



Flutter в мобильной разработке

RxDart



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О докладчике

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План занятия

- Что такое ReactiveX и RxDart
- Эволюция RxDart
- Возможности RxDart
 - * Streams с расширенными возможностями
 - * Stream Extensions
 - * Дополнительные мощности для StreamControllers (или Subjects)



ReactiveX

- Java: [RxJava](#)
- JavaScript: [RxJS](#)
- C#: [Rx.NET](#)
- C#(Unity): [UniRx](#)
- Scala: [RxScala](#)
- Clojure: [RxClojure](#)
- C++: [RxCpp](#)
- Lua: [RxLua](#)
- Ruby: [Rx.rb](#)
- Python: [RxPY](#)
- Go: [RxGo](#)
- Groovy: [RxGroovy](#)
- JRuby: [RxJRuby](#)
- Kotlin: [RxKotlin](#)
- Swift: [RxSwift](#)
- PHP: [RxPHP](#)
- Elixir: [reaxive](#)
- [RxNetty](#)
- [RxAndroid](#)
- [RxCocoa](#)



RxDart



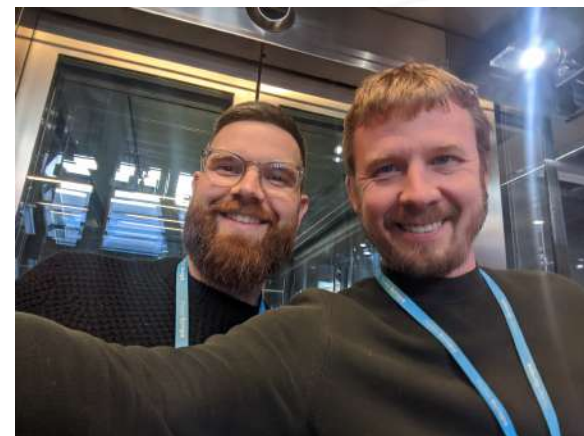
Frank Pepermans



Brian Egan



RxDart



Stream API

```
final valuestream = Stream.value('value');
```

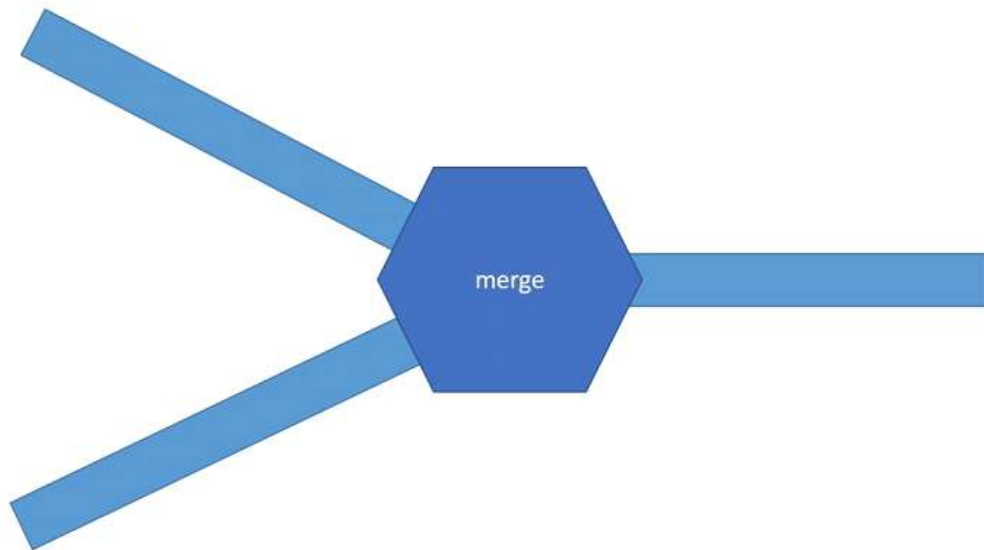
```
final iterableStream = Stream.fromIterable([1, 4, 5, 5, 8]);
```

```
final periodicStream = Stream.periodic(Duration(seconds: 1), (i) => '$i');
```

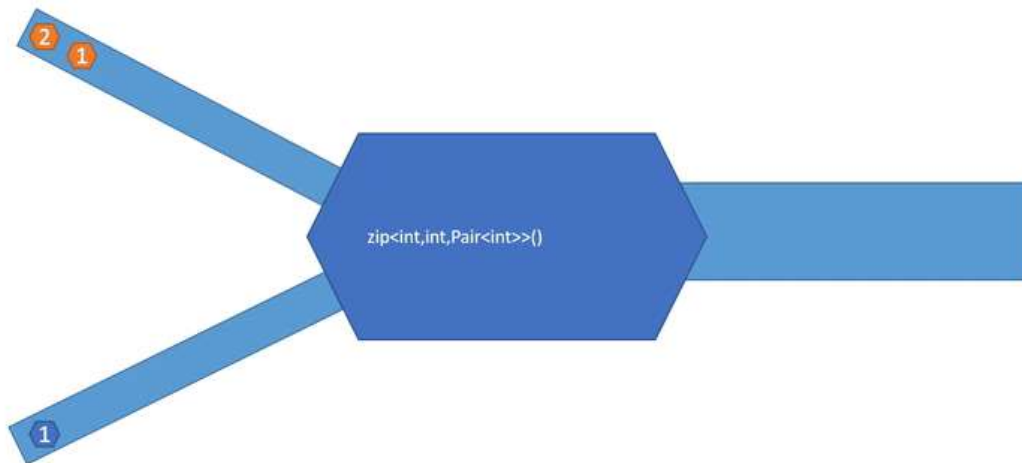
```
final distinctStream = iterableStream.distinct();
```

```
final mapStream = iterableStream.map((i) => 'Number is $i');
```

Merge of Streams



Zip of Stream



Async package

<https://pub.dev/packages/async>

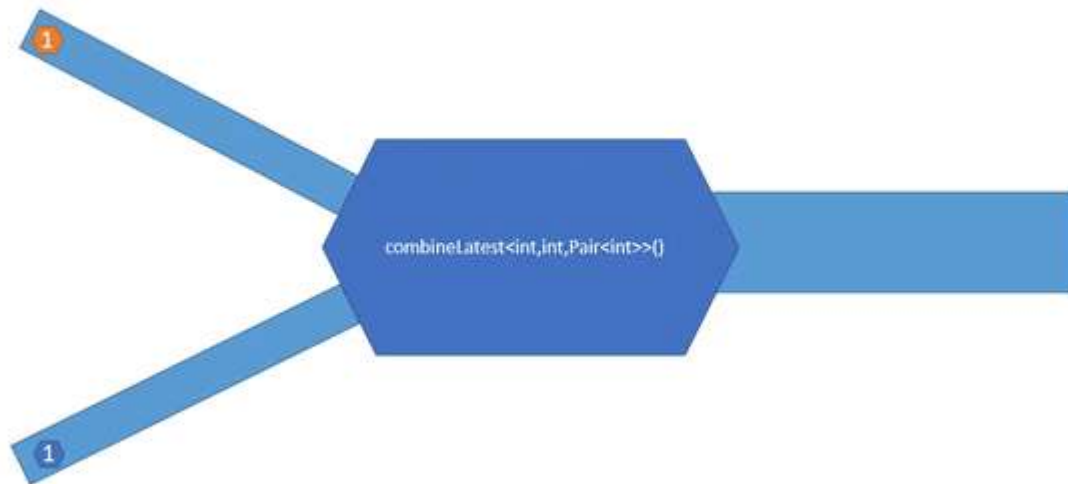
version: 2.4.1

```
final mergedStream =  
    StreamGroup.merge([iterableStream, mapStream]);
```

```
final zipStream =  
    StreamZip([iterableStream, mapStream]);
```

- StreamSplitter
- LazyStream
- StreamQueue
- SubscriptionStream
- etc...

Combine latest events





RxDart

<https://pub.dev/packages/rxdart>

version: 0.24.1





- Observable
- Subject
- Observer



- Stream
- StreamController
- Listener

Streams НОВЫЕ способности

- [ConcatStream](#) / [Rx.concat](#)
- [DeferStream](#) / [Rx.defer](#)
- [MergeStream](#) / [Rx.merge](#)
- [RaceStream](#) / [Rx.race](#)
- [RetryStream](#) / [Rx.retry](#)
- [CombineLatestStream](#) (combine2, combine3... combine9)
/ [Rx.combineLatest2...](#)[Rx.combineLatest9](#)
- [ZipStream](#) (zip2, zip3, zip4, ..., zip9) / [Rx.zip...](#)[Rx.zip9](#)

Streams новые способности

```
final mergedStream = MergeStream([myFirstStream, mySecondStream]);
```

```
final mergedStream = Rx.merge([myFirstStream, mySecondStream]);
```

Streams extensions

- [buffer](#), [bufferCount](#), [bufferTest](#), [bufferTime](#)
- [debounce](#), [debounceTime](#)
- [materialize](#), [dematerialize](#)
- [doOnCancel](#), [doOnData](#), [doOnDone](#), [doOnEach](#), [doOnError](#), [doOnListen](#), [doOnPause](#), [doOnResume](#)
- [delay](#), [interval](#)
- [max](#), [min](#)
- [pairwise](#)
- [sample](#), [sampleTime](#)
- [scan](#)
- [throttle](#), [throttleTime](#)
- [window](#), [windowCount](#), [windowTest](#), [windowTime](#)

Streams extensions

```
final intervalStream = iterableStream.interval(Duration(seconds: 1));
```

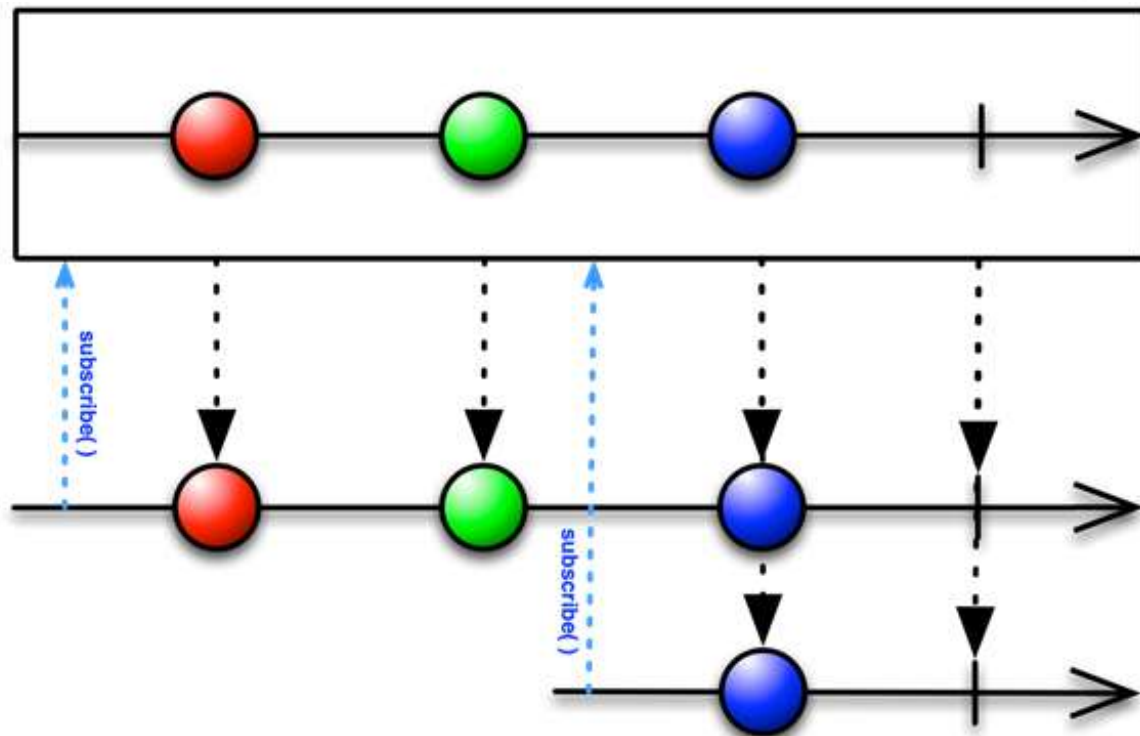
```
final bufferStream = intervalStream  
    .buffer(Stream.periodic(Duration(seconds: 2), (i) => i));
```

```
iterableStream.doOnData((i)=>print('doOnData $i'))  
    .listen((i)=>print('listener $i'));
```

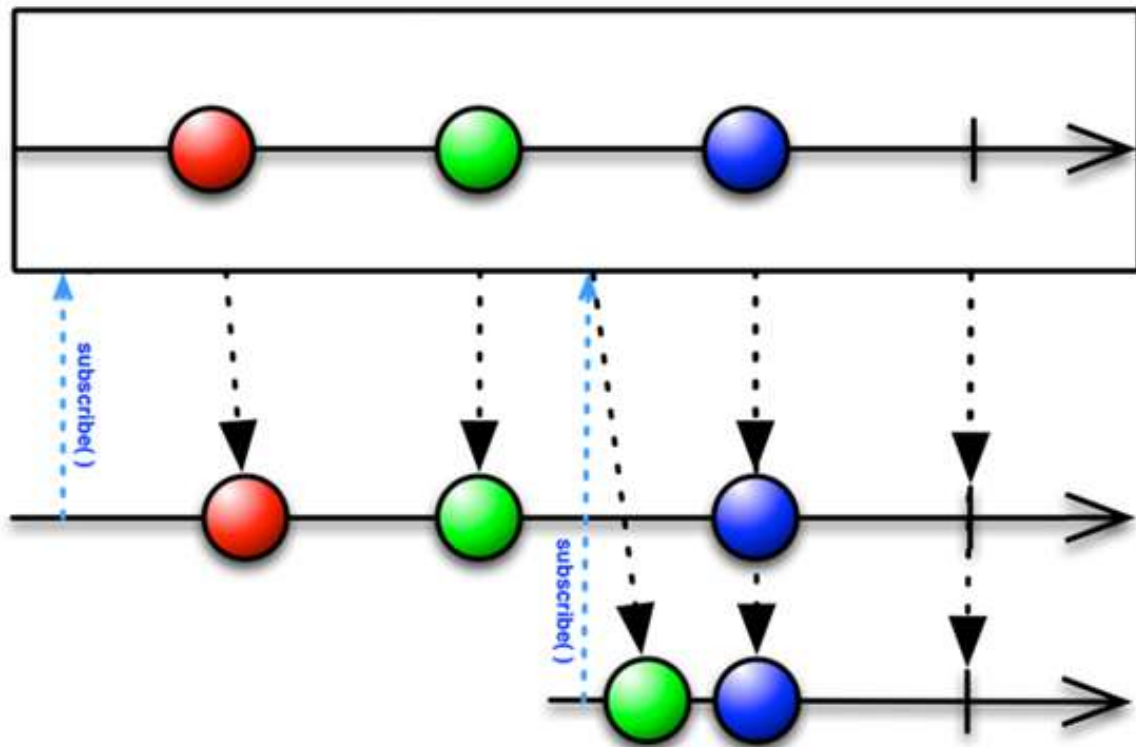

Subjects

- [BehaviorSubject](#) – broadcast контроллер, кэширующий последнее значение или ошибку
- [ReplaySubject](#) - broadcast контроллер, кэширующий все добавленные значения

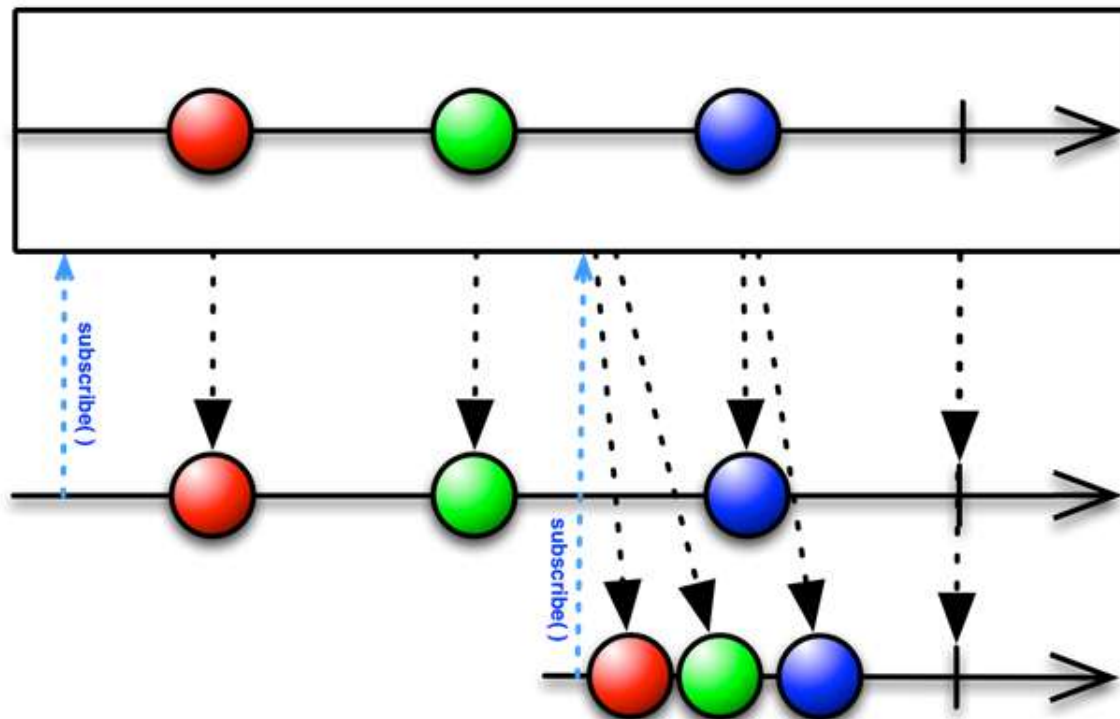
BroadcastController



BehaviourSubject

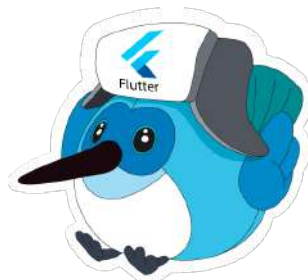


ReplaySubject



Ссылки

- Репозиторий с примером
https://github.com/DenisovAV/flutter_workshops
 - ReactiveX официальный сайт
<http://reactivex.io>
 - Reactive Programming – Streams – BloC by Didier Boelens
<https://www.didierboelens.com/2018/08/reactive-programming-streams-bloc/>
 - Magical Transformation of Streams by Thomas Burkhardt (и перевод)
<https://www.burkharts.net/apps/blog/rxdart-magical-transformations-of-streams> (<https://habr.com/ru/post/451292/>)
-
- Flutter Dev Podcast Channel
https://tglink.ru/flutterdevpodcast_news
 - Mobile People Talks Channel
<https://tglink.ru/MobilePeopleTalks>
 - Flutter Russia Events Channel
<https://tglink.ru/FlutterRussia>





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Спасибо за внимание