

Top-Level Goal:	Tasks to Complete Goal:	Subtasks:	
1. Take Photo of Volcano	1.1 Access camera	1.1.1 Get camera access from OS	
		1.1.2 Open camera app	
	1.2 Take photo	1.2.1 Take photo in camera app	
		1.3 Retrieve photo	1.3.1 Get temp photos access from OS
	1.3.2 Select most recent photo		
	1.4 Upload photo to database	1.4.1 Connect to database	
		1.4.2 Upload photo to database	
	1.5 View timelapse with user's photo	1.5.1 Get recent timelapse and append the most recent photo	
		1.5.2 Download timelapse	
		1.5.3 Display timelapse as GIF on website alongside confirmation message	
		1.5.4 Disconnect from database	
	2. View Timelapse of Volcano	2.1 Generate recent timelapse as GIF	2.1.1 Select a number of non-quarantined photos from database (50, for example) that are good - typically morning ones - from the past month/year, approximately equally spaced over that time period
			2.1.2 Compile these images in temporal order into a GIF
		2.2 Display recent timelapse	2.2.1 Download timelapse
			2.2.2 Display as GIF
2.3 Allow downloading of GIF		2.3.1 Click 'Download' button	
		2.3.2 Download the timelapse	
3. View Old Photos in Database		3.1 Verify admin status	3.1.1 Check user permissions for database
	3.2 Select photo	3.2.1 Click on photo	
		3.2.2 Get filename	
		3.2.3 Indicate file as selected	

	3.3 Open photo	3.3.1 Open photo from filename
4. Delete Unwanted Photos	4.1 Verify admin status	4.1.1 Check user permissions for database
	4.2 Select photo	4.2.1 Click on photo
		4.2.2 Get filename
		4.2.3 Indicate file as selected
	4.3 Delete photo	4.3.1 -rm filename
5. View Overall Timelapse	5.1 Generate timelapse of all non-quarantined photos as GIF	5.1.1 Compile all non-quarantined photos into GIF
		5.1.2 Download full timelapse
	5.2 Display timelapse	5.2.1 Display timelapse as GIF
	5.3 Allow downloading of timelapse	5.3.1 Click 'download' button
		5.3.2 Download full GIF
6. Filter out Oddball Photos	6.1 Automatically analyse uploaded photo	6.1.1 Run analysis on image to determine if it is of the volcano
	6.2 If believed to be unwanted photo, delete it	6.2.1 If photo potentially not of volcano, do not upload it to the database
7. Generate Timelapse of Volcano over specific period of time	7.1 Generate timelapse of photos in a specific period	7.1.1 Get time bound
		7.1.2 Select all non-quarantined photos during that time bound
		7.1.3 Compile selected photos into timelapse
	7.2 Display timelapse	7.2.1 Display timelapse as GIF
	7.3 Enable downloading of timelapse	7.3.1 Click 'download' button
		7.3.2 Download timelapse

Functions we believe the user will wish to use include the primary functions of taking and then uploading photos of the volcano, as well as viewing a timelapse of the volcano over a period of time. Additional desired functions include viewing an overall timelapse of the volcano, (as opposed to simply during a bounded period of time) and the scientists will want to be able to analyse individual images, remove unwanted images, and have some means of automatically filtering out photos that aren't of the volcano. Additionally users may wish to generate a timelapse of the volcano over a specific period of time.

Timelapse generation will be accomplished by compiling a specific selection of photos into a GIF in chronological order, and can either be done in full, in an abbreviated form, (as in,

over the full time period but with significantly fewer photos) or over a specific period of time. (selecting all the photos between a period of time) Photo verification will be accomplished via image recognition to determine whether or not the photo is of the volcano, as well as including checks to verify that the photos are actually photos and not malicious files. Additionally, the scientists will be able to access the database and manually remove unwanted photos that made it through the filter.