

Class Diagram

```
1 @startuml
2 'https://plantuml.com/class-diagram
3 interface Observer {
4     +update(String message)
5 }
6
7 interface Observable {
8     +subscriber(User observer)
9     +unsubscribe(User observer)
10    +notifyObservers(String string)
11 }
12
13 class User {
14     -int id
15     -String name
16     +update(String message)
17 }
18
19 class Creator {
20
21 }
22
23 Observer <|-- User
24 User <|-- Creator
25
26 abstract Video {
27     -int id
28     -String title
29     -String description
30     -int duration
31     -User createdBy
32     -Comment[] comments
33     -Reaction[] reactions
34
35     +play()
36     +pause()
37     +share(User user)
38     +comment(User user, String text)
39     +saveToWatchLater(User user)
40     +next()
41 }
42
43 class LongVideo {
44     +toggleCaption()
45     +next()
46 }
47
48 Video <|-- LongVideo
49
50 class Reel {
51     +next()
52 }
53
```

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```
54 Video <|-- Reel
55
56 interface Iterator<Video> {
57     +boolean hasNext()
58     +Video next()
59 }
60
61 class VideoIterator {
62     +boolean hasNext()
63     +Video next()
64 }
65
66 Iterator <|-- VideoIterator
67
68 interface IterableByUser {
69     +Iterator<Video> search(String keywords)
70     +Iterator<Video> getRecommendations(User user, String keywords)
71 }
72
73 class Channel {
74     -Creator owner
75     -Video[] videos
76     -User[] subscribers
77
78     +subscriber(User user)
79     +unsubscribe(User user)
80     +notifyObservers(String string)
81 }
82
83 Observable <|-- Channel
84
85 Channel "1" o-- "0..*" Video
86 Channel "1" *-- "0..*" User
87
88 Creator "1" *-- "0..*" Channel
89
90 class Reaction {
91     +click()
92 }
93
94 class Like {
95     -User likedBy
96 }
97
98 class DisLike {
99     -User dislikedBy
100 }
101
102 Reaction <|-- Like
103 Reaction <|-- DisLike
104 Video "1" o-- "0..*" Reaction
105
106 class Comment {
```

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```
107     -String text
108     -User commentedBy
109 }
110 Video "1" o-- "0..*" Comment
111 Comment o-- User
112
113
114 interface RequestVideo {
115     +Video getVideo(int id)
116     +Iterator<Video> search(String keywords)
117     +Iterator<Video> getRecommendations(User user, String keywords)
118 }
119
120 IterableByUser <|-- RequestVideo
121
122 class VideoServer {
123     -Channel<String,Video[]> channels
124     -RecommendationEngine recommendationEngine
125
126     +Video getVideo(int id)
127     +bool createChannel(String name, Creator user)
128     +Video createVideo(Channel channel, Video video, Creator user)
129     +bool deleteVideo(Video video, Creator user)
130     +Iterator<Video> search(String keywords)
131     +Iterator<Video> getRecommendations(User user, String keywords)
132 }
133
134 RequestVideo <|-- VideoServer
135 'IterableByUser <|-- VideoServer
136
137 class RecommendationEngine {
138     +Iterator<Video> recommendVideos(User user)
139 }
140
141 VideoServer o-- RecommendationEngine
142
143 VideoServer *-- Channel
144 VideoServer o-- User
145
146 class ProxyEdgeVideoServer {
147     -VideoServer videoServer
148     -Video<key,Video> videos
149
150     +Video getVideo(int id)
151     +Iterator<Video> search(String keywords)
152     +Iterator<Video> getRecommendations(User user, String keywords)
153 }
154
155 RequestVideo <|-- ProxyEdgeVideoServer
156 ProxyEdgeVideoServer o-- VideoServer
157 ProxyEdgeVideoServer o-- Video
158
159
```

Class Diagram

160

161 @enduml