Java 8 CompletableFutures

ImageStreamGang Example (Part 1)

Douglas C. Schmidt
d.schmidt@vanderbilt.edu
www.dre.vanderbilt.edu/~schmidt

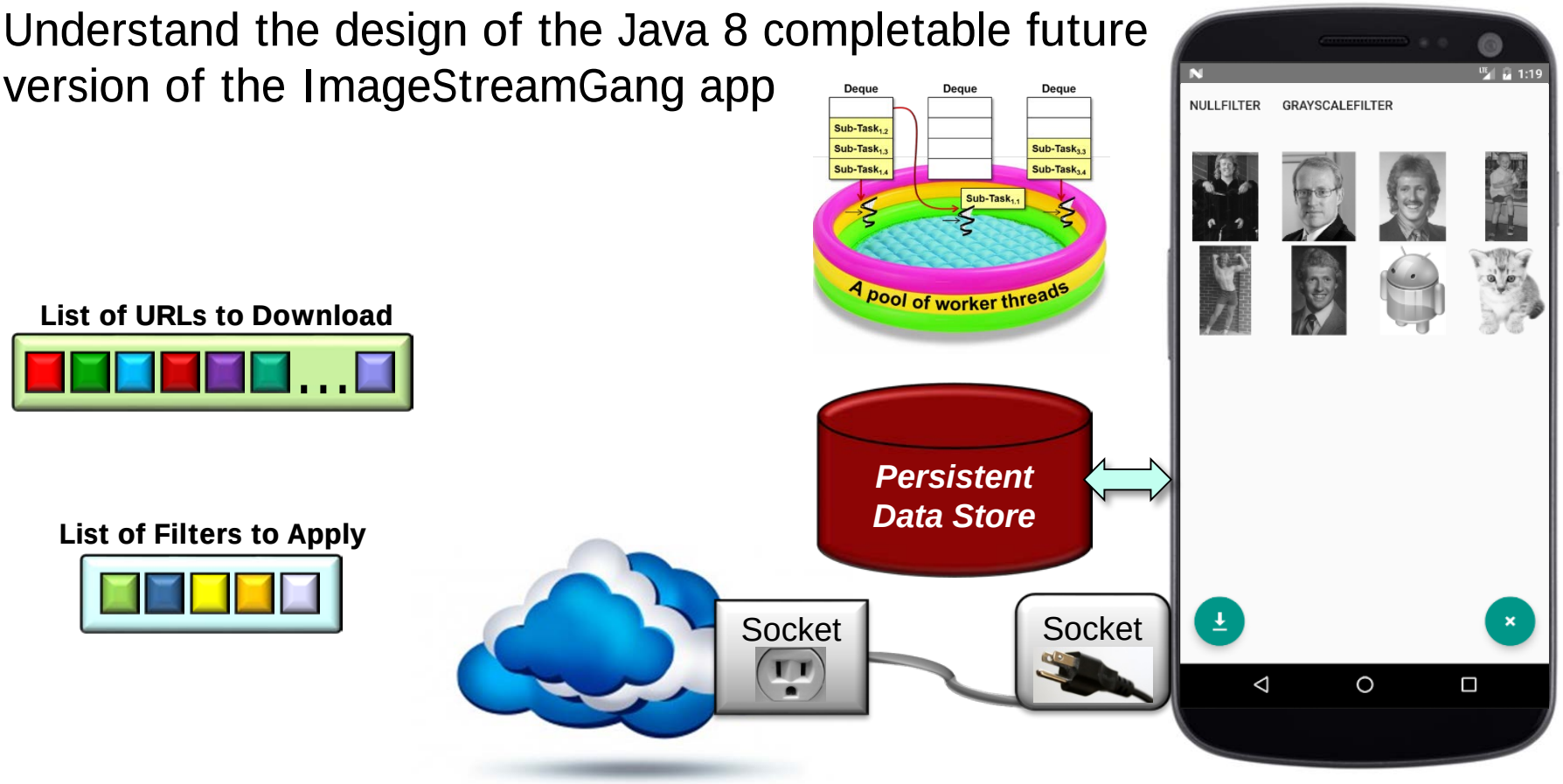
Professor of Computer Science

Institute for Software
Integrated Systems

Vanderbilt University
Nashville, Tennessee, USA

Learning Objectives in this Part of the Lesson

- Understand the design of the Java 8 completable future version of the ImageStreamGang app



Overview of the Completable Futures ImageStreamGang

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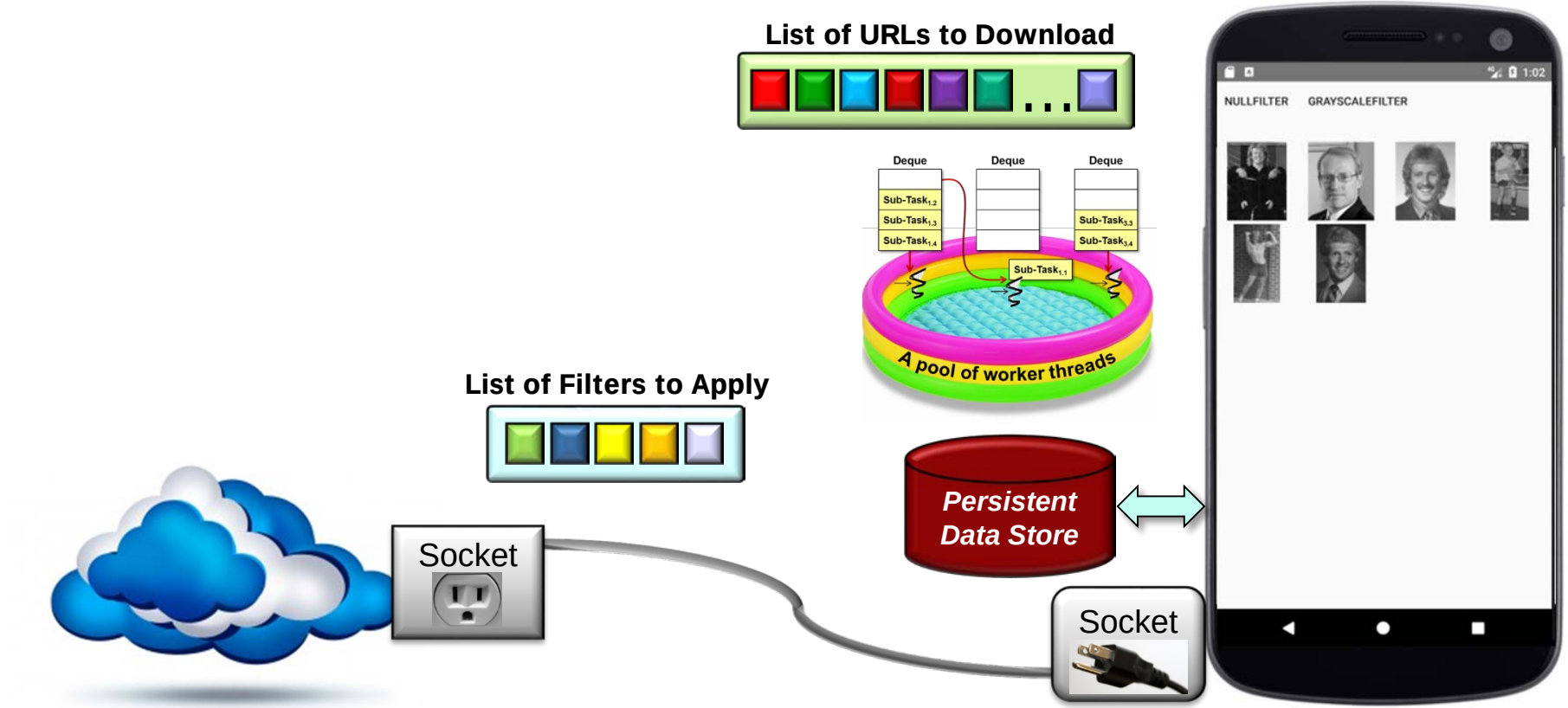
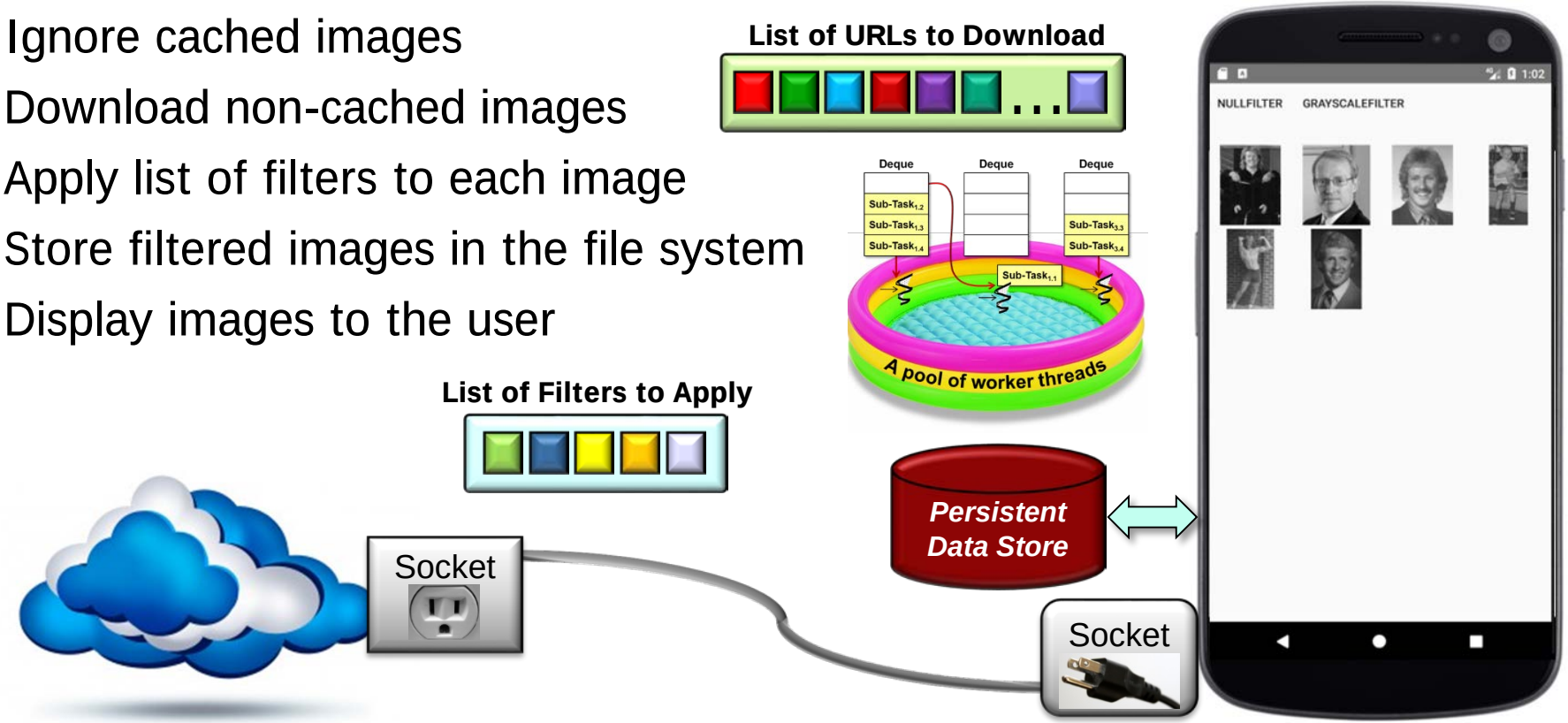
- ImageStreamGang shows advanced completable future features



See github.com/douglascraigschmidt/LiveLessons/tree/master/ImageStreamGang

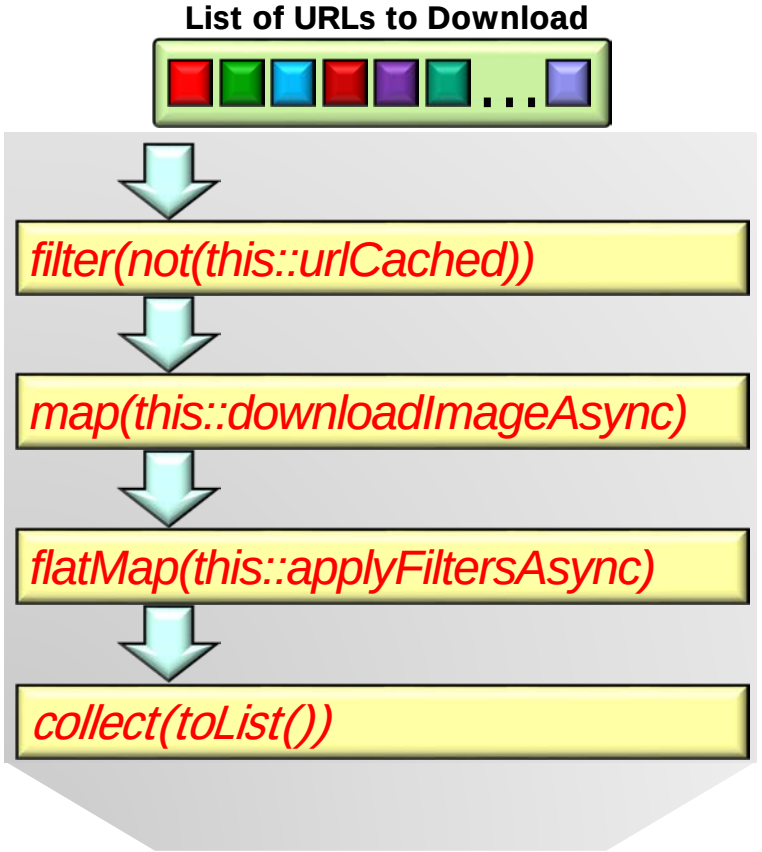
Overview of Completable Futures ImageStreamGang

- ImageStreamGang shows advanced completable future features, e.g.,
  - Ignore cached images
  - Download non-cached images
  - Apply list of filters to each image
  - Store filtered images in the file system
  - Display images to the user



Overview of Completable Futures ImageStreamGang

- The behaviors in this pipeline differ from the parallel streams variant



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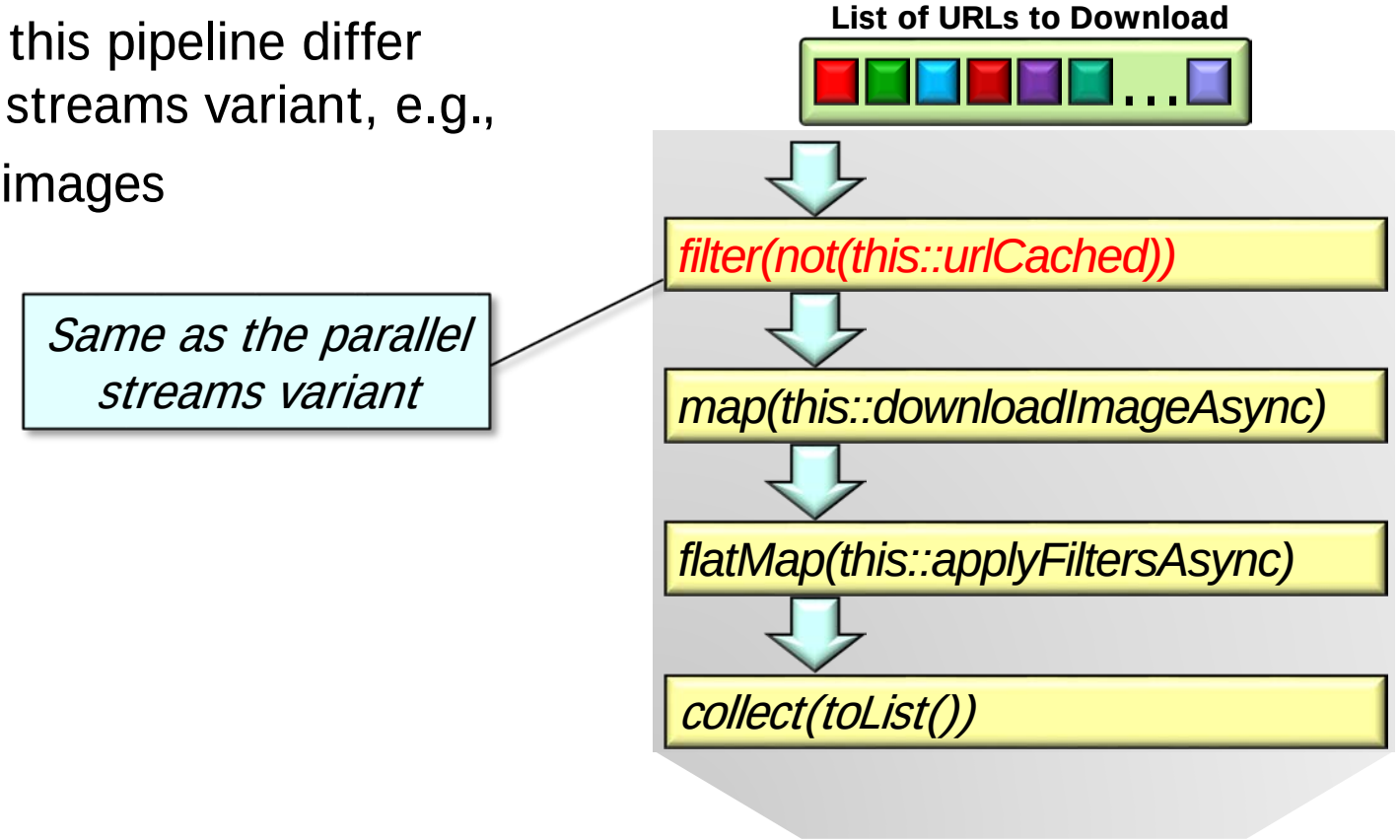
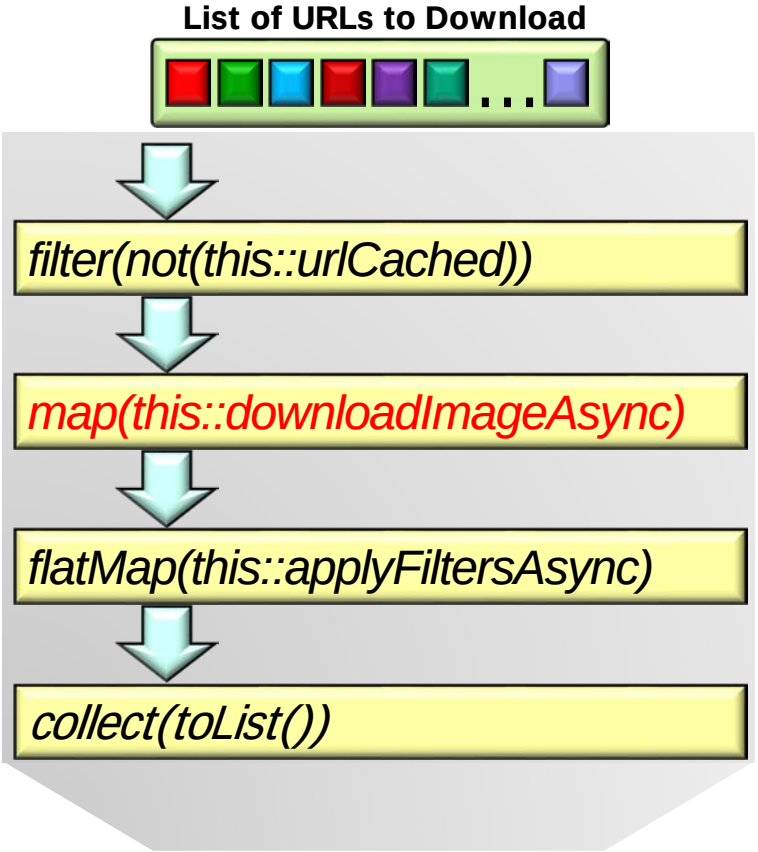


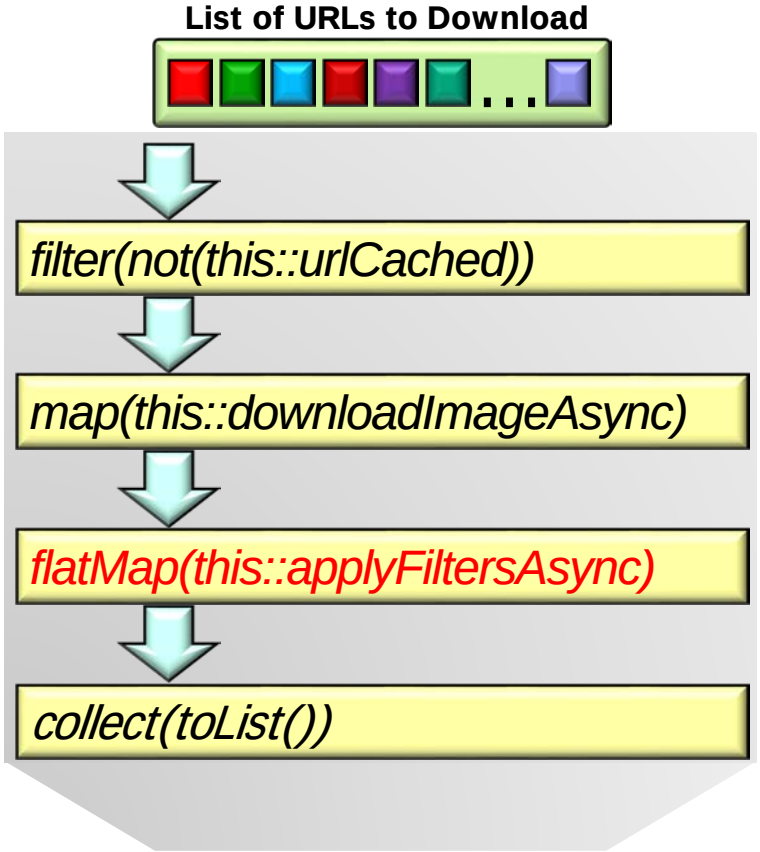
Overview of Completable Futures ImageStreamGang

- The behaviors in this pipeline differ from the parallel streams variant, e.g.,
  - Ignore cached images
  - Download non-cached images asynchronously



Overview of Completable Futures ImageStreamGang

- The behaviors in this pipeline differ from the parallel streams variant, e.g.,
  - Ignore cached images
  - Download non-cached images asynchronously
  - As downloads complete asynchronously apply a list of filters & store filtered images in file system



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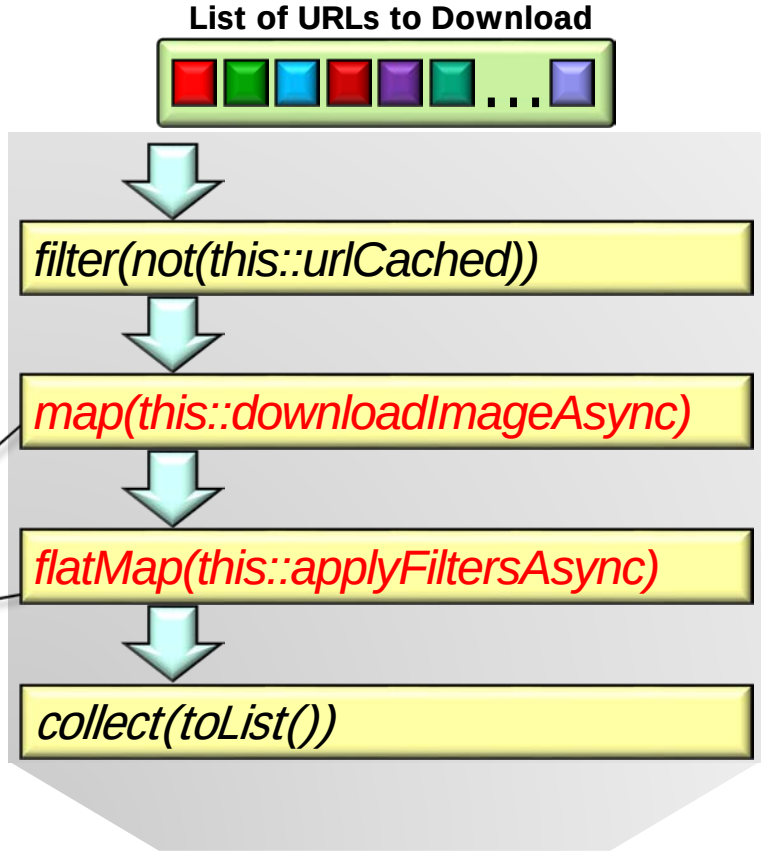

Overview of Completable Futures ImageStreamGang

- The behaviors in this pipeline differ from the parallel streams variant, e.g.,
  - Ignore cached images
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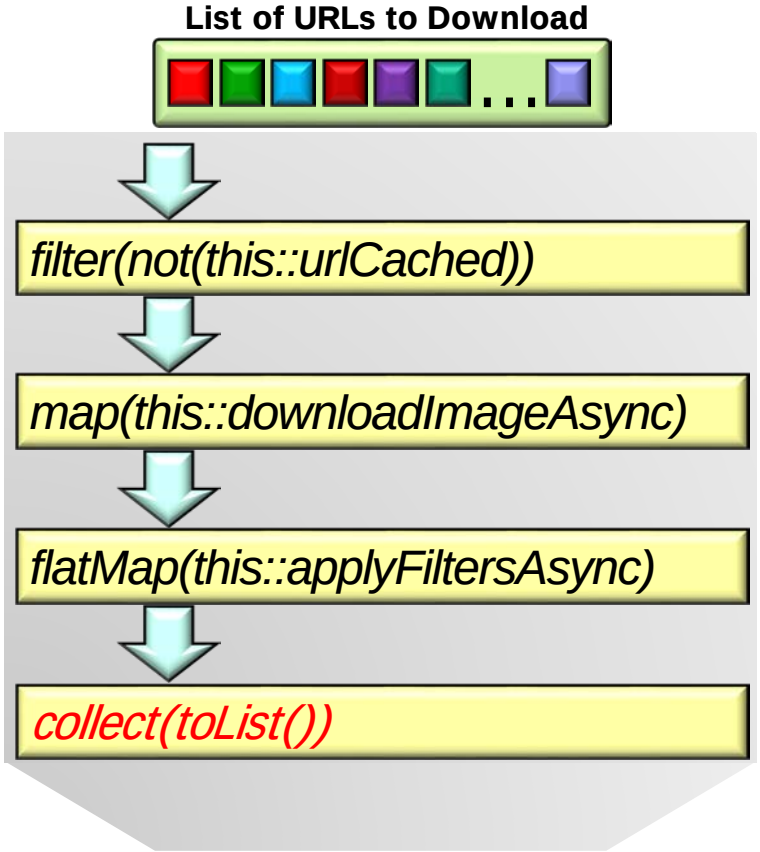
  - As downloads complete asynchronously apply a list of filters & store filtered images in file system
  - Trigger stream processing



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  - Ignore cached images
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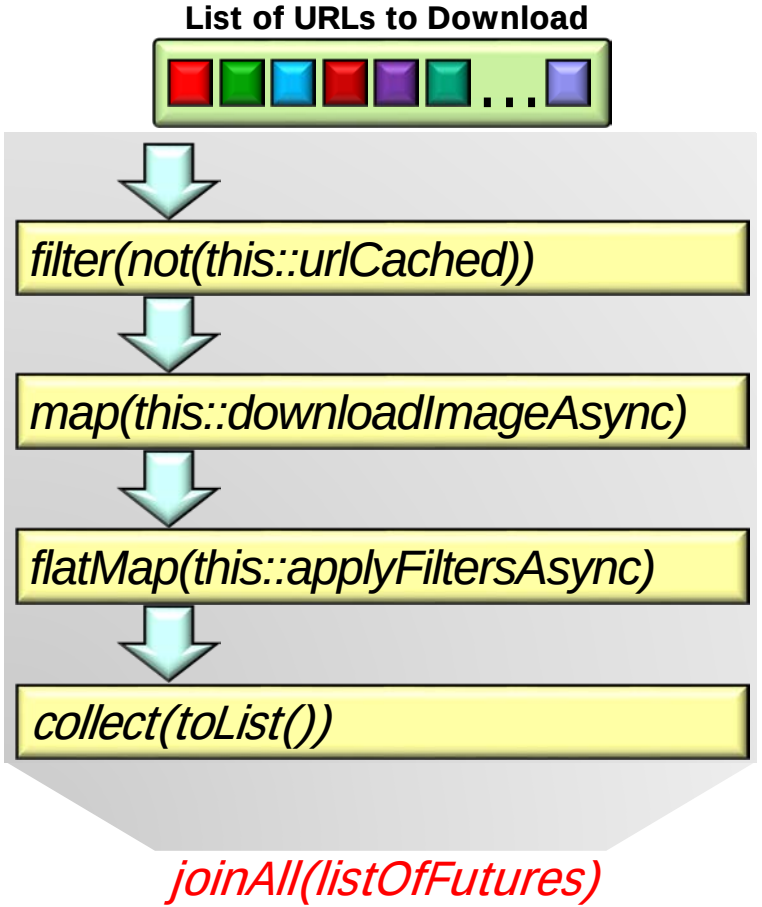
  - Trigger stream processing
  - Get results of asynchronous functions



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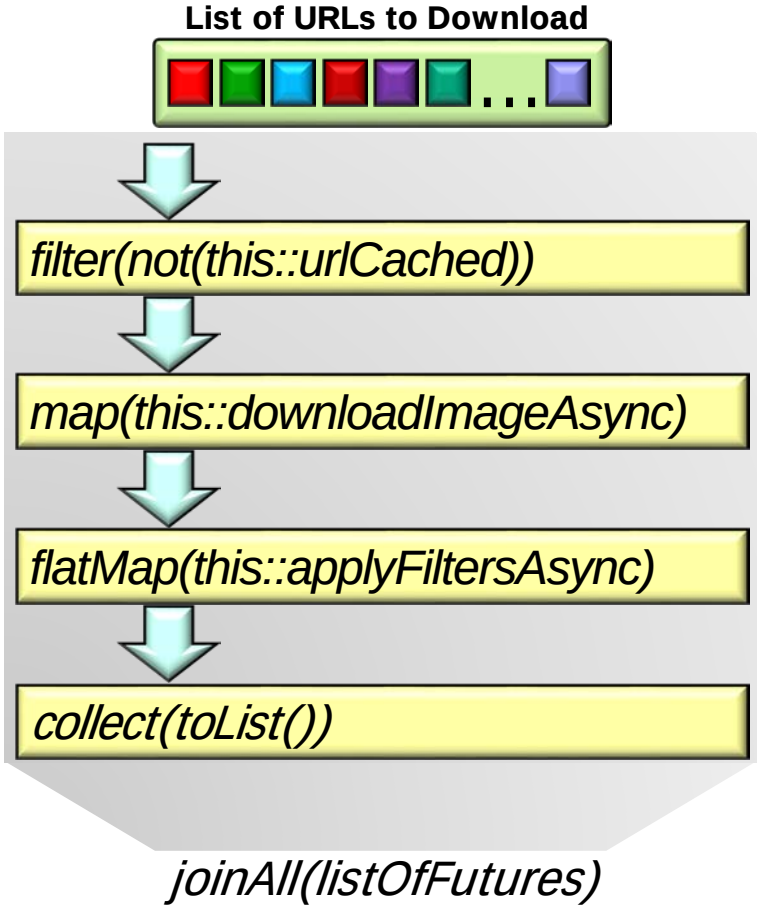
  - Ignore cached images
  - Download non-cached images asynchronously
  - As downloads complete asynchronously apply a list of filters & store filtered images in file system
  - Trigger stream processing
  - Get results of asynchronous functions
    - Ultimately display images to user



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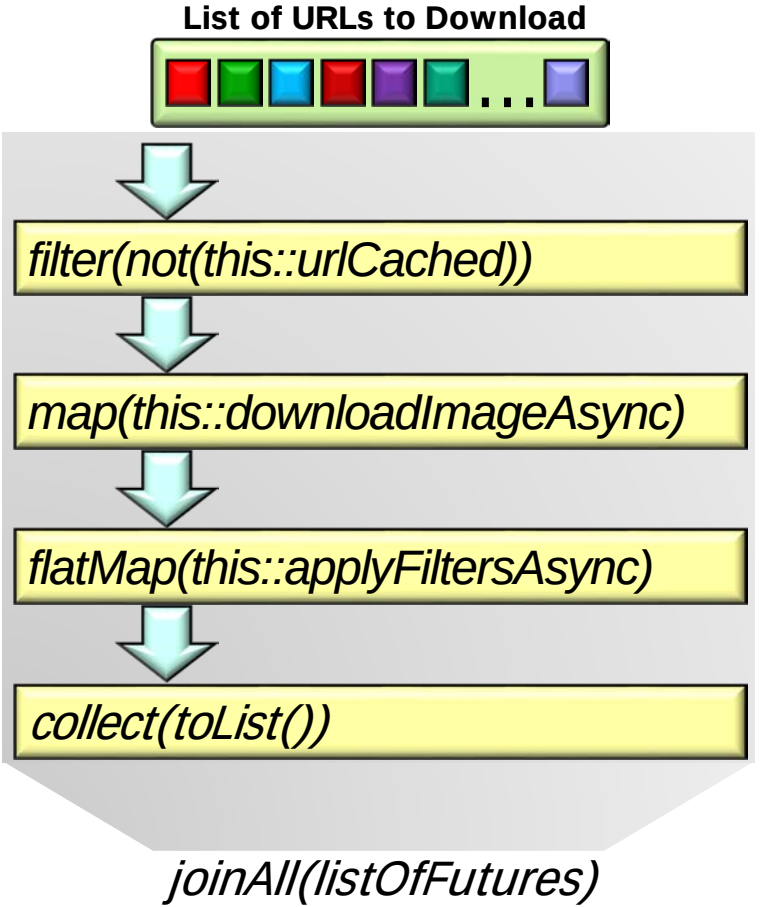

Combining completable futures & streams closes gap between design & implementation

End of Java 8 Completable Futures ImageStreamGang Example (Part 1)