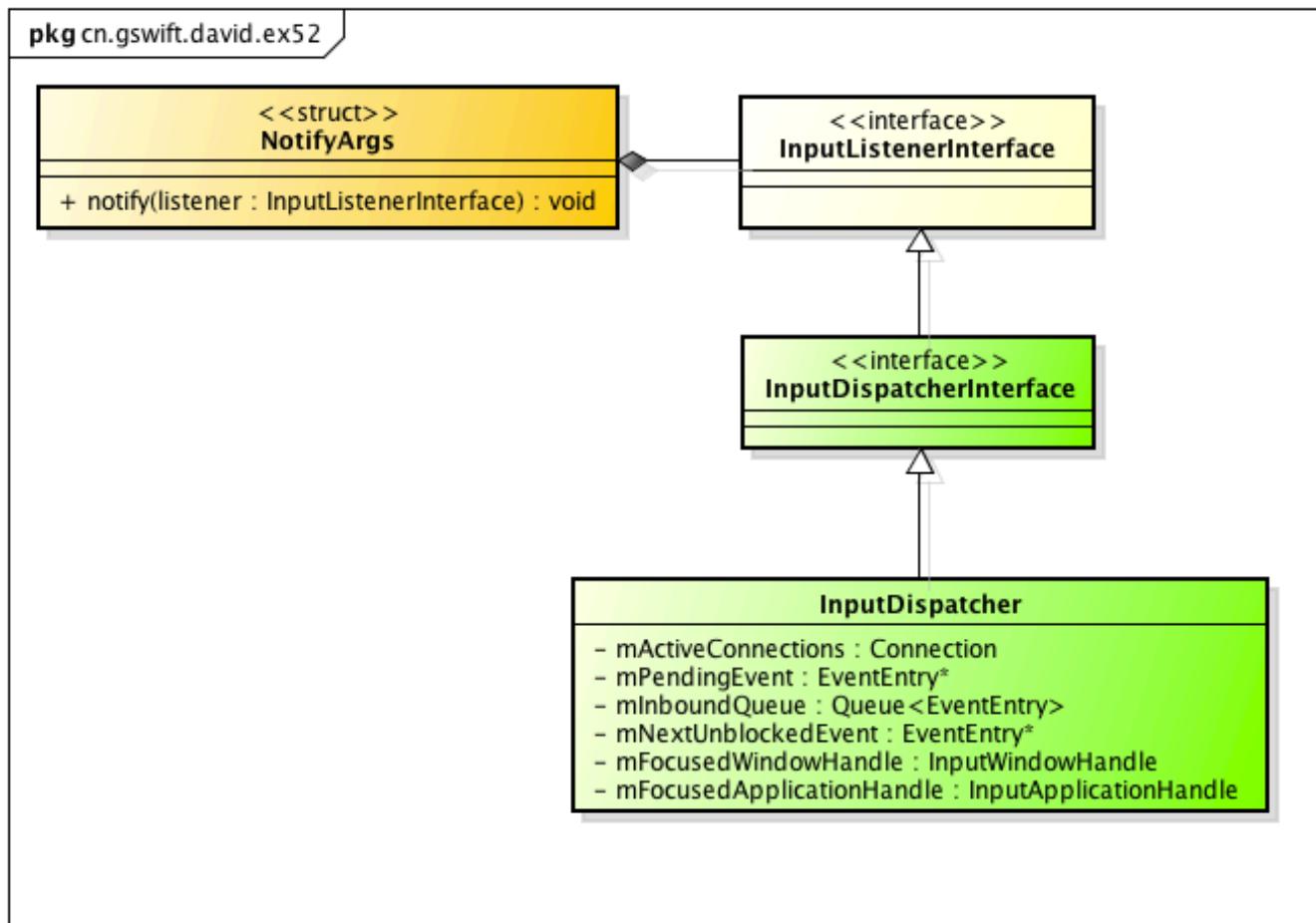
InputListenerInterface and its implementation

CEJP



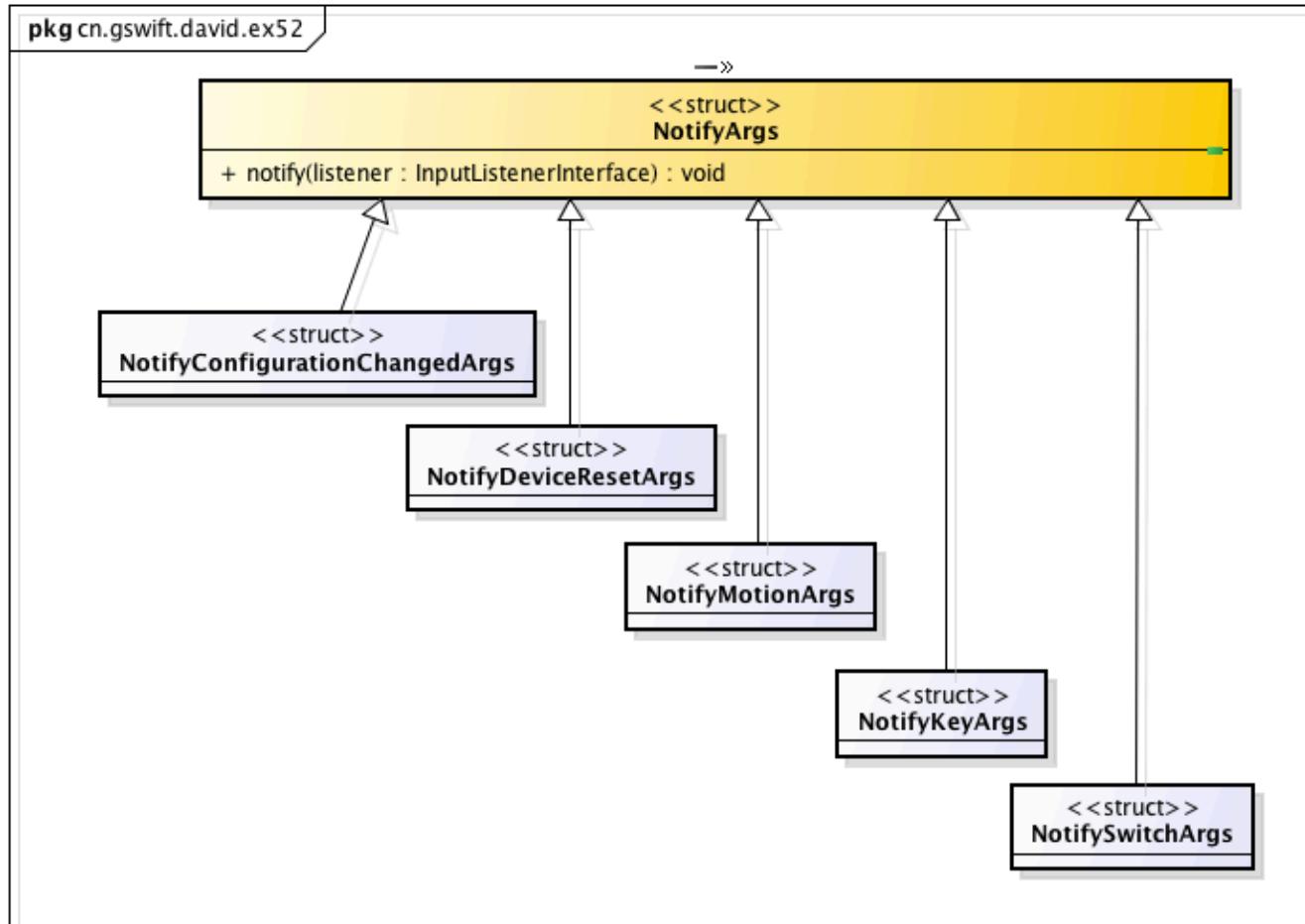
InputListenerInterface and it's implement

CEJP



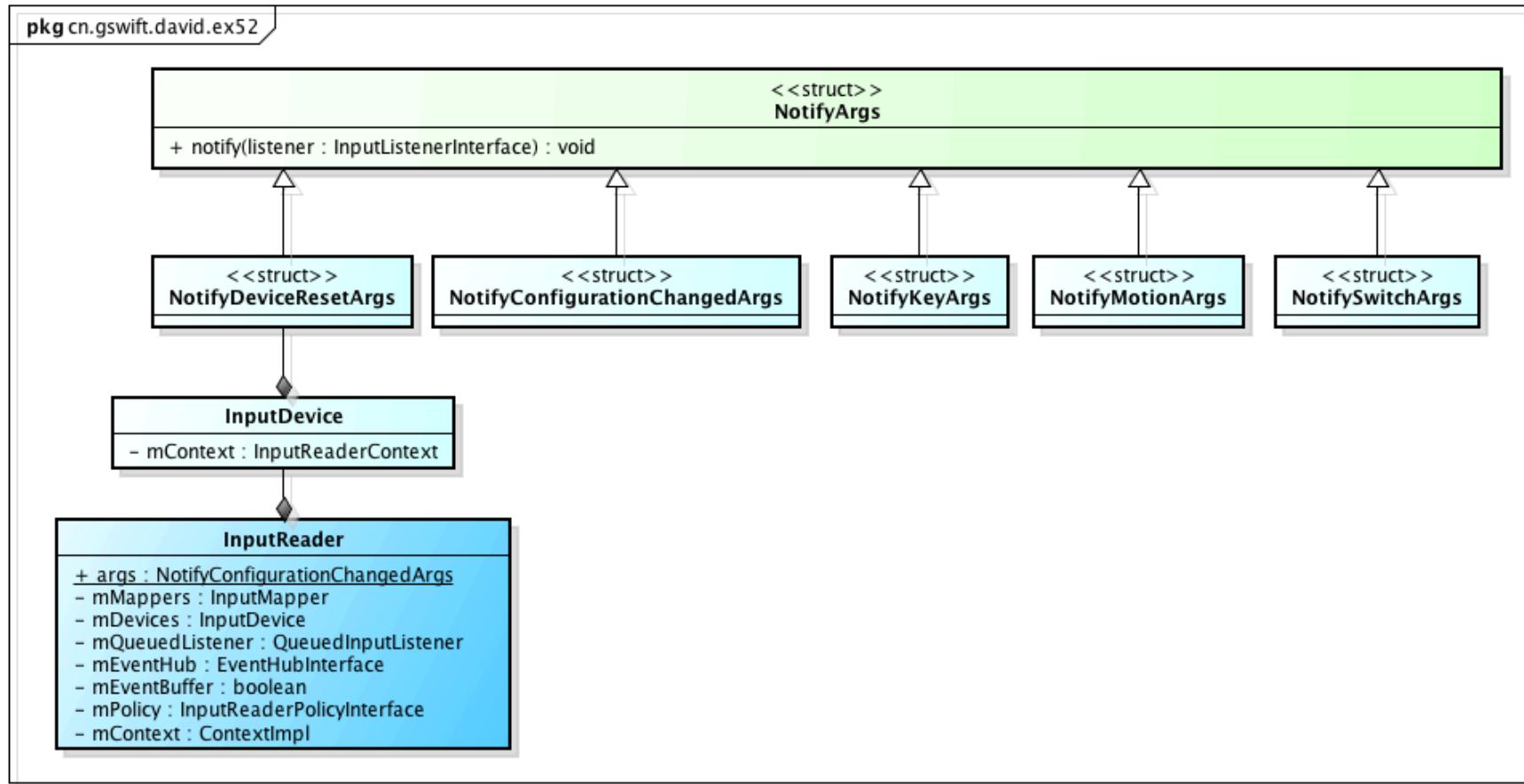
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NotifyArgs



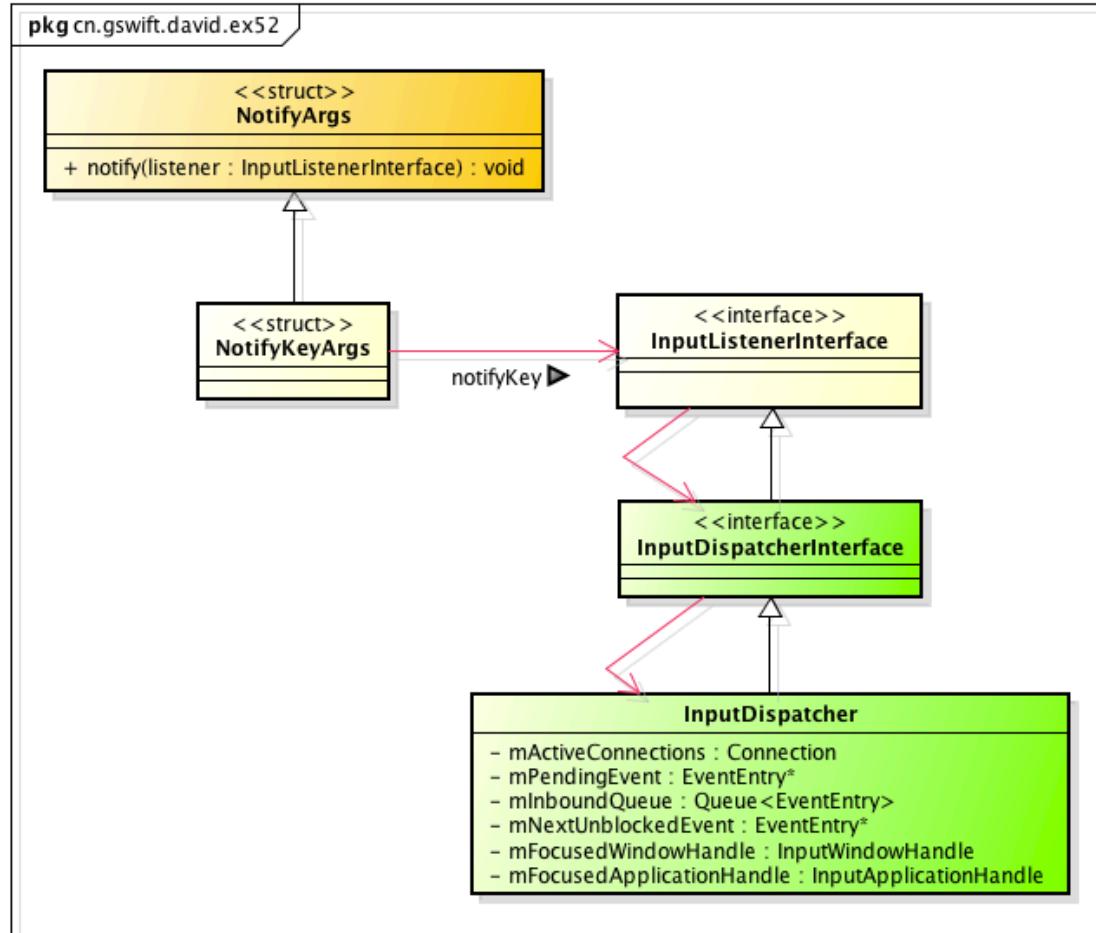
NotifyArgs and InputReader

CJy



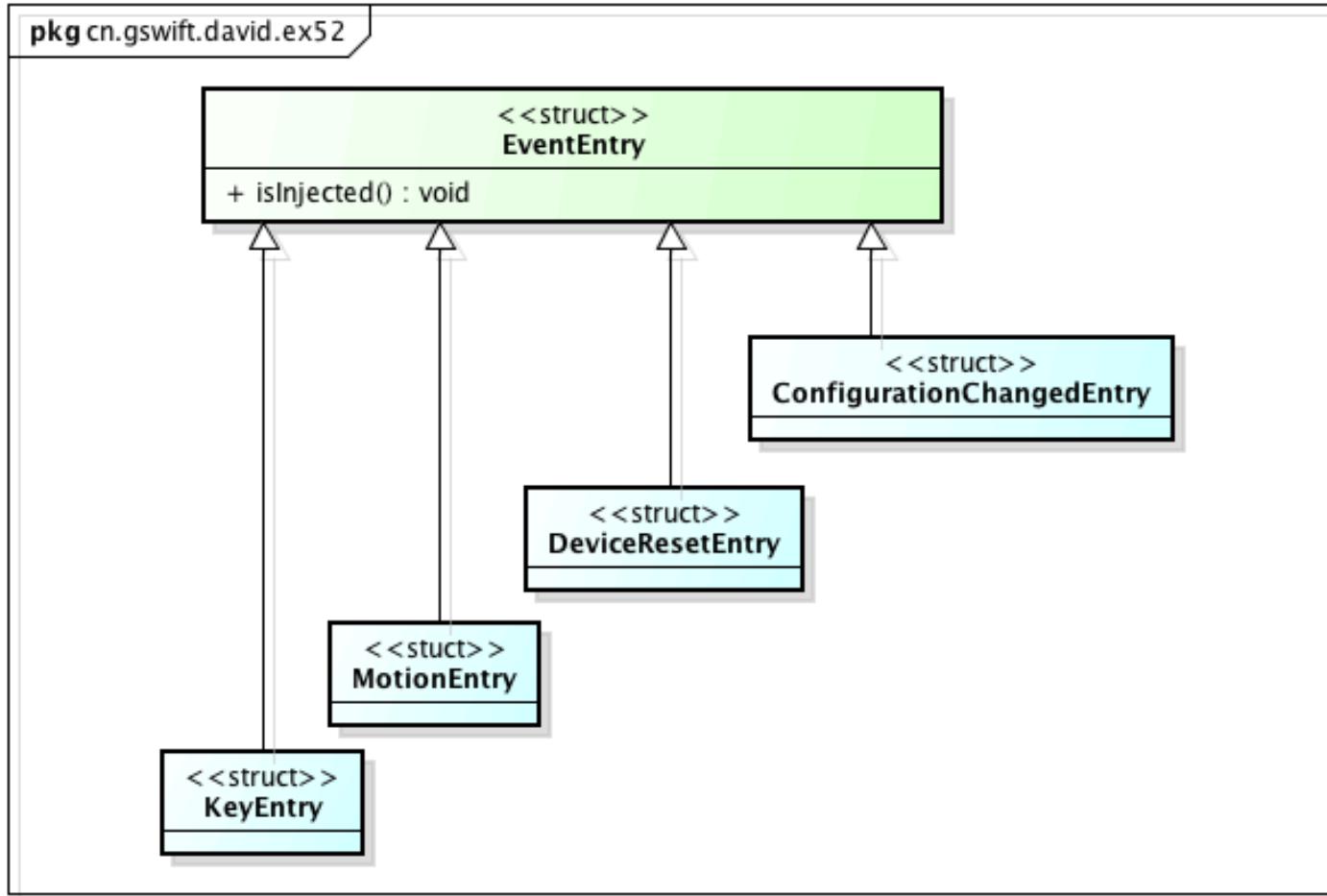
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notifyKey



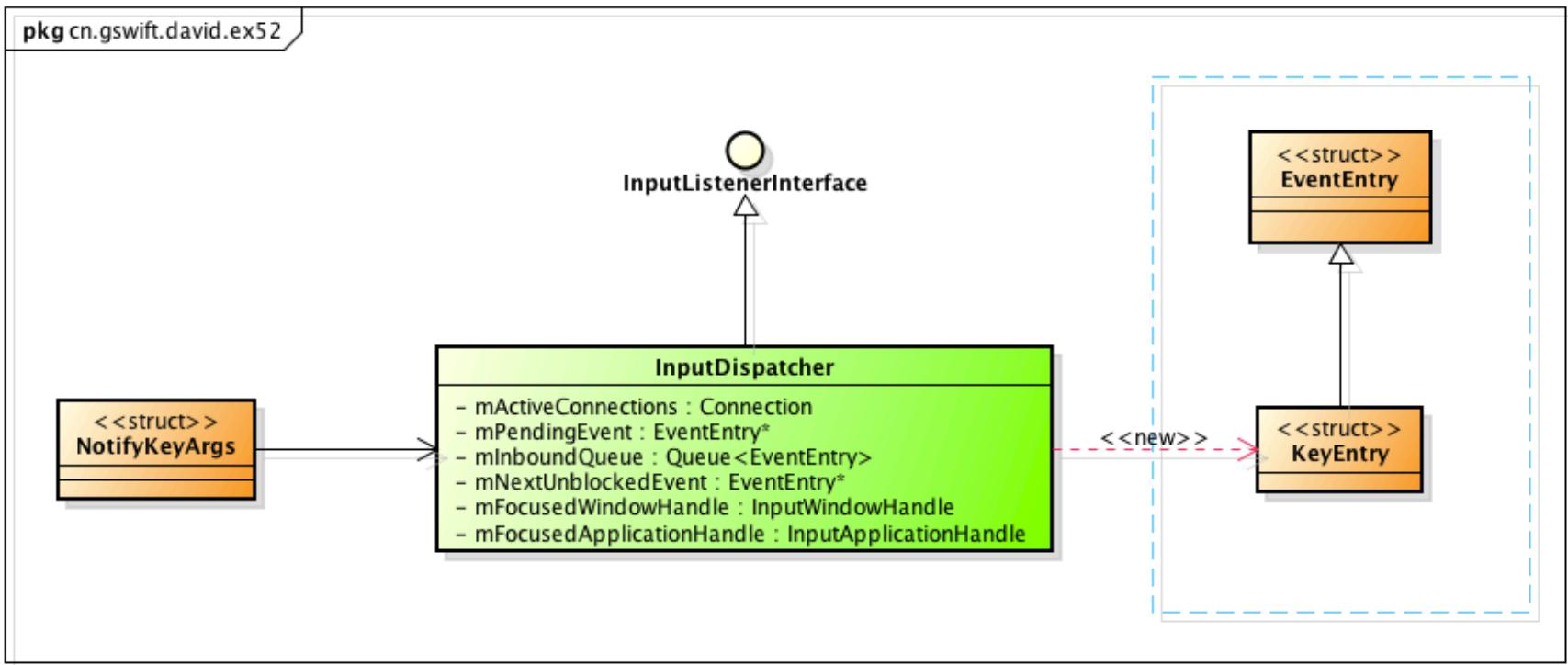
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EventEntry



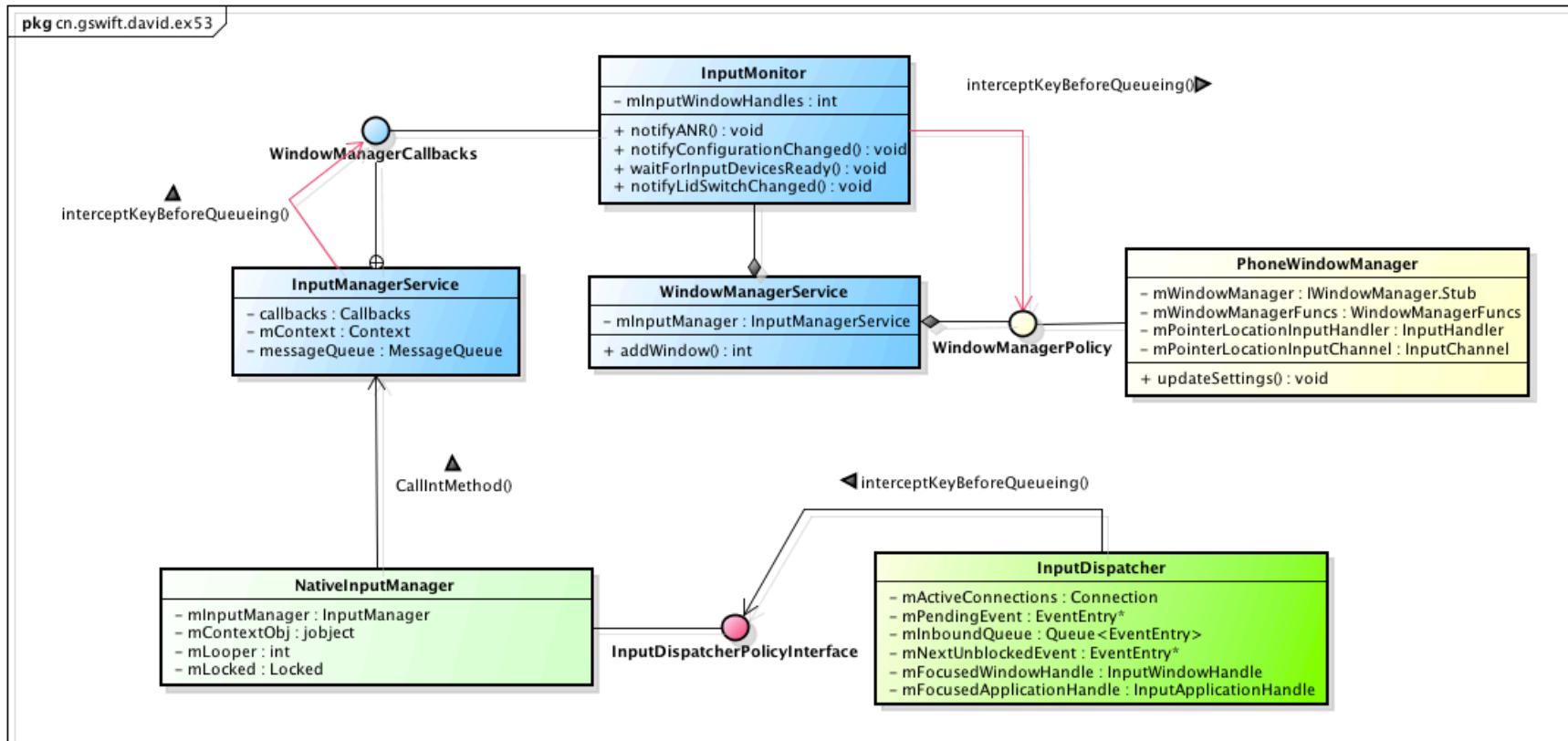
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EventEntry



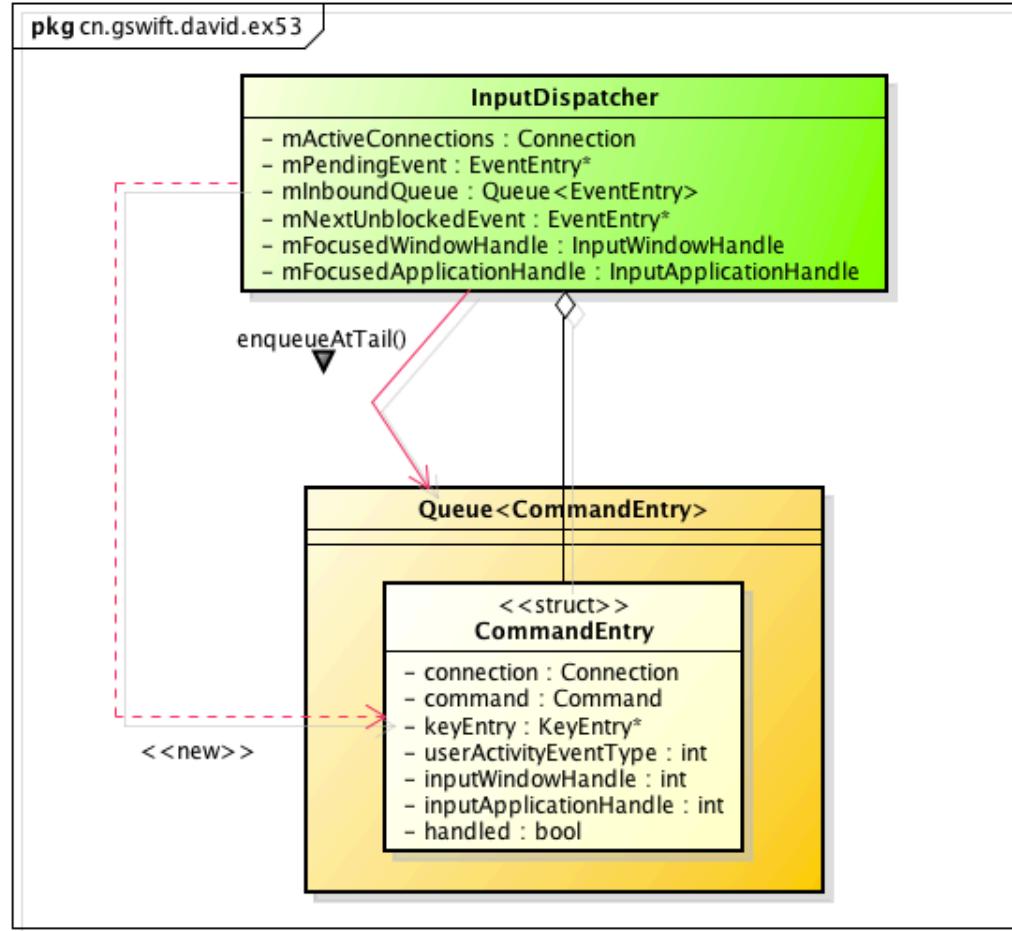
InterceptKeyBeforeQueueing

CJyP



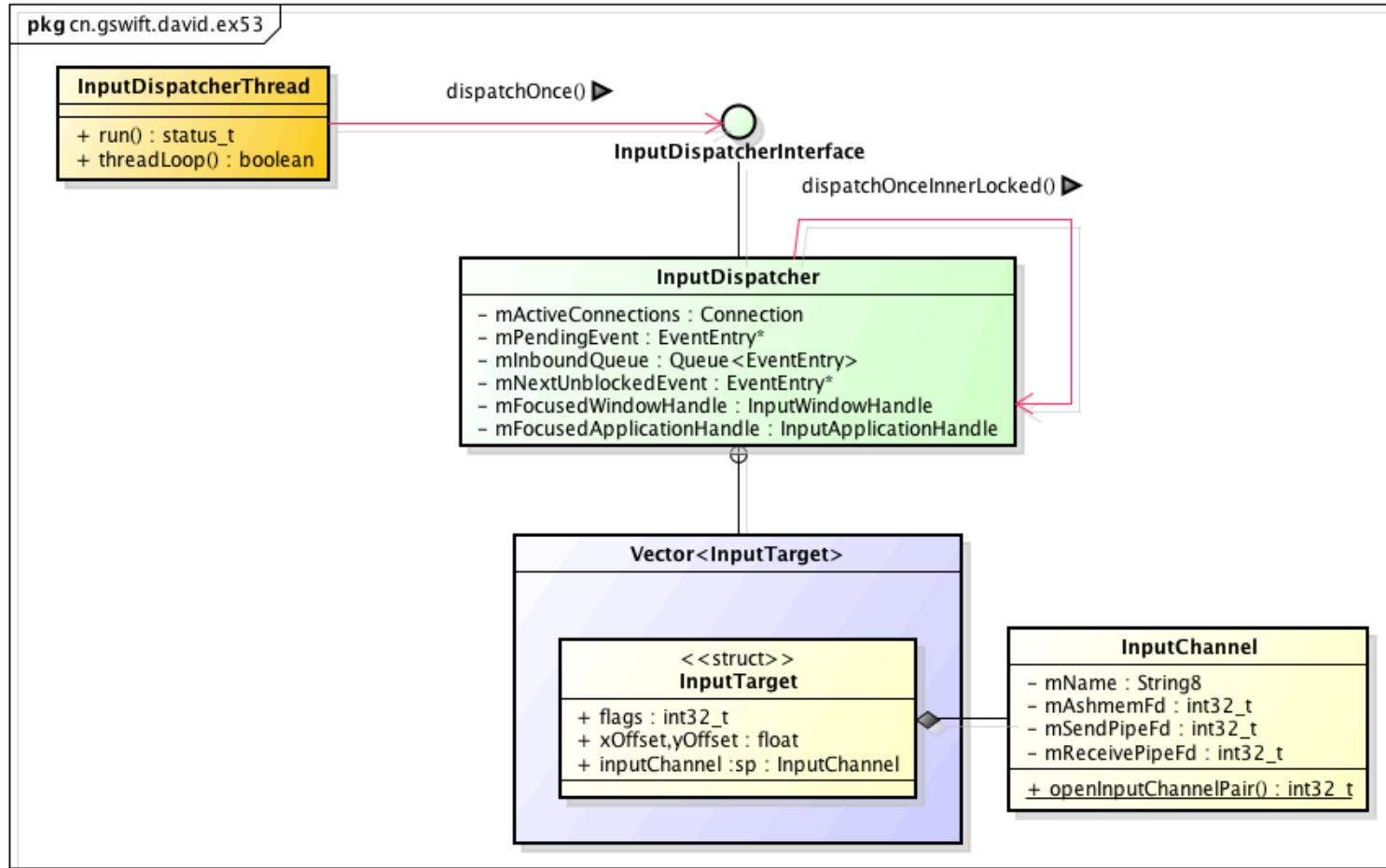
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CommandEntry

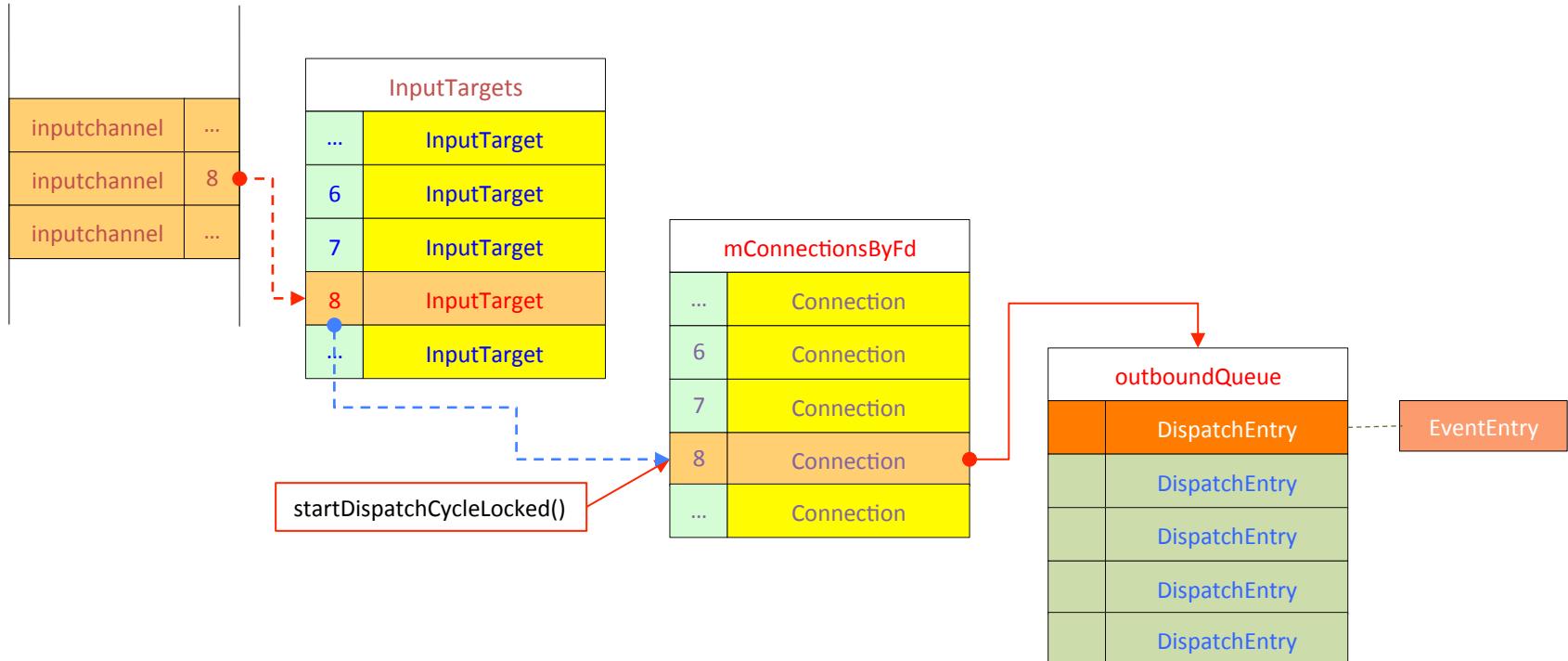


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DispatchOnce

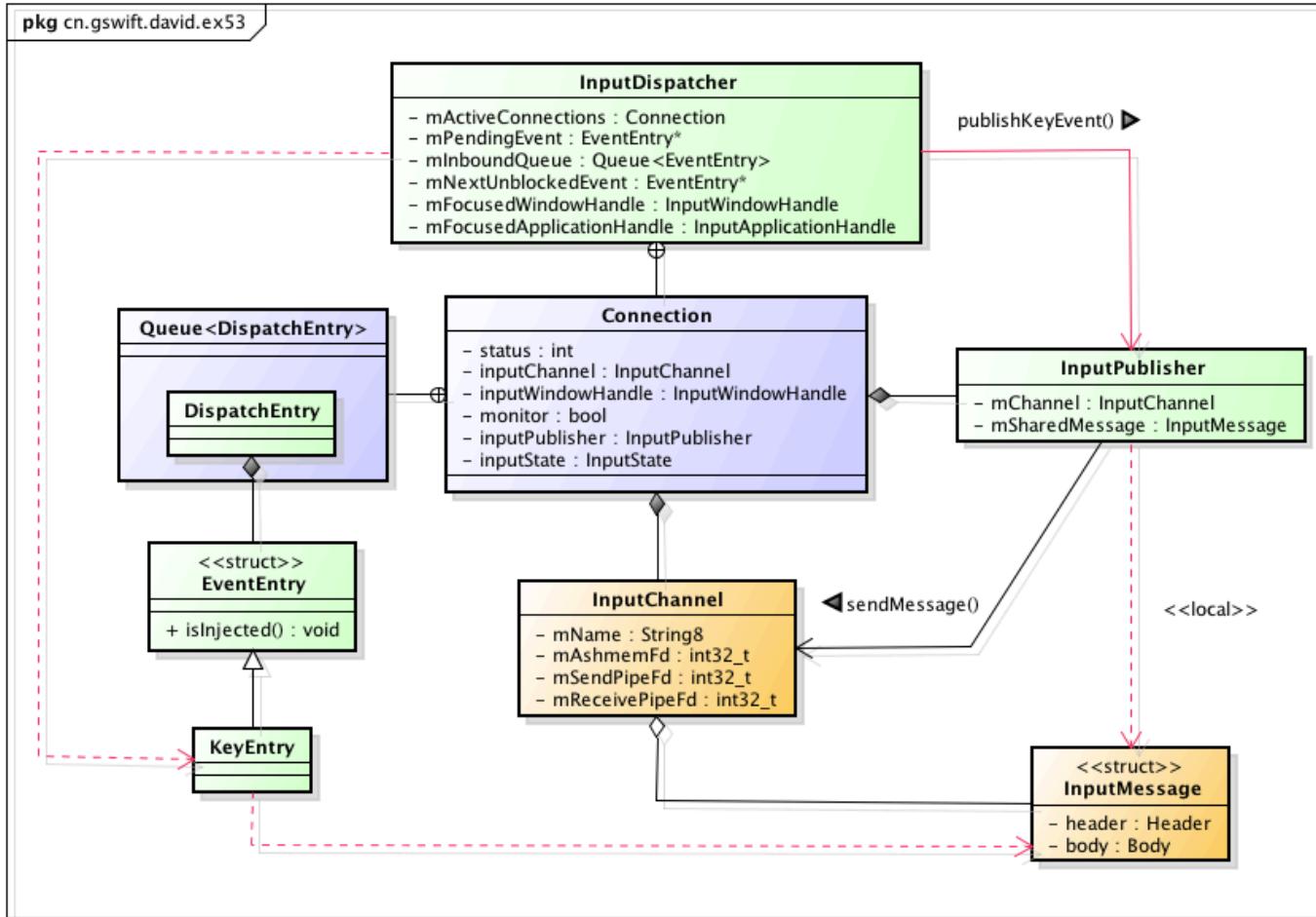


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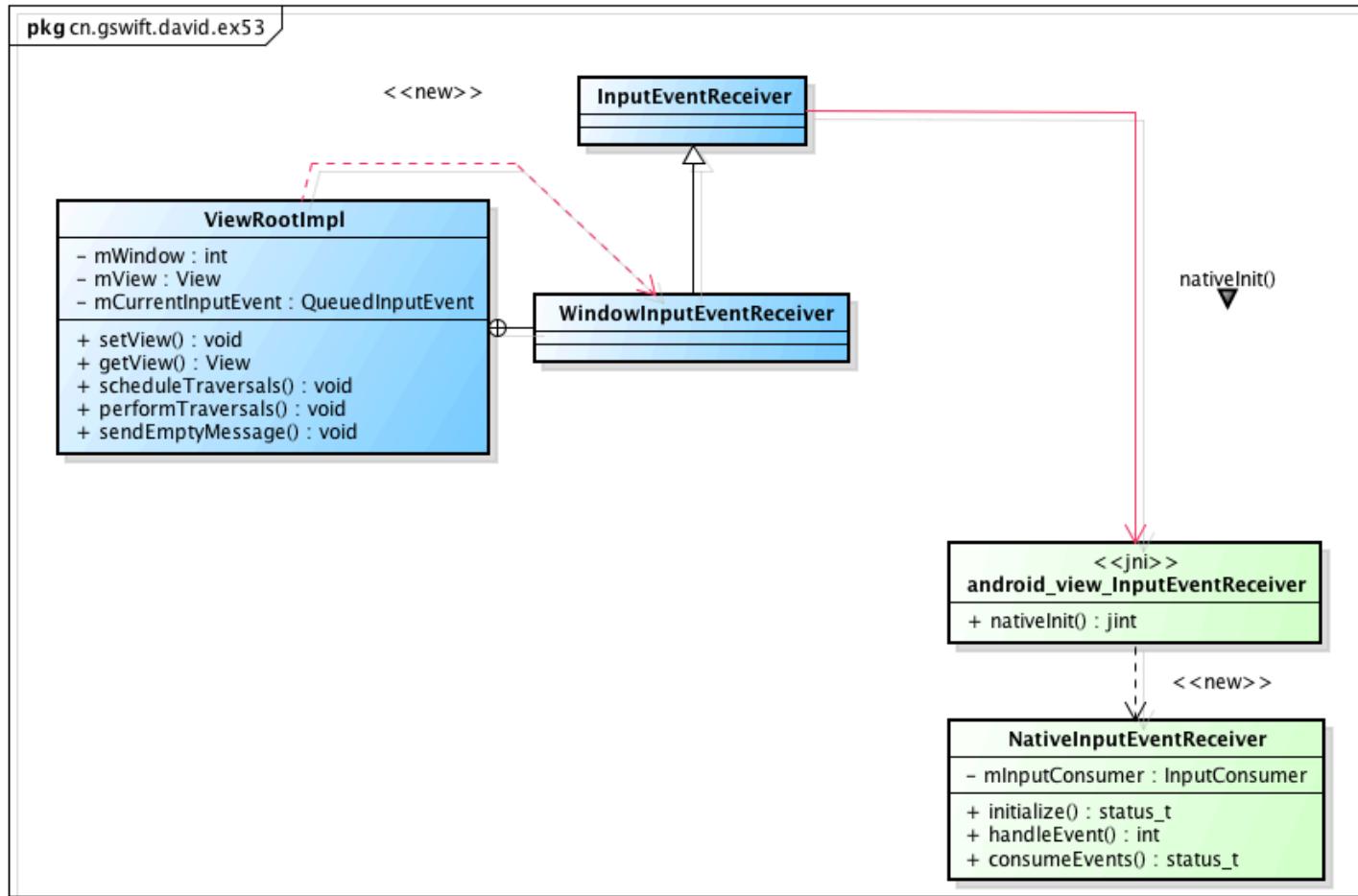
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PublishKeyEvent



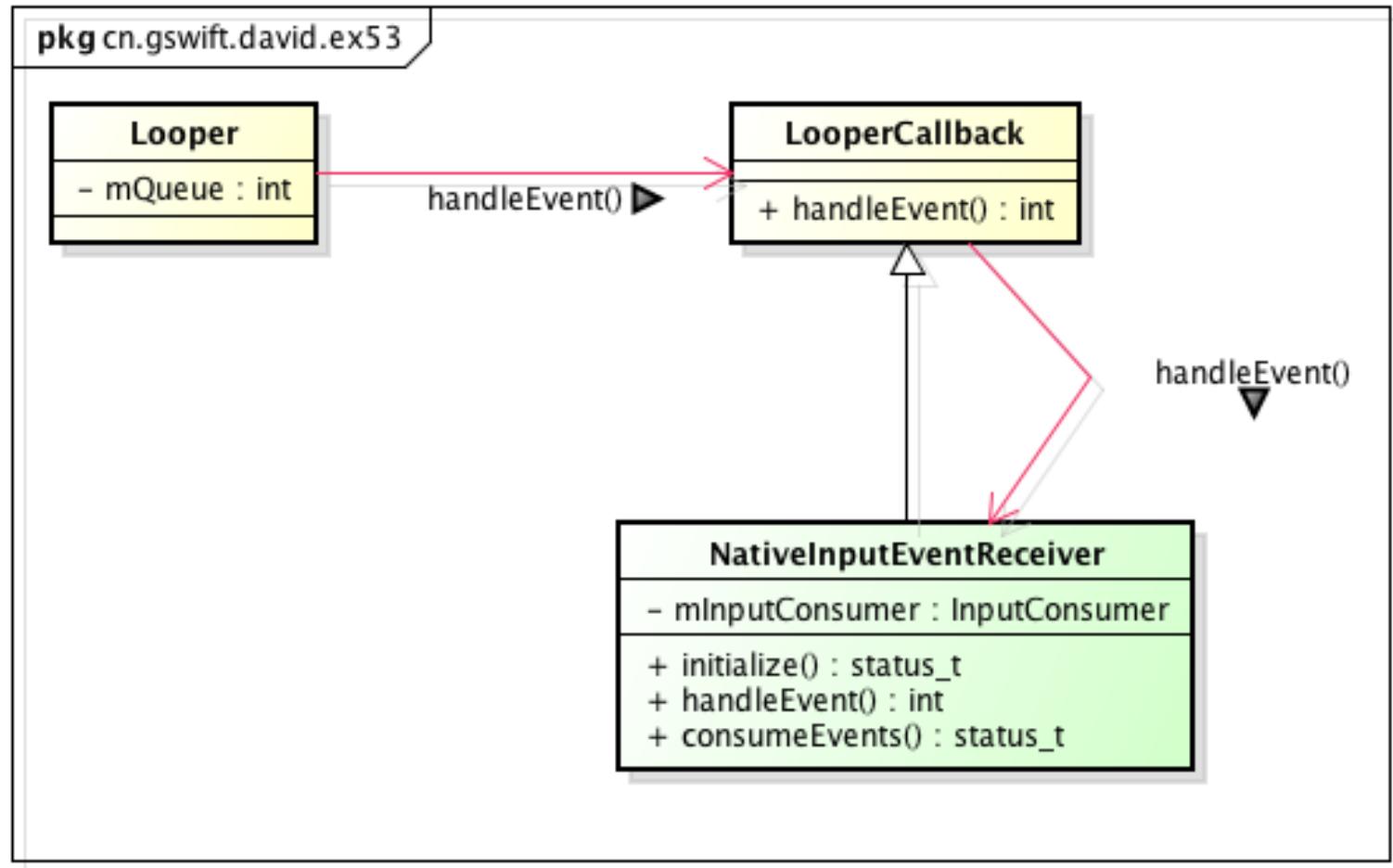
Create a WindowInputEventReceiver

3yp



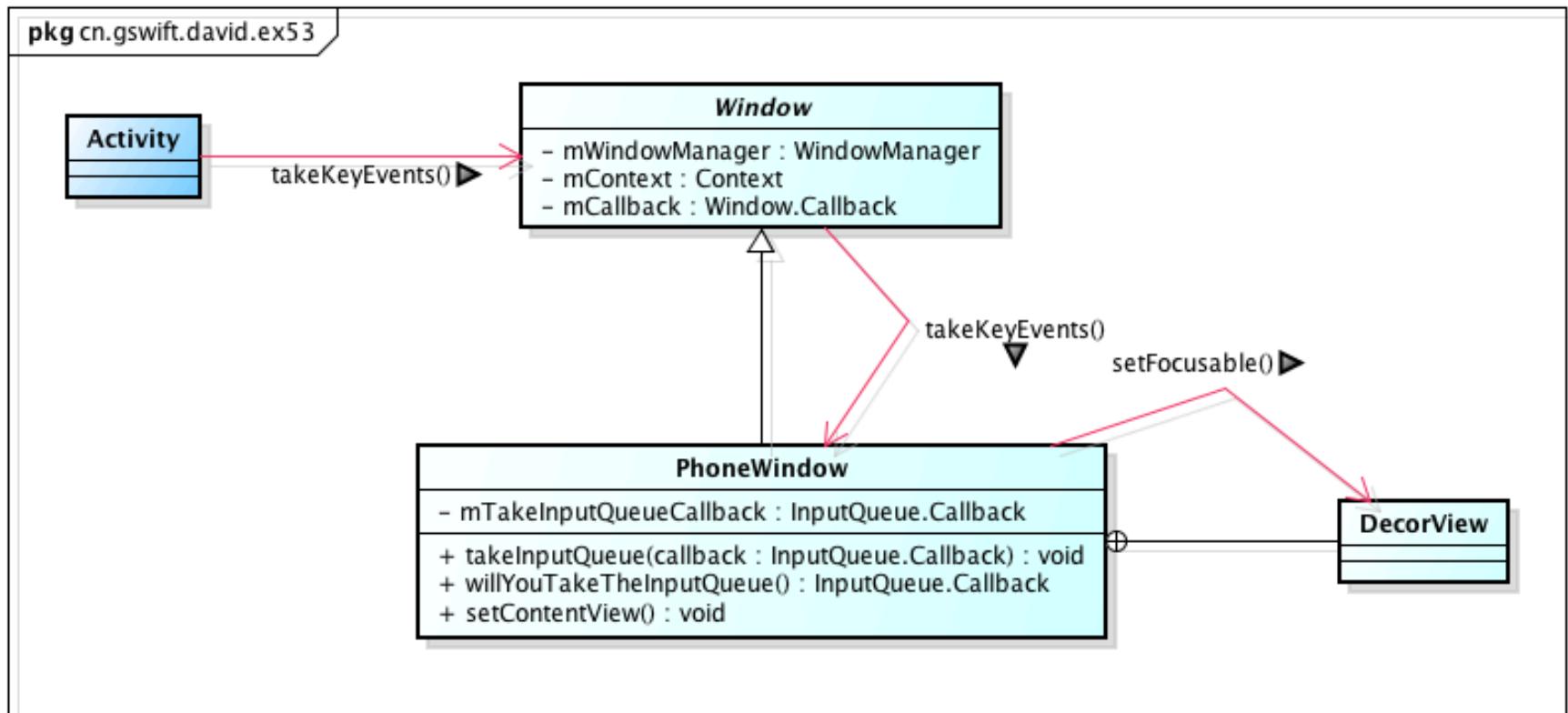
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NativeInputReceiver



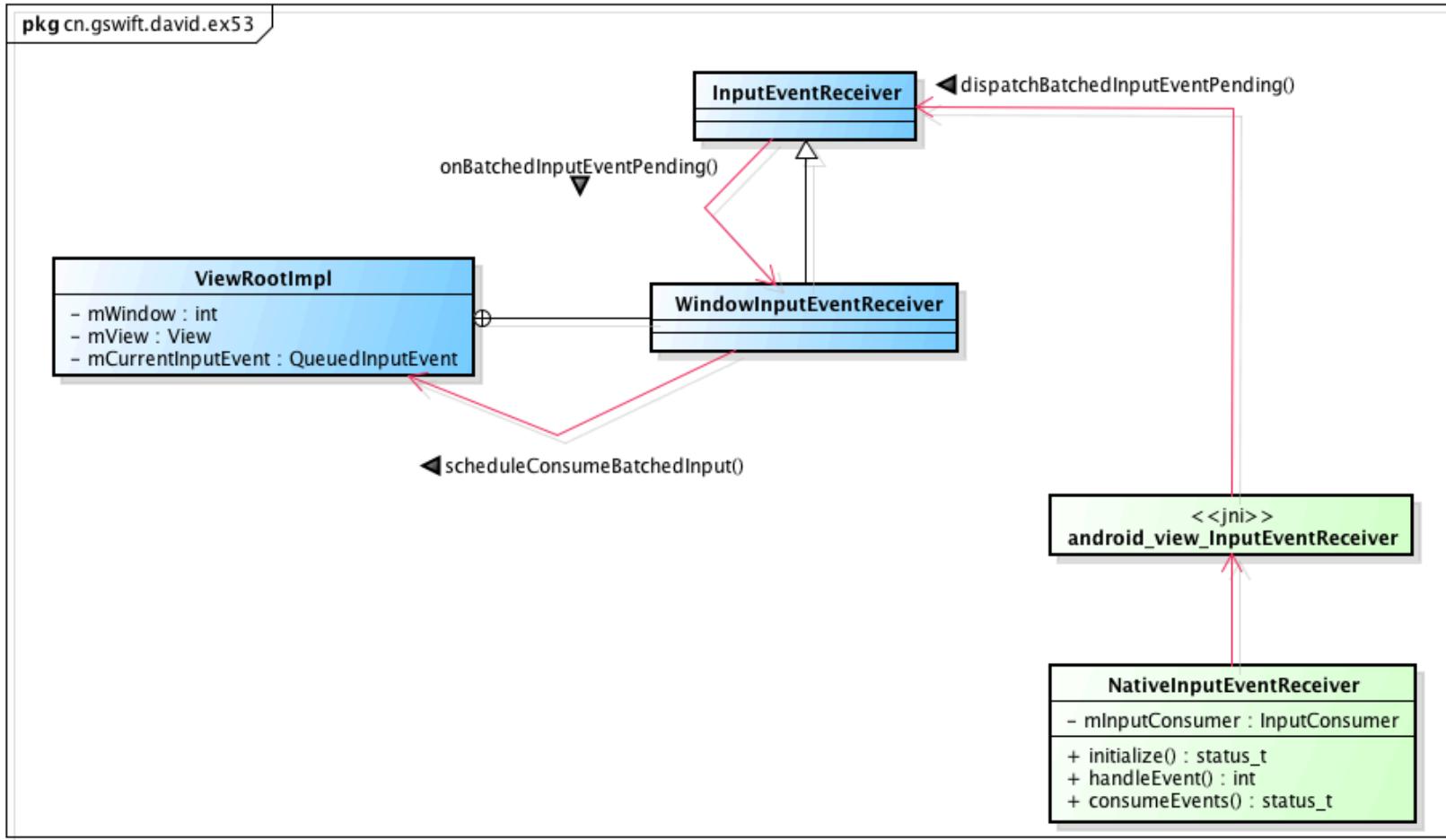
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takeKeyEvents



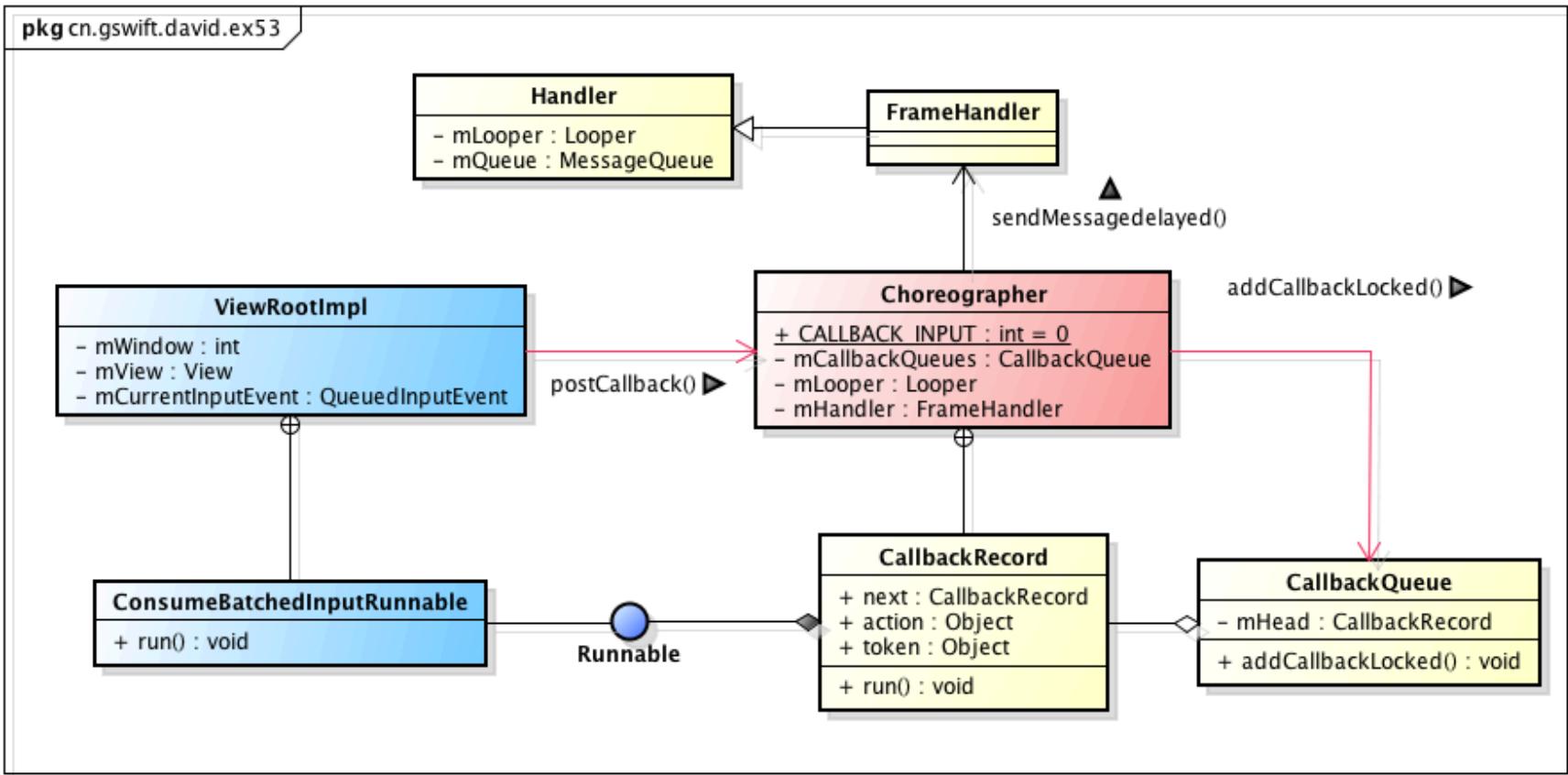
ScheduleConsumeBatchedInput

Czy



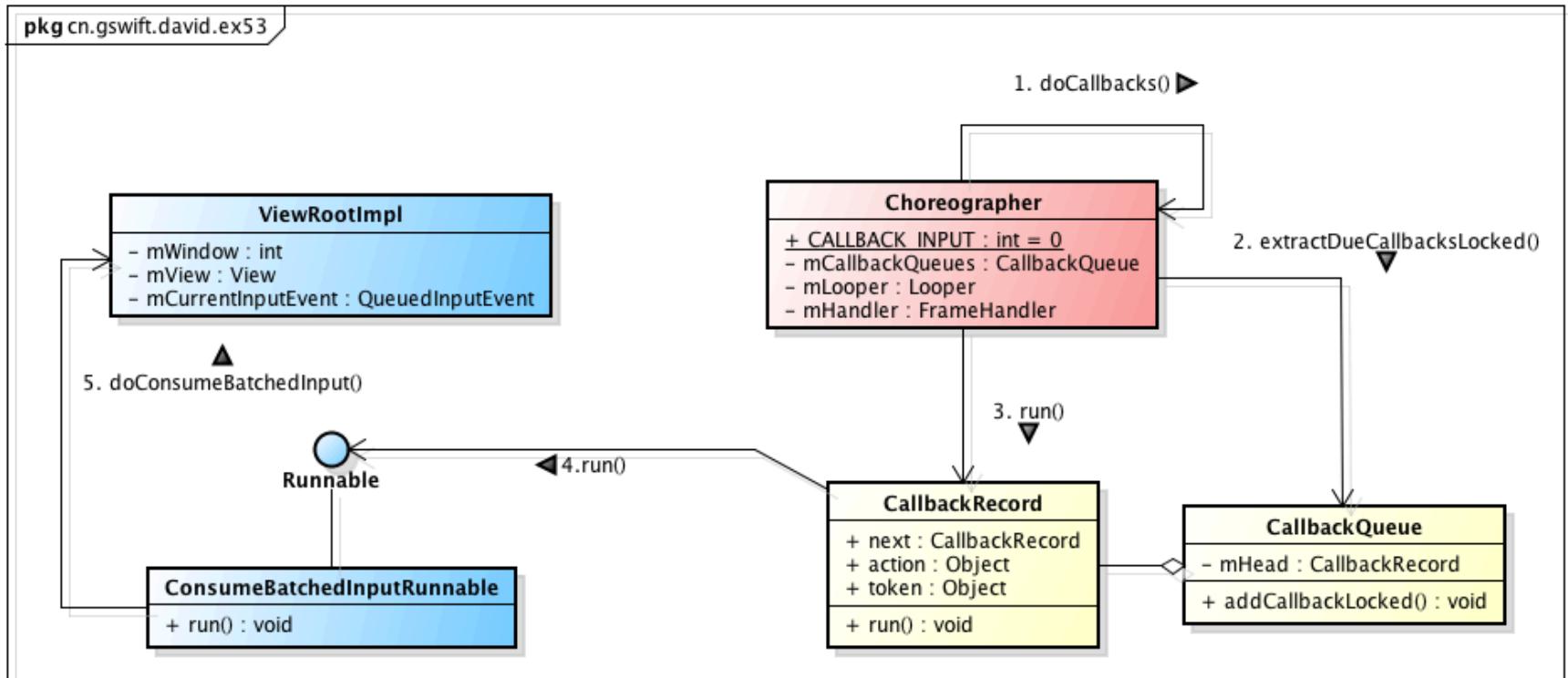
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postCallback



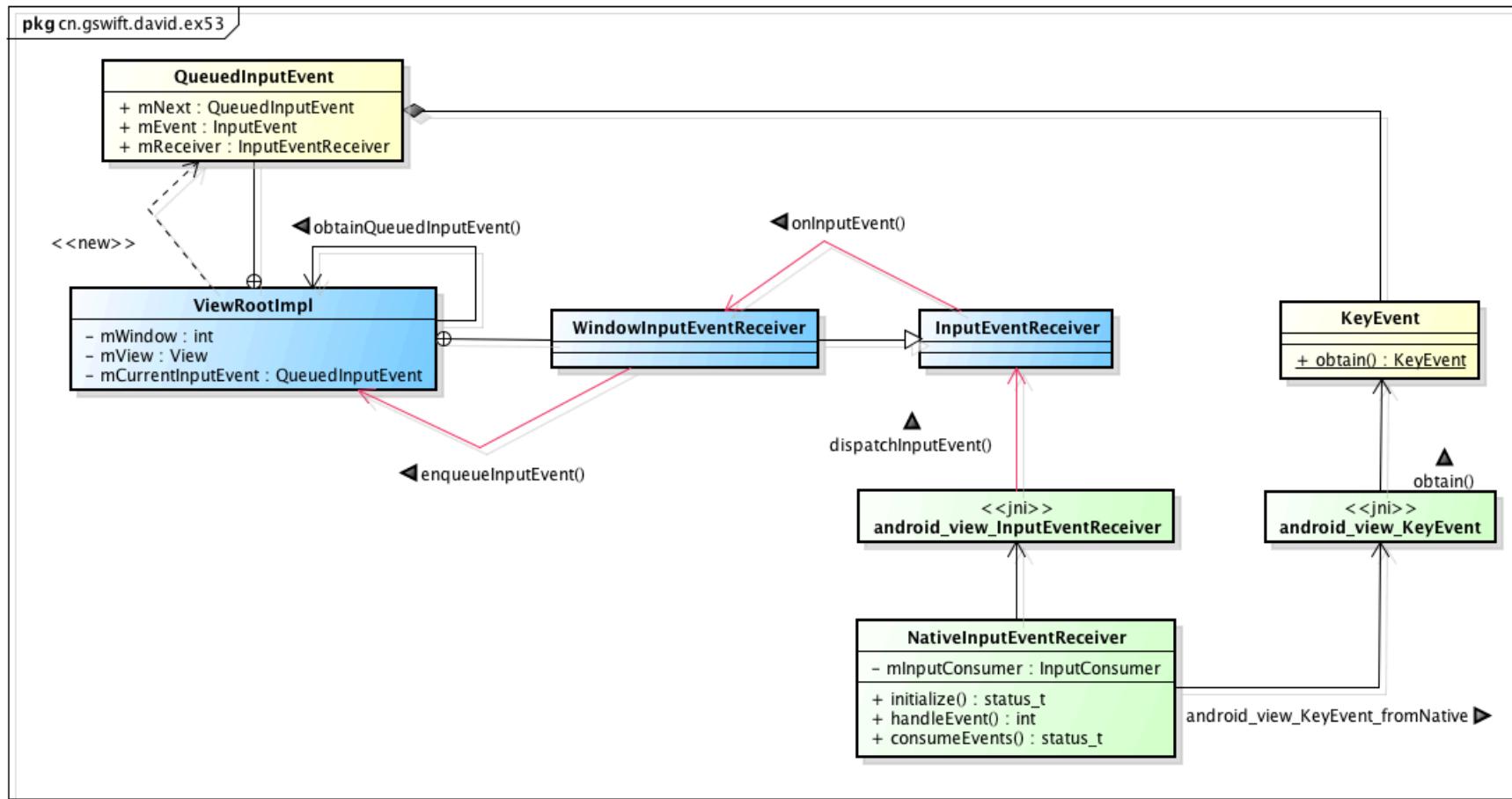
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doCallbacks



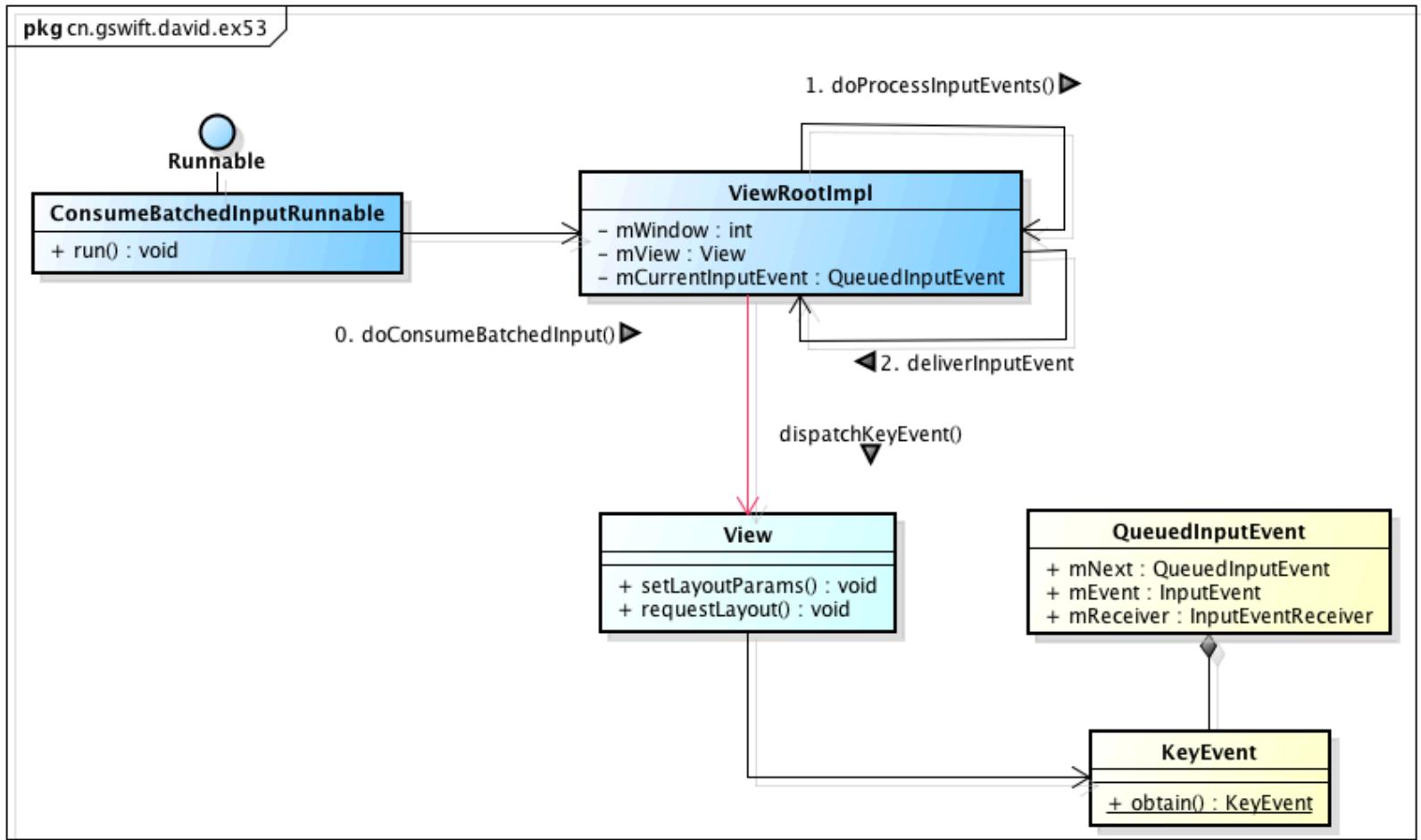
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enqueueInputEvent



CJy

dispatchKeyEvent





参考资料：

Android4.2 <http://code.metager.de/source/xref/android/4.2/>

Active Pen Input and The Android Input Framework , Andrew Hughes, June 2011,



About Me

- I have been working as a product-designer specializing in software/Web application design and development. I am passionate about mobile application development and became interested in Android programming when the platform was launched by Google. Thus I was not programming on Android projects, I spent spare time reading technical blogs, researching, analyzing, and testing mobile applications, as a software consultancy specialized in android technologies.
- In my product-design time, in the developing, I've encountered too many program manage troubles that suffer due to poor communication and code design, I know that help them to understand the system framework is very important. I am experienced in system and application layers, my goal is simple: help someone who wishes to better understand the **Android framework** in java、JNI and C/C++ libraries.
- Please also check my article and slides on this
<http://blog.sina.com.cn/gswift>

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