500055 - Video Annotation DM

Week 51

1. Mike McCann
    a. Explored issue with ROV frame grabs not appearing in time order on thumbnail pages
2. Brian Schlining
    a. Made a number of quality-of-life improvements for users in VARS Annotation
    b. Integration with the config/secrets server has been completed.
    c. Deployed config/secrets server: http://m3.shore.mbari.org/config/health/status

Week 50

1. Brian Schlining
    a. Disk space on smb://titan.shore.mbari.org/M3 is getting tight. Brian created a program to ensure only 120TB are being used. The oldest files (by last accessed time) are migrated off each morning.
    b. To manage the large volume of incoming videos from the tape conversion project, the video registrar now runs every morning but only processes up to 10TB of video. A list of videos registered is email to Brian each morning and are then migrated off of LTO to make space.
    c. Brian has finished writing the configuration and secrets management server. Fun endpoints:
        i. http://nexus.shore.mbari.org:8400/config/endpoints (If authenticated it will provide access secrets to each service)
        ii. http://nexus.shore.mbari.org:8400/config/health/status (Provides healths status of all M3 microservices, if the health status field for a server is missing, then the server is down)
    d. Added health endpoints to all M3 microservices.
    e. Integrating the config/secrets server into vars-annotation.
    f. Integrating the config/sercrets server into the ships M3 docker-compose stacks and the shore deployments.
    g. Fixed issues with proxy server configuration in the M3 docker-compose stacks on the ships

Week 48

1. Brian Schlining
    a. Integrated libbmagic into VARS as the new framecapture mechanism for real-time annotations.
    b. Upgraded all VARS services to Java 17. Added health endpoints to all services. (e.g. http://m3.shore.mbari.org/anno/v1/health). The upgrade introduced a bug into the vars-user-server related to how parameters in URLs are escaped. A fix is in the works
    c. Created a configuration and secret management server for M3. This will allow Brian to build a single binary of each VARS apps that could be deployed on the ships or shore, and users just point the app at the appropriate config server. https://github.com/mbari-media-management/raziel
    d. Working with IS about space issues on Titan.

Week 46

1. Brian Schlining
    a. Adding integration between VARS Annotation and Kent's Blackmagic device framecapture app. This work should solve the following:
        i. Remove native libraries from VARS which do not play well with Apple GateKeeper security.
        ii. Remove the need for CamTwist and Black Syphon apps to enable framecapture on the ships

iii. Provide a path to allow for remote users to framecapture and create annotations for the telepresence project.

b. Imported the latest 3 LTO tapes of video from Iron Mountain.

Week 45

1. Brian Schlining
    a. Working on adding an advanced query to the new deepseaguide.
    b. Prototyping an integrated annotation/map/video view for new deepseaguide. http://m3.shore.mbari.org/deepseaguide => Click on query and enter a search term to preview.

Week 44

1. Brian Schlining
    a. Met with video lab to discuss direction and development of the new Deep-sea Guide. Live prototype at http://m3.shore.mbari.org/deepseaguide/#/dsg
    b. Working on upgrading VARS on the WF. Part of the upgrade is porting VARS to the new LTS release of Java (v17). This work includes replacing the LESS stylesheets in VARS with CSS as Java 17 no longer includes the Nashorn javascript parser used to transform LESS to CSS.

Week 42

1. Brian Schlining
    a. Working on the latest LTO shipment from Iron Mountain.

Week 41

1. Brian Schlining
    a. 4k video is coming. Brian ran checks and tests with output from the 4k camera.

Week 40

1. Diana LaScala-Gruenewald
    a. LTO tapes
2. Brian Schlining
    a. Updated image archiving service on the Rachel Carson to fix a bug in how image paths were written.
    b. Ingesting the latest round of LTO tapes full of video files from Iron Mountain.

Week 37

1. Diana LaScala-Gruenewald
    a. IMES tape transfer
2. Brian Schlining
    a. Imported 4 new LTO tapes (~4000 videos) into M3/VARS. Moved metadata to appropriate shares on Atlas.
    b. Made changes to annotation/video view in new DSG to fix video in place during scrolling. Example: http://m3.shore.mbari.org/deepseaguide/#/deployment/annotations/Doc%20Ricketts%200973

Week 36

1. Diana LaScala-Gruenewald
    a. IMES tape transfer

Week 34

1. Brian Schlining
    a. Investigating some new merge issues between VARS and EXPD

Week 33

1. Diana LaScala-Gruenewald
    a. IMES tape transfer
2. Brian Schlining
    a. Completed import of most recent Iron Mountain video drop into M3/VARS
    b. Addressing build issues with vars-kb and vars-query that CSIRO reported. Testing build with latest Oracle DB driver.
    c. Added user docs for scripts that support the Iron Mountain video imports at https://docs.mbari.org/internal/tapemigration/scripts/
    d. Investigating podman issues.

Week 32

1. Diana LaScala-Gruenewald
    a. Continuing to help with IM tape transfer
2. Brian Schlining
    a. Cleaning up dive info and Importing ~4800 video files from Iron Mountain's latest video drop.
    b. Improvements to tapemigration code to better handle time-code resets during dives.
    c. CSIRO was running into issues with building VARS. To resolve the problem, I updated the VARS Application builds to deal with bintray's shutdown.

Week 31

1. Brian Schlining
    a. Investigating a VARS bug on the Western Flyer.
        i. Dusting off some very crusty Objective-C skills to update image capture code to compile on Apple's Big Sur.
    b. Latest drop from Iron Mountain of 4294 video files representing 649 hours of ROV video has been cleaned up and registered in MBARI's video asset manager.
    c. Fixed a bug in recent versions of VARS and published a new release. Latest internal build download is here.
    d. Created a page for the video lab to view a dive's video and annotations on-line. (There's a note about it on slack). Example page: http://m3.shore.mbari.org/deepseaguide/#/deployment/annotations/Doc%20Ricketts%200973

Week 28

1. Diana LaScala-Gruenewald
    a. LTO tapes
2. Brian Schlining
    a. Working on ingest of IMES videos (LTOS S995**12**L8 through S995**15**L8)

Week 26

1. Brian Schlining
    a. Released a new version of annosaurus to address an issue with annotations that are missing an observation timestamp.

Week 25

1. Diana LaScala-Gruenewald
    a. Helping rename LTO tapes
2. Mike McCann
    a. Catching up with email backlog following 3 weeks of vacation, much to do with various Expedition Database issues: moving dives, tape summary data, permissions
3. Brian Schlining
    a. Continuing work on managing videos from Iron Mountain as part of the tape to video conversion. Code. docs.

Week 24

1. Diana LaScala-Gruenewald
    a. Met with Brian to review progress on DSG concept maps - putting this on hold for now
    b. Learned how to help rename LTO tapes, and started working on that
2. Brian Schlining
    a. Received yet another video drop from Iron Mountain. Working on ingesting those.
    b. Working with the video lab and Diana to recruit help with the Iron Mountain video ingest.
    c. Continue to refine the tools for managing the iron mountain videos. New this week are:
        i. move-tape - Tool for re-organizing annotations and media information for tapes that are identified as mislabeled. Modified the video asset manager to accommodate this tool
        ii. inspect-tapes - Tool for displaying information about how tapes were labeled and annotated. Very useful for identifying tapes that were mislabeled, a common occurrence in the early ROV days when multiple dives occurred in a single day.

Week 23

1. Brian Schlining
    a. Iron Mountain is now delivering about 4,500 videos (ripped from our tapes) every two weeks. Brian has been working on processing them and getting them correctly registered in M3/VARS and lined up in time with the existing tape annotations.. As part of the registration process, we are uncovering many instances of incorrect metadata (bad dive times in EXPD database, incorrect dive numbers, etc) and are working on correcting them. Brian has recruited Lonny, Kris Walz, and Diana to help with working through manual corrections. Supporting code is in the tapemigration repo. Docs are here.
    b. Added support for the Midwater's TopoCam videos in M3.
    c. Imported Mini ROV dives 169-173 into the shore side database.

Week 22

1. Danelle Cline
    a. On call while Brian was on vacation. All was quiet with no issues.
2. Diana LaScala-Gruenewald
    a. Continued working on creating concept distribution maps for a set of regions
        i. Created a "global" extent focused on the eastern pacific
        ii. Adjusted code to create bounding boxes and grid accordingly
        iii. Moved code into Pycharm to take advantage of better debugging capabilities
        iv. Added code to query for region coords and iterate to create concept maps for each region
        v. Currently troubleshooting a number of mapping issues arising from testing this code on a larger subset of concepts
    b. Will likely need more detailed shapefiles for maps, possibly w/ bathymetry
3. Brian Schlining
    a. Working on the ingest of a big video drop of 4,380 videos from iron mountain

Week 21

1. Brian Schlining
    a. With the shutdown of bintray, the old version of VARS no longer builds as many 3rd party dependencies are just gone. Brian is working through that.
    b. Brian is dealing with information/help requests for the older VARS system from HURL and Seattle Pacific University

Week 20

1. Diana LaScala-Gruenewald
    a. Met with Brian to get feedback on initial set of concept distribution maps and identify next steps
2. Brian Schlining
    a. Processed latest videos from Iron Mountain for the tape-to-video conversion project. The code that generates scripts is working well but about 1/7 (100) of the videos required manual intervention. Brian created some code to provide "guesses" for the correct metadata for problem videos.
    b. Now that Iron Mountain has figured out the workflow, they will be delivering 4 LTO tapes of videos every two weeks. To date, a single LTO requires about 2-3 days to work through correcting metadata with problem dives. (problems include: timecode resets during dives, wrong dive metadata in the expedition database, older dives used year-day instead of dive number, mislabeled tapes, missing camera logs, etc)
3. Rich Schramm
    a. Repair core video data load script.

Week 19

1. Diana LaScala-Gruenewald
    a. Generated first full set of concept distribution maps for DSG
    b. This process was slow (~24 h)
    c. There are a small number of concepts that are still throwing errors that I need to look into
    d. There are a number of lingering aesthetic points that may need to be addressed
2. Brian Schlining
    a. Installed and configured M3 services, database server, and VARS Applications on new vars-minrov computer
    b. Fixed an issue with framegrabs directory names.
    c. Working on importing latest IMES videos into M3. As part of this work creating an application to help suggest timestamps for videos from dives with timecode resets that occurred during the dive. (Timecode resets prevent accurate time calculations.)

Week 18

1. Diana LaScala-Gruenewald
    a. Continued troubleshooting code generating concept distribution maps for all concepts
2. Eric Martin
    a. Helped Lonnie at sea troubleshoot issues with M3RS.
3. Brian Schlining
    a. Updated M3 microservices on the Rachel Carson.
    b. Investigating issues with Framecapture due to continuing changes in macOS security.
    c. Due to work on FathomNet, taking a break from work on the new Deep-sea Guide. An in-development DSG version (very-alpha) is at http://m3.shore.mbari.org/deepseaguide

Week 17

1. Diana LaScala-Gruenewald
    a. Met w/ Brian to get feedback and discuss next steps
    b. Updated code for images based on initial feedback
    c. Implemented initial code to generate static images for all VARS concepts
        i. Currently troubleshooting this process
2. Brian Schlining
    a. Discussions with video lab about issues surfaced during our last ingest of videos from Iron Mountain.
3. Rich Schramm
    a. Research why video data logs havent been uploading for over a year

Week 16

1. Diana LaScala-Gruenewald
    a. Working on static concept distribution maps for deep sea guide
    b. Got annotation data into a reasonable format and drafted some initial maps, after sorting out a bunch of issues related to Python package management in Windows
2. Brian Schlining
    a. Continue to add functionality to the new Deep-sea Guide
    b. Ingested latest batch of videos from Iron Mountain (tape to video project). There's also been follow up on adding docs and additional reporting.

Week 15

1. Brian Schlining
    a. Continuing work on features for the new Deep-sea Guide. (e.g. Grimpoteuthis)
    b. Working on REST API to support data analysis of annotations.
        i. Fetch all ROV dives
        ii. Find a dive of interest (e.g. V4222 or Ventana 4222)
        iii. Fetch detailed nav/ctd data for a dive. (e.g. V4222)
        iv. Fetch compact ROV nav/ctd data for a dive (e.g. V4222)
            1. You can read the nav/ctd from the compact data endpoint into python using:
            ```
            import pandas as pd
            ```

Week 14

1. Diana LaScala-Gruenewald
    a. Review of code from Brian
    b. Code to flatten output for DSG concept distribution maps
2. Brian Schlining
    a. Continuing to build components for the new Deep-sea Guide. Example views:
        i. http://m3.shore.mbari.org/deepseaguide/#/dsg/concept/Grimpoteuthis
        ii. http://m3.shore.mbari.org/deepseaguide/#/dsg/imagetree/Grimpoteuthis
        iii. http://m3.shore.mbari.org/deepseaguide/#/dsg/annotations/Cydippida%20sp.%20A (This view defaults to showing images tagged as being "good" or "select. Select the "all" filter to see all annotated images.
        iv. http://m3.shore.mbari.org/deepseaguide/#/query (Enter a search term to show results on the map)

Week 13

1. Diana LaScala-Gruenewald
    a. Meeting with Brian re: concept spatial distribution visualizations for DSG

2. Brian Schlining
    a. Cleaned out smb://atlas.shore.mbari.org/M3_Staging
    b. Imported Mini ROV dives 166-168 from vars-minirov computer/database
    c. Working on a new DSG/VARS Query. Development snapshots are posted to http://m3.shore.mbari.org/deepseaguide
    d. Met w/ Diana to discuss work on creating DSG data products. Put together a python project for querying VARS data for the DSG analysis at https://github.com/mbari-org/dsgpy (It's private, contact Brian is you want access)

Week 12

1. Brian Schlining
    a. Modified the VARS Knowledgebase app to include additional, atypical taxonomy ranks. New release is here.
        i. Updated dependent libraries required for this build and published them on Github Packages.
    b. Created a tool to generate a report that lists taxa that are missing expected taxa ranks.
    c. Begun work on next-gen Deep Sea Guide and Query.

Week 10

1. Brian Schlining
    a. Continuing work on integrating descriptive info about dives and videos into VARS. This is to support the Iron Mountain video transcoding. The video lab would like to be able to add non-annotation descriptive info about individual dives or video segments.
    b. Investigated VARS crash on the Rachel Carson
    c. Testing ideas for a web based VARS query app
    d. Added documentation for deploying M3 microservices on the ships and shore.

Week 9

1. Brian Schlining
    a. Added detailed error messages to the `mv` scripts generated as part of the Iron Mountain video ingest. This info greatly reduces time needed to investigate failure modes.
    b. `mv` scripts, which migrate video files from staging areas into M3 are now being archived at smb://atlas.shore.mbari.org/VideoLab/DigitizingProject/Digitized_video_docs/LTO_scripts. This is useful if we need to track where a video was moved/renamed.
    c. To accommodate issue reporting on video and tape problems by the video lab, Brian is working on synching data between EXPD:TapeSummary.Notes and M3_VIDEO_ASSETS.video_sequences.descriptions. In addition, he's modifying VARS and vampire-squid to allow the video lab to add descriptive information to dives and videos.

Week 8

1. Mike McCann
    a. Monitoring vfcbydive's processing as dozens of dives are now being re-annotated nightly
2. Brian Schlining
    a. Working with IS to set up an account to run applications directly on the titan cluster. This will greatly speed up the ingest of videos ripped from our video tapes by Iron Mountain (IMES) . For example, for the recent delivery of video files, copying 22TB using a non-titan server would take 120 hours-ish. Moving them directly on titan takes seconds.
    b. All video files from IMES's first delivery have been registered in M3/VARS.
        i. Brian is working with the video lab to verify that existing annotations from tapes are aligned in time correctly with the video files.

ii. Some videos are not being registered. Brian is doing forensics on all the failure modes that are occurring. (e.g. Dive times entered in correctly in EXPD, mislabeled tapes, missing camera logs, IMES operator error, etc)
iii. Fixed a bug in the video registration software that incorrectly named videos “DocRicketts” instead of “Doc Ricketts”

c. Created an app to move and organize IMES QC information to smb://atlas.shore.mbari.org/VideoLab/DigitizingProject/Digitized_video_docs. Also, generates QC plots of timecode logs from the tapes.

Week 7

1. Brian Schlining
    a. Begun work on modifying the code that registers videos ripped from our tapes by Iron Mountain (IMES) into M3. Iron Mountain is now providing us with detailed logs of timecode vs. elapse time for each tape. This will inform us of exactly when a timecode reset happens and hopefully allows us to correctly align those videos with their correct times.
    b. We’ve received our first batch of videos from IMES. (About 2000 of them, about 22TB). Brian is running a program to rename the files to our internal standard and move them to their correct location on titan:/M3. Due to the file sizes, it may take up to 10 days to move all the files to the correct locations. Brian is working with Neil Connor on ways to speed this up.

Week 6

1. Eric Martin
    a. Modified code with more exception handling to avoid GUI freeze observed after 24 hours.
2. Brian Schlining
    a. Refactoring m3-registrar code used to register all video files in M3/VARS. Adding very detailed error tracking and performance enhancements to prep for the huge number of video files Iron Mountain will be delivering to MBARI over the next few years.

Week 5

1. Eric Martin
    a. Adding multi-card divenumber write support to the config.

Week 4

1. Eric Martin
    a. Troubleshooting Lingon setup with Lonny.
2. Brian Schlining
    a. Fixed issue in VARS annotation where commands were assigned to the same keyboard shortcut. During the rebuild of the app, I found a bug in JDK 14+ and submitted a bug report to the JDK maintainers.

Week 3

1. Mike McCann
    a. Latest security patches on expanse broke fonts for vfcbydive – submitted help ticket to fix
2. Brian Schlining
    a. The latest round of server patches surfaced a bug in docker across multiple machines. Brian has been working on fixes for various servers.

Week 2

1. Eric Martin
    a. Working with Lonny to test and deploy refactored tools for M3RS monitoring.
2. Mike McCann
    a. Continued work on vfcbydive to better handle multiple annotations

Week 1

1. Brian Schlining
    a. Modifying annosaurus to allow for more generic annotation queries. This is to enable the microservice to be used as a back-end for web-based image and video query applications. The current desktop query app talks directly to the database.
    b. To accommodate limited time on the project, Brian submitted a request to the video lab about 2021 task priorities.