

Design Document: Smart Video Networking

Comp190: Senior Design Project

3/13/10

By:

Ronald Laidley

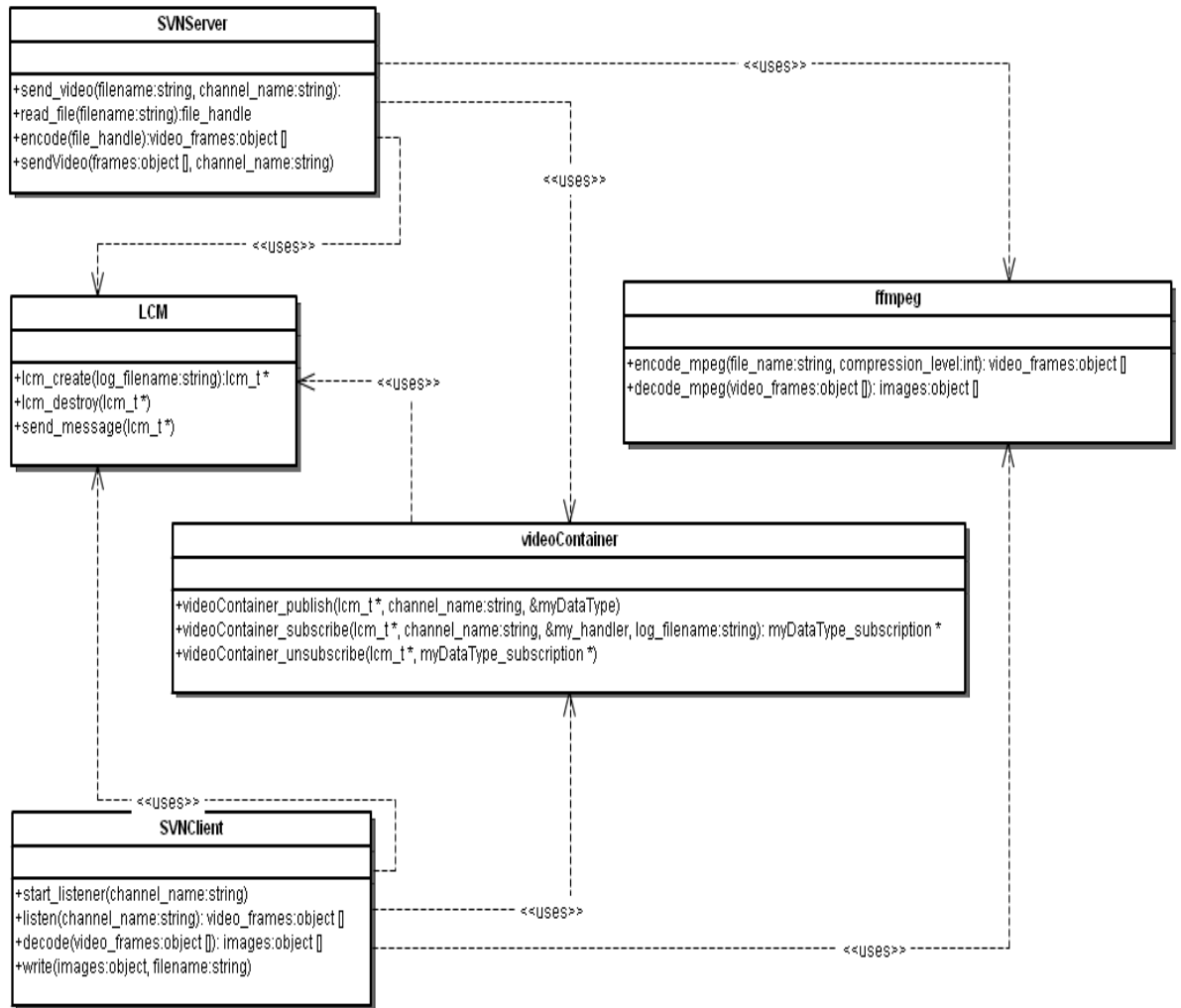
Andre Govier

Eric Gustavson

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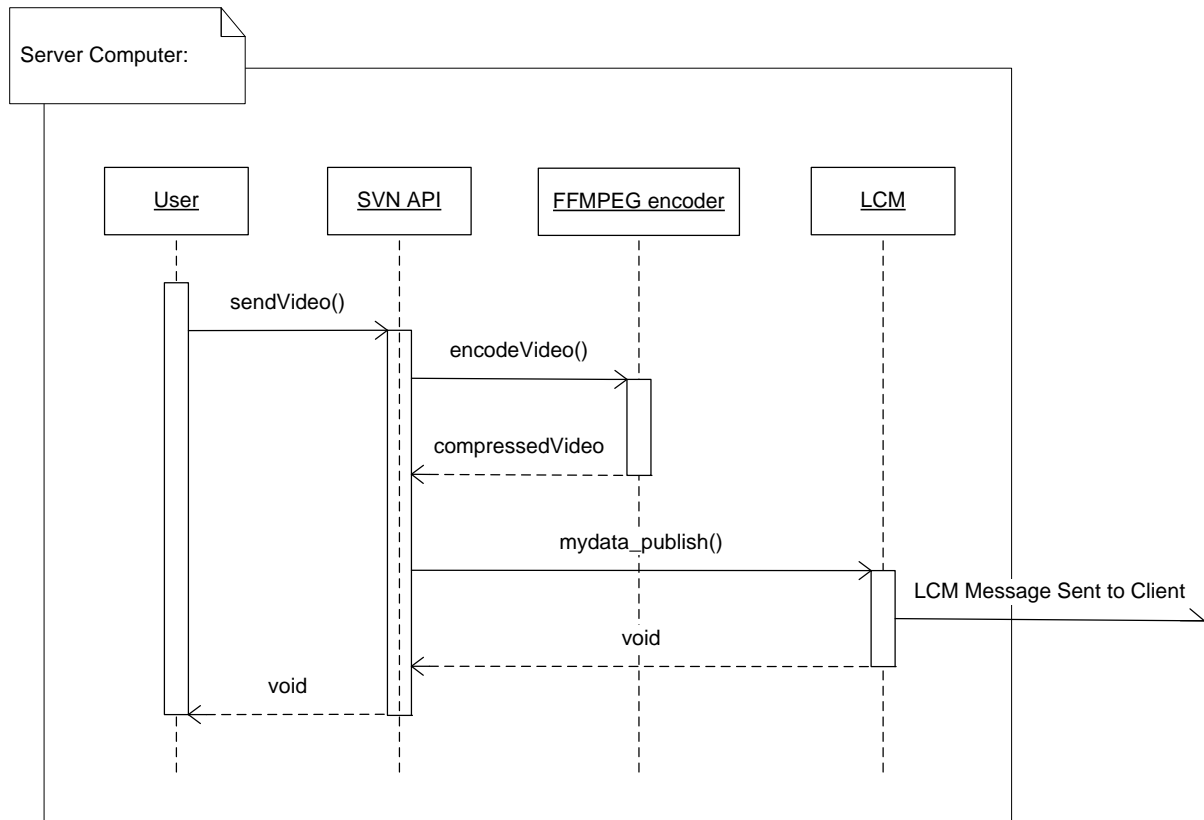
1. Module View



Rationale: This view describes the modular breakdown of the entire project and details all of the interaction between them. The two main modules, SVNClient and SVNServer are located at the top and the bottom, while the other modules that will be used by them are located in the center.

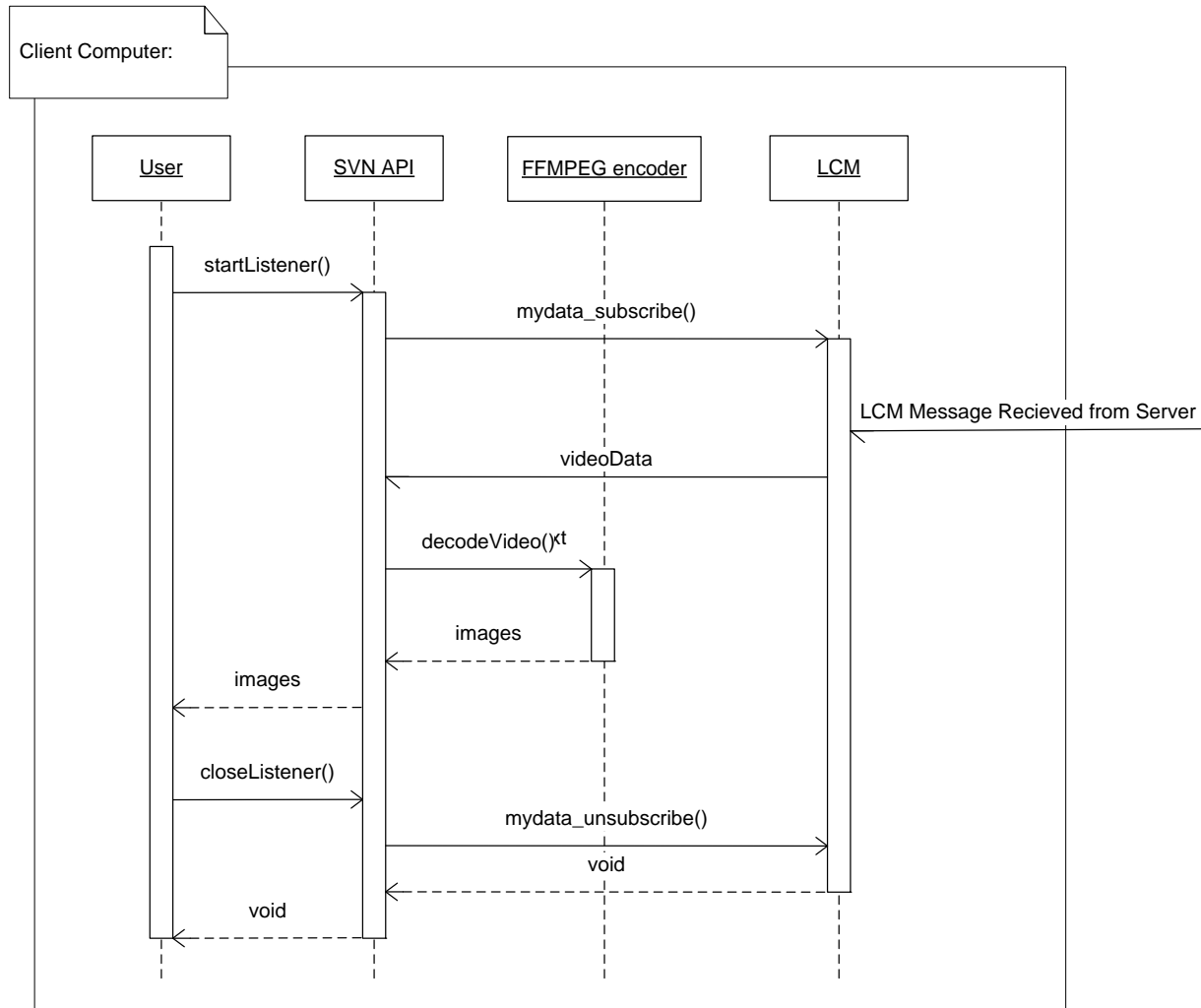
2. Sequence Diagrams

2.1. Server Side



Rationale: This diagram shows how the server side computer will be run by a user to send specific video files over the network. The user will directly use our SVN API, which will make use of both ffmpeg and LCM to send the video data over the network. The order in which they are all used is clearly shown.

2.2. Client Side



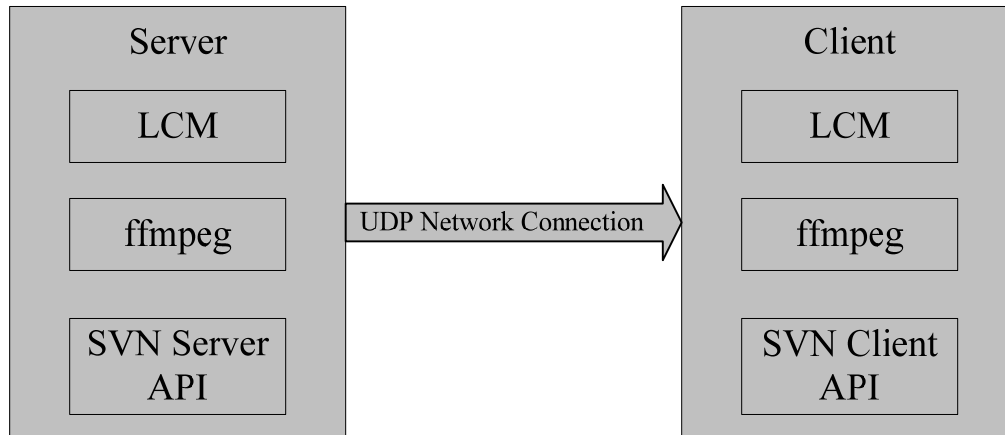
Rationale: This diagram elaborates on the other use case of our system, a user attempting to receive video information from the network channel. Once again, the user will use our SVN API to listen on the channel while it uses both ffmpeg and LCM to convert the received data into meaningful images.

3. Allocation View

Tasks	Eric Gustavson	Andre Govier	Ron Laidley
Setup, Manage SVN		x	
Setup, Manage Bugtracker			x
Coding: encoder module		x	
Coding: decoder module			x
Coding: LCM Sender	x		
Coding: LCM Listener	x		
Testing	x	x	x
Final Testing			x
Demo Preparation		x	
ProductPackaging, Delivery	x		

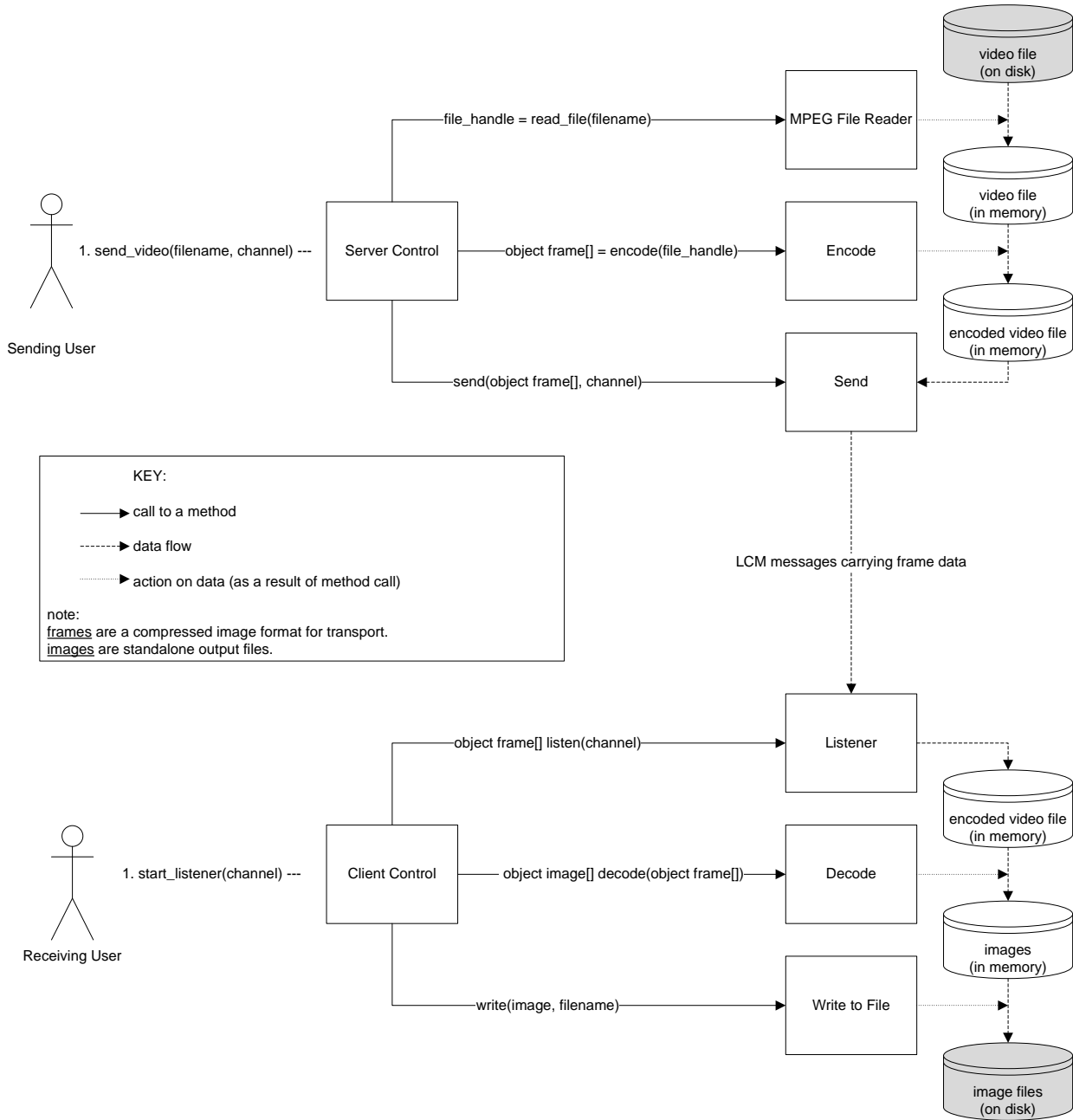
Rationale: Detailed here covers the entirety of the SVN project. The work was split evenly while trying to maintain cohesion. For example, the LCM listener interacts and depends on the sender, so one person was assigned to both of those tasks. At the same time, testing is a group effort since everyone will be handling part of the code and as such must keep track of any problems by testing often.

4. Deployment View



Rationale: Although simple, this diagram clearly shows how the product will actually be set up. One computer will act as the server by taking video files and sending the data over the network using the SVN API. Another computer will be set up as the client and will use the SVN API to receive the video data. Both computers will also need access to LCM and ffmpeg so that the video files can be converted and sent efficiently.

5. Component and Connector View



Rationale: This diagram shows how the system will act at runtime. It shows the sequence in which the code flows as well as when and where information is accessed on the hard drive.