

Code, Camera, Action:How Software Developers Document and Share Program Knowledge Using YouTube

Explanation

Videos will be coded by the researchers in 5 second increments using a spreadsheet. Multiple codes can occur at once. If an instance of a code continues for a length of time, the coder will note this in the table. Below is an example of our earlier coding using older codes.

00:00:00			
00:00:05			
00:00:10	A1 Defining video's purpose/goal	D1 Showing the file explorer	C1 Prepping the user/ setting up expectations
00:00:15			
00:00:20	G2 Technical Environment		
00:00:25	C1 Prepping the user/ setting up expectations		A1 Defining video's purpose/goal
00:00:30	G2 Technical Environment		
00:00:35			
00:00:40			
00:00:45	D2 Browsing File Explorer		
00:00:50			

Codes

Goal setting

Defining the video's purpose

- Definition: The presenter explains to the audience what the goal of the video is. What task or program is the presenter trying to show to the viewer? The goal should be explicitly stated. Typically the goal will be stated in the beginning of the video. Think of this as the definition or topic of the video, the problem the speaker is going to address.
- Example:

“

In this video I'm going to show you the simple chat example that comes with the Electro server...

-Simple Chat Walk-through with Unity

Explaining the video's limits and audience

- Definition: The presenter is telling the user what they are going to see in an upcoming segment of the video. Could be something they will see in the next two seconds or minutes from now. Importantly, the presenter is setting limits for the viewer, indicating what they may be leaving out of the film or skipping over.
- Example:

“

So, I'm just going to show you the Electro Server API pieces and, um, pretty much just skip over any of the unity stuff that you probably already know

-Simple Chat Walk-through with Unity

Live editing

Making live code changes

- Definition: When the presenter makes changes to the body of code during the video.

Changing control flow variables

- Definition: When the presenter alters the logic or flow of the code during the video.

Introducing bugs

- Definition: When the presenter makes a code change in order to introduce a bug. Can be explicitly or accidentally done.
- Example:

Demonstrations to showcase the execution of the program

Executing the program to demonstrate features to the audience

- Definition: Occurs when the presenter runs the program to communicate to the viewer what the expected output or resulting functionality is. Shows the user the end product.

Referencing different levels of detail

High level code description

- Definition: Talking about the purpose of code, without discussing the technical details. Abstracting away from the low level code.
- Example:

“

"When the user successfully logs in, I need to react to it, Cafe Townsend needs to orchestrate something to happen. That is ... show the employee view. It doesn't tell the employee to load anything, it's assumed that view will take care of all it needs to handle." from Code Walkthrough - Cafe Townsend Robotlegs for Corona SDK

Medium level code description

- Definition: Functional discussion of more than one line of code. Can be a technical discussion of a sub block of code.
- Example: "First I want to make sure that the directory exists for where we are going to install [the launcher]." from Minecraft Launcher - Code Walkthrough

Low level code description

- Definition: When the presenter describes the functionality of a specific line. Think of it as the opposite of a high level code purpose.
- Example: The presenter said, "There is also a current room property with the data type of room and it's set to null" when reading the following code out loud:

```
private Room currentRoom = null;
```

Pointing out element identifiers

- Definition: Depending on the language an identifier may be a class, function, or variable name. It is used whenever the presenter references a specific <variable, method, type> in the code base. They highlight this identifier for a specific reason. _Note: _
- Example: `a = foo.bar('43')` If the presenter makes a point of describing a, foo, bar and "43", then it is an instance of this code.

Referencing line number

- Definition: The presenter includes the line number in their specific verbiage. Not to be confused with explaining the functionality of a line.

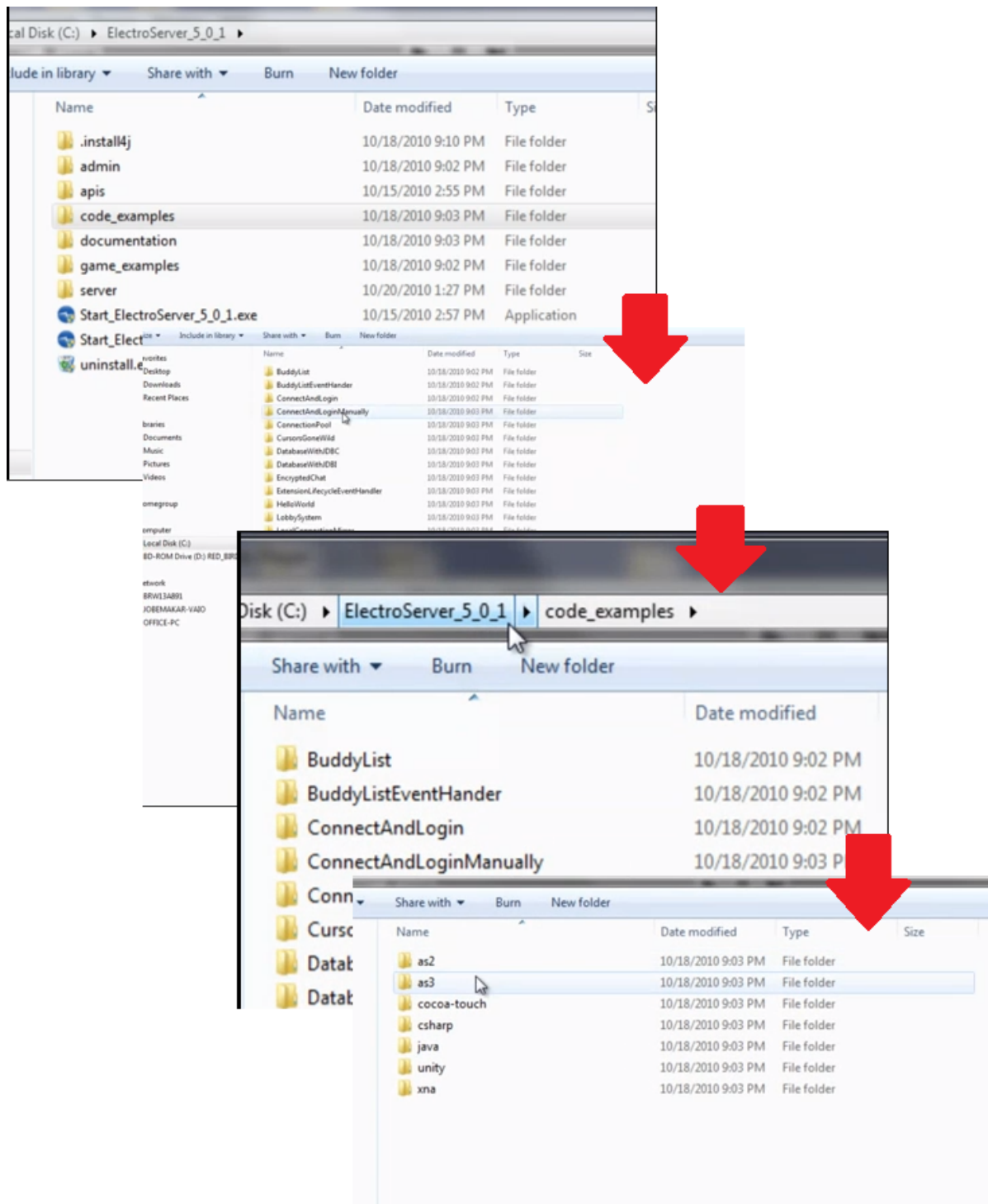
Referencing return types and parameters

- Definition: When the presenter explains or mentions the return value of a function or the needed parameter of a function.

Browsing the technical environment

Making use of the file explorers

- Definition: The presenter navigates around the file explorer showing folders or files relevant to the project being presented. Imparts a sense of the project structure onto the viewer. Also provides them with knowledge of where to find resources and important files. When using this tag, indicate the length of the task.
- Example:



Explaining the program structure

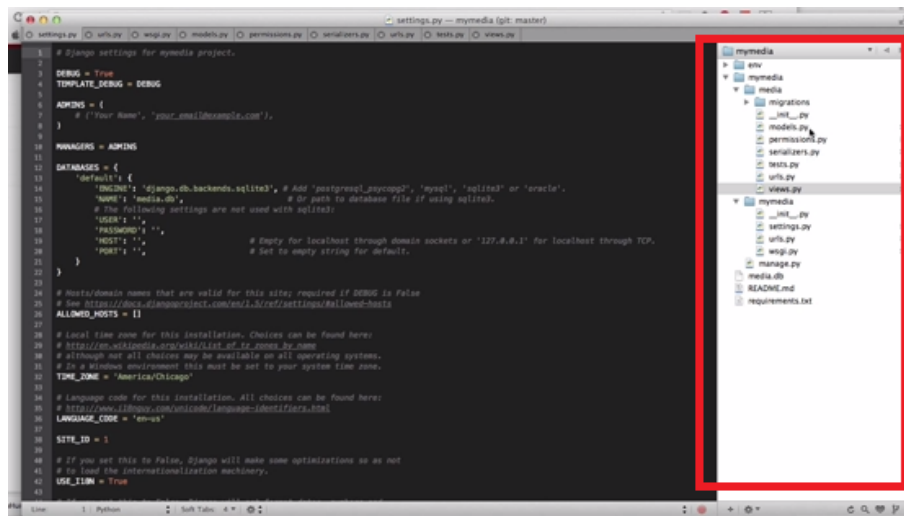
- Definition: Used when the presenter explains or mentions the project setup to the viewer. This could include showing the folder layout in an IDE.

- Example:

“

When you first go through the tutorial, there is a couple of commands in Django that will actually create a skeleton for an application, and basically the skeleton is what you see here. I don't think I added any files...

-Django - high level walkthrough



Explaining the technical environment

- Definition: Many times, running a program or programming in a particular language requires some technical setup of the environment. This code refers to those instances. Used when the presenter shows or references a prerequisite for the program to run or to be developed.
- Example: Software Libraries, IDE, Server installed and running or explaining what dependencies are needed for the project.

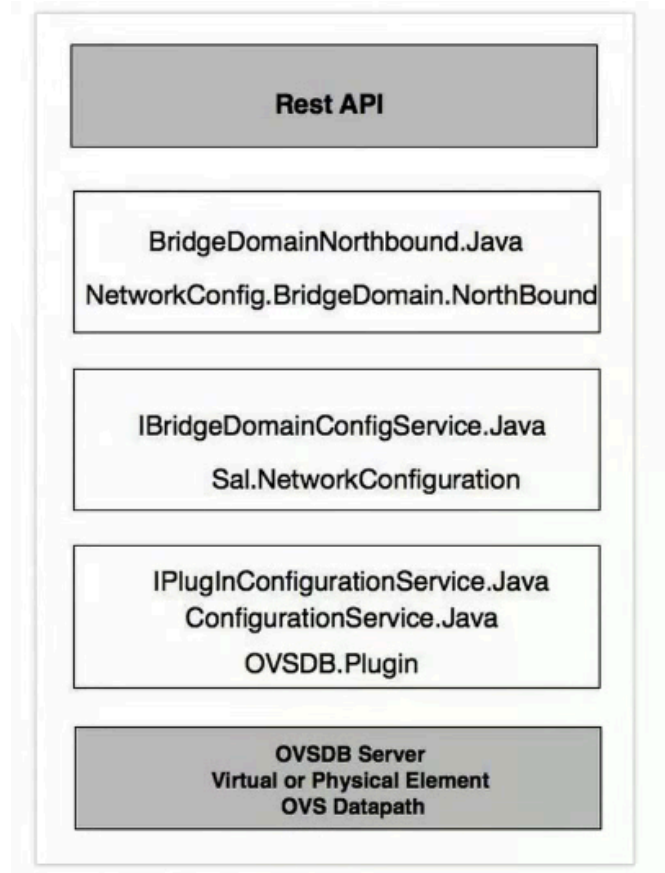
Provisioning of additional resources

Webpages

- Definition: Narrators may mention or explicitly link to other webpages where the audience can find relevant information. This includes supplemental materials and written versions of the screencast.

Diagrams

- Definition: Visual images used to explain the program to the audience
- Example:



Source code

- Definition: Sometimes the creator of the video will include a reference to the source code being shown in the video. This code describes when the source code is made available to the audience. This could be through GitHub, Dropbox or some other method.

Visual annotations

- Definition: Typically textual boxes added to the video in postproduction to supply the user with additional information about either to project or the developer. Does not include advertisements of YouTube.
- Example:

```
166 }
167 }
168
169 /*
170  * This method is used to intercept any join room events
171  * that are coming from Electroserver. With the RoomEvent
172  * we store our current room and set our game state to chatting
173  * for the chat UI.
174  */
175 void OnJoinRoom (JoinRoomEvent e)
176 {
177     // Get room-by-id from Electroserver ZoneManager
178     currentRoom = es.ManagerHelper.ZoneManager.ZoneById( e.ZoneId ).RoomById( e.RoomId );
179     gameState = GameState.Chatting;
180 }
181
182 /*
183  * This method is used to intercept any public chat events
184  * that are coming from Electroserver. With the ChatEvent
185  * we store the chat text for the chat UI.
186  */
187 void OnPublicChat (PublicChatEvent e)
188 {
189     AppendToChat (e.Username, e.Message);
190 }
191
192 /*
193  * This method handles the toggling of UI based on the game state
194  */
195 void OnGUI ()
```

es.ManagerHelper contains a ZoneManager, which manages zones and rooms, and UserManager, which manages users.

Mapping execution and code to code

Connection between the demonstration and code

- Definition: The presenter references a demoed or not demoed feature of the final running application that is directly related or effect by the code segment.

Linking code segments together

- Definition: When the presenter is discussing identifiable segments or lines of code that are separated, and one of which is in the view of the presenter. The separation does not have to be above or below the code since the linked segment could be located in another file.
- Example: "This code is connected to this code"