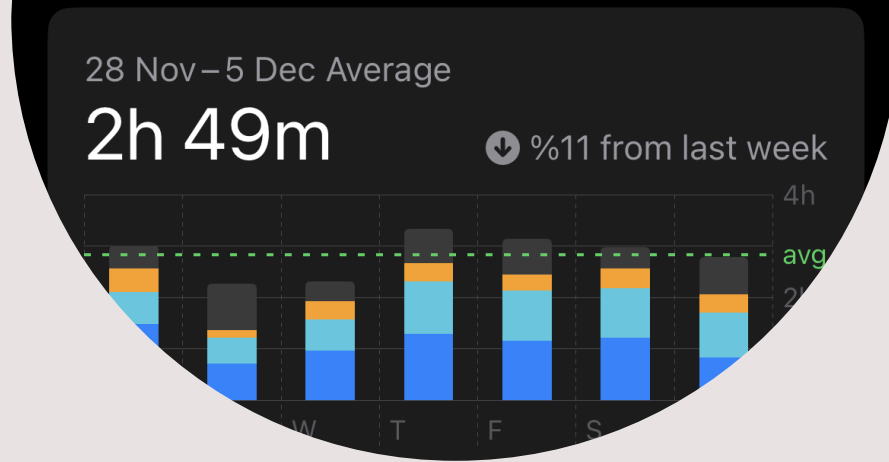




Design Patterns *Term Project*

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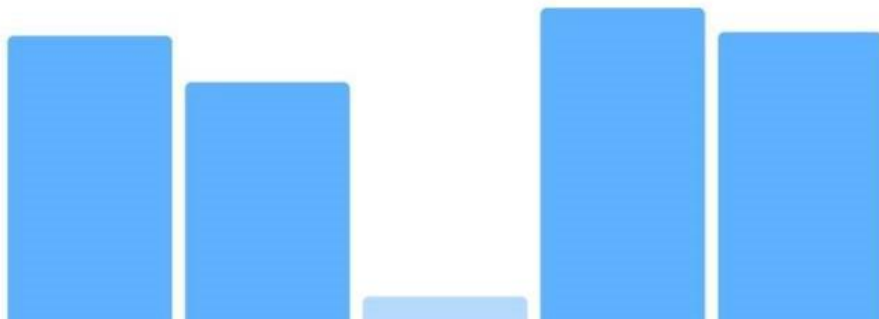
Problem Definition

agram

12_m

Daily Average

Average time you spent per day using the Instagram app on this device in the last week

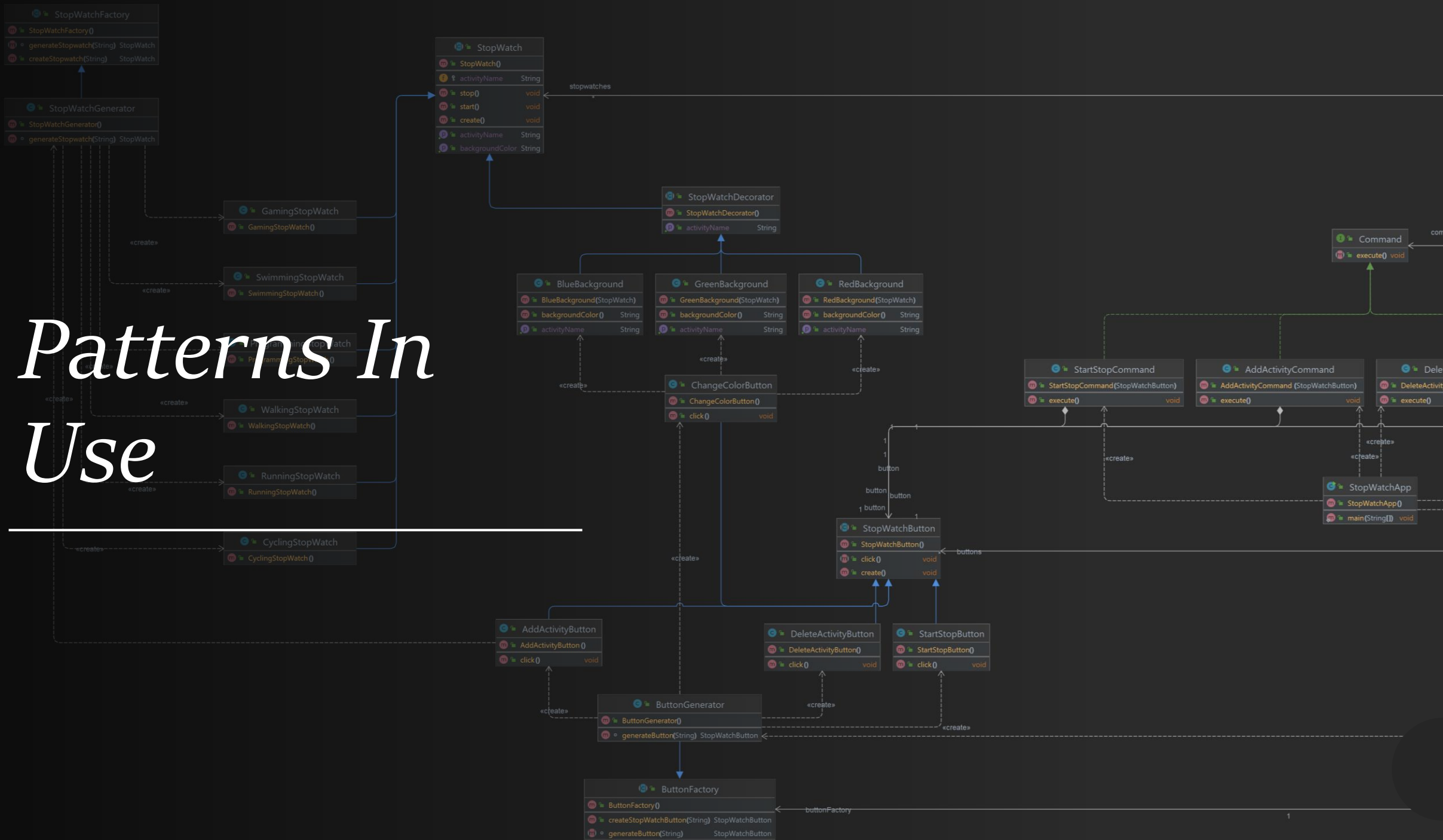


- Most of the cell phones or mobile applications themselves are tracking the time spend on them but to track realtime activities like time spent on a project or time spent while cooking there are not much option to keep track on these activities.

Activity Tracker Application

- Activity Tracker Application is an application that provides option to track what you are doing in everyday life. The Application allows the client to track such activities that are being done on our everyday lives. A client can also track multiple activities at the same time like listening music while playing games, talking with a friend on the phone while cooking or trading stocks while watching a tv show.

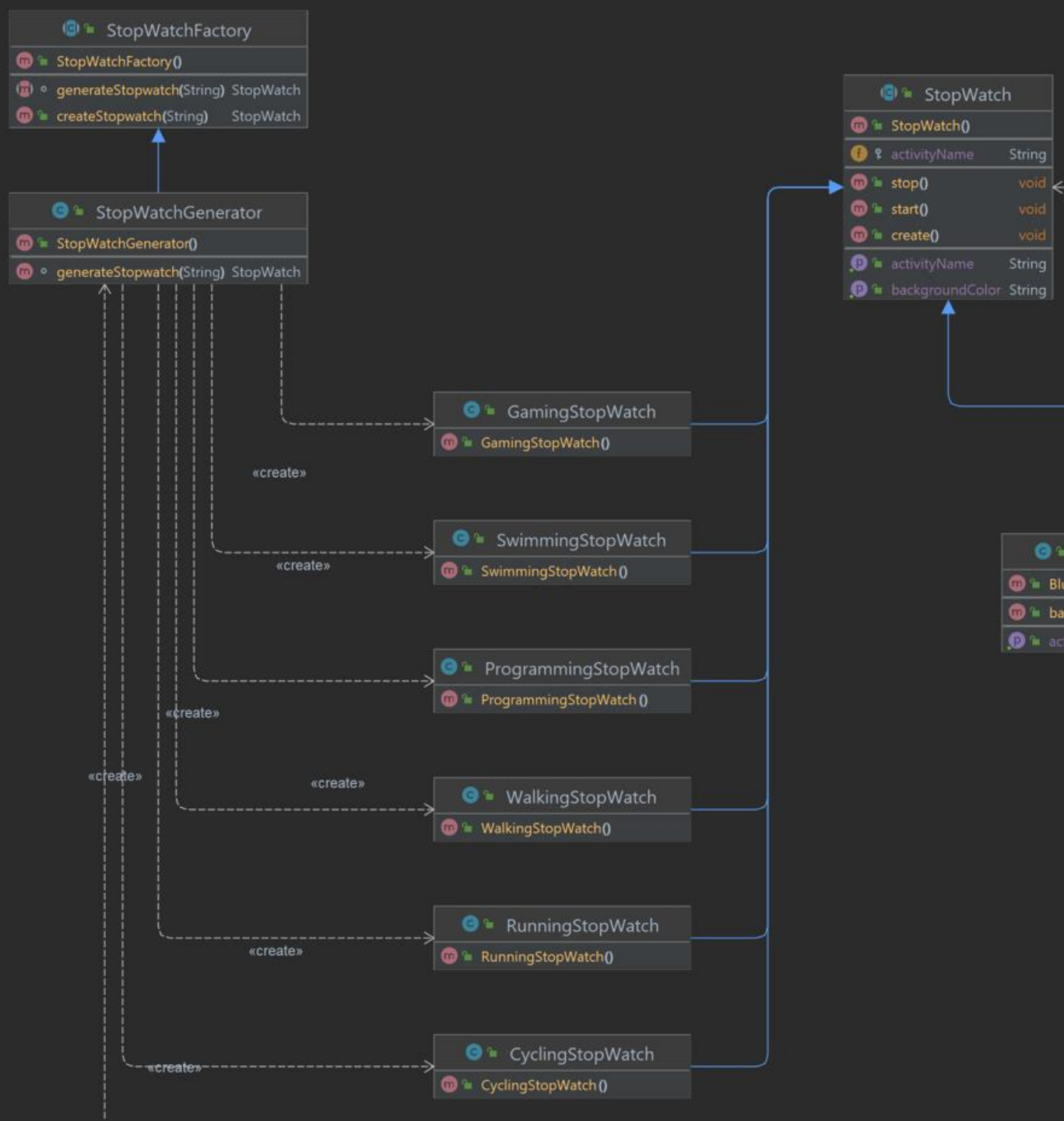
Patterns In Use



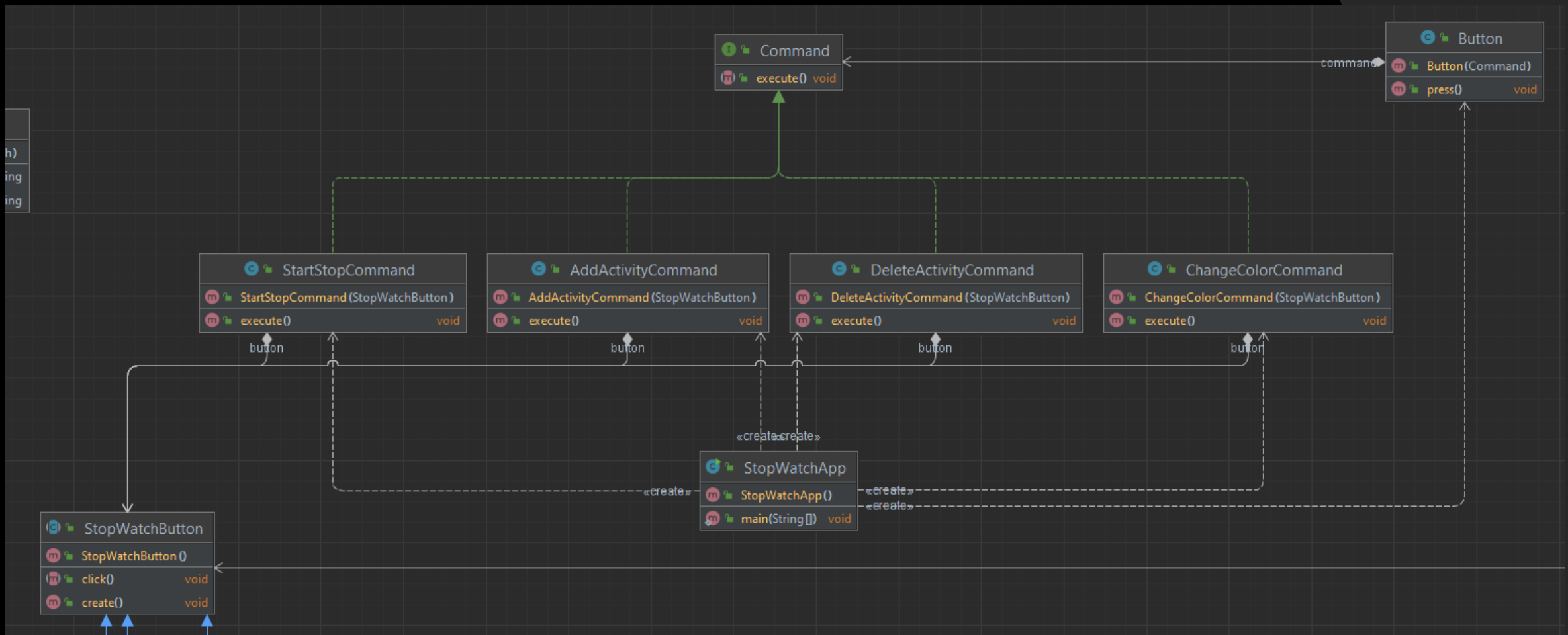


- **Factory Method Pattern:**

- Firstly, the 4 buttons are created and added to the StopwatchApp Frame by the Button factory.

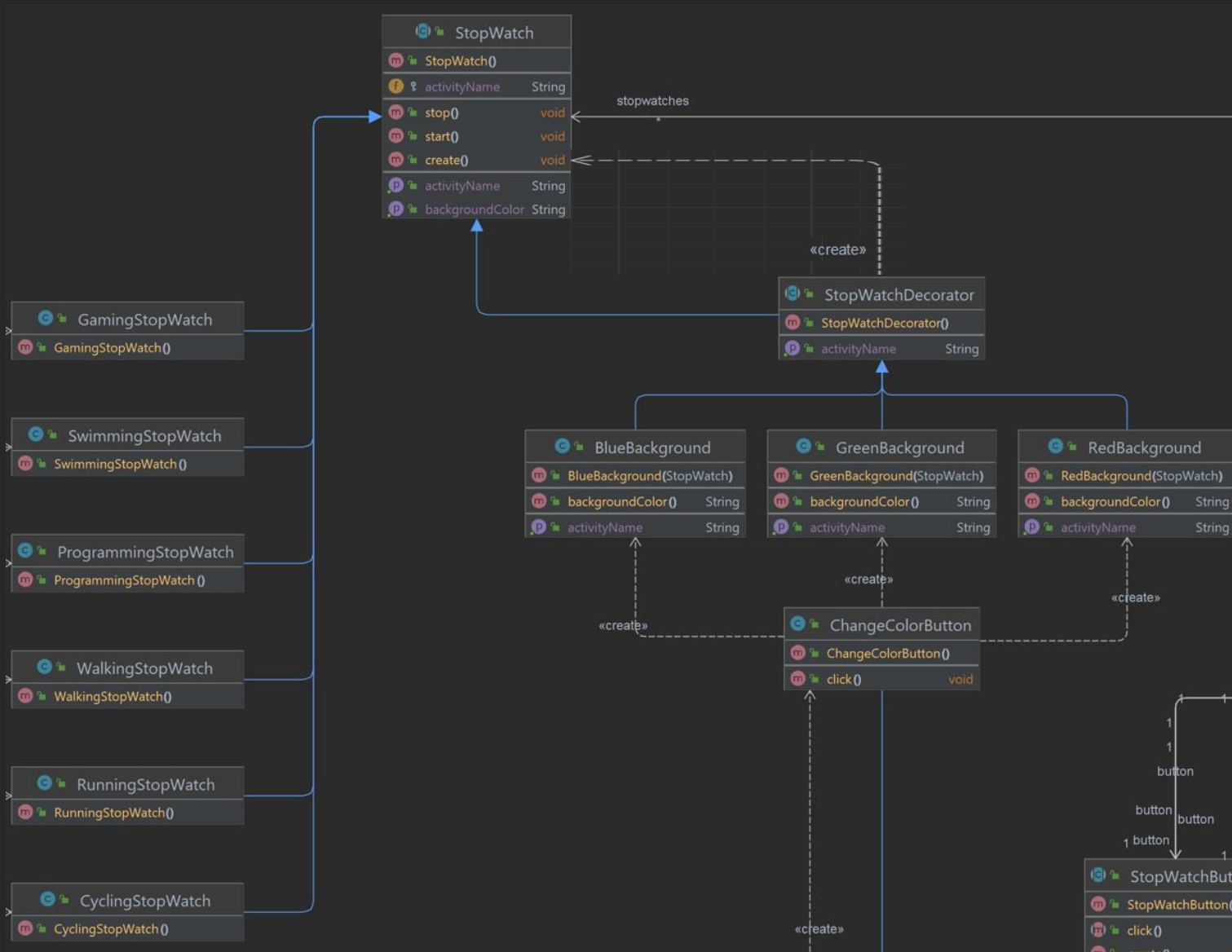


- The StopWatches for the activities are also being created by the Stopwatch Factory when the AddActivityButton is pressed.



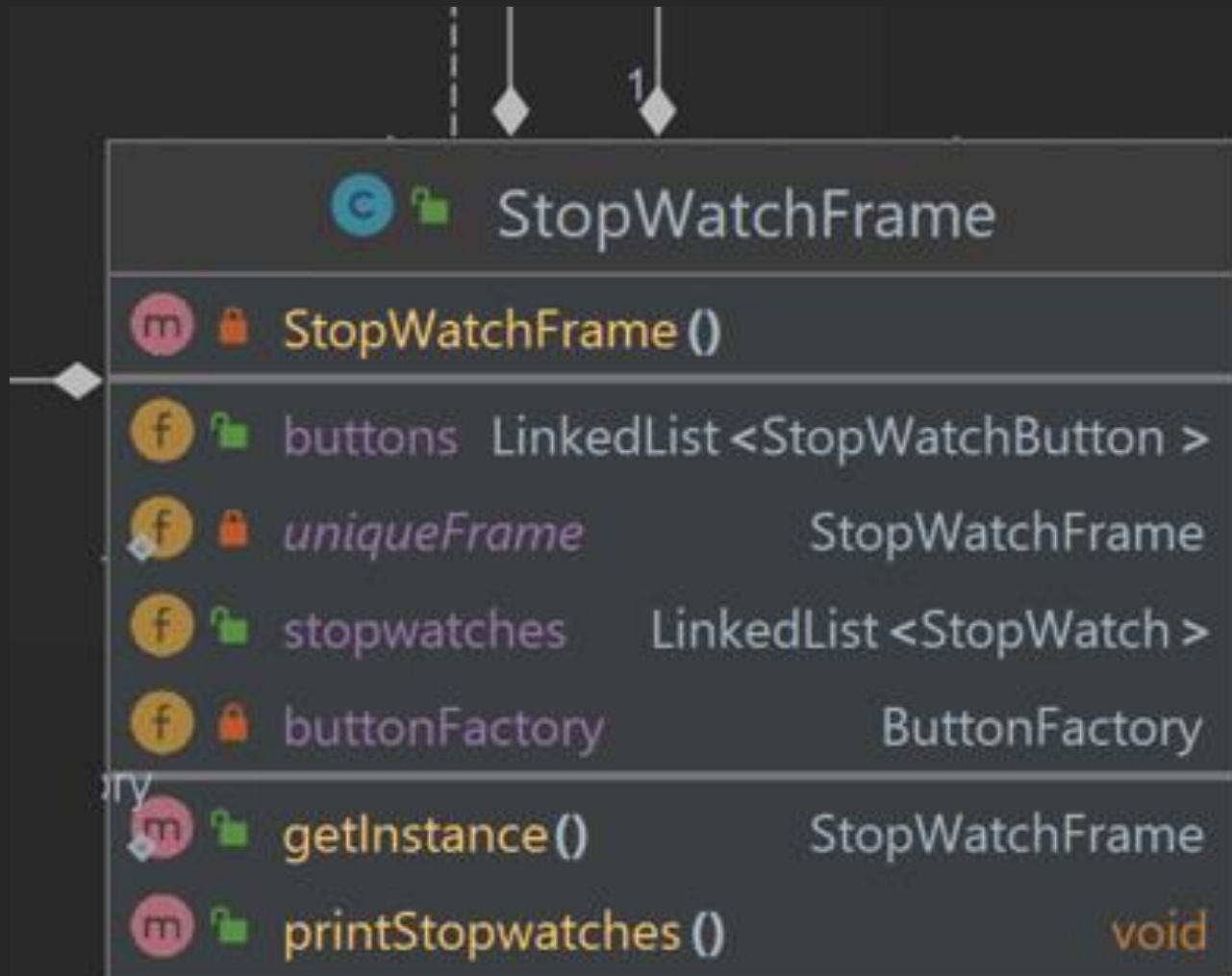
- **Command Pattern:**

- All buttons have a click method that is being executed when the button is pressed. All commands for the buttons are implementing the Command interface. The invoker is the button class with a press method.



• Decorator Pattern:

- The concrete decorators are the blue, green and red background classes.
- **StopWatchDecorator** class is implementing the same abstract **Stopwatch** class as the concrete **StopWatches**. And each decorator HAS-A (wraps) a component(**StopWatch**) means holds a reference to the concrete **StopWatches**.



- **Singleton Pattern:**
- Our StopWatches and Buttons that we created are being hold inside the Frame class. The Frame class is instantiated eagerly, and have a global point of access to it. Other classes can access this class calling `StopWatchFrame.getInstance()` method.

