

Brown Apollo Mission Film Digitization Project

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Abstract

Film of the 1960's Space Race has been accidentally stored to near-degradation in Brown University's Planetary Geosciences Group. This archive includes first-generation prints of the Apollo 11 landings, training footage from other Apollo missions, early computer simulators, Voyager computer graphics and other supporting material from the Space Race. Proposed is a project between Brown University, Arizona State University's School of Arts, Media & Engineering and CineLab to digitize this film and make it available online for public access.

Description of project

Brown University's Planetary Geosciences Group owns an archive of Apollo lunar mission training videos along with other film footage from the Space Race. The films center around unique training footage of the Apollo 15 mission but includes various Apollo footage both unique and some duplicates. The film is currently held in a temporary office/server-room/supply-closet, AKA Ken's office. A search will be conducted for other film at Brown before proceeding to digitize the known films.

Some of the film is Apollo landings on the Moon, others are unique training and simulator footage. There may be three copies of the Apollo 11 and 12 descent and landings. All the prints are first generation prints from NASA, so they are about the highest quality 16mm film from the late 1960s. Footage may include a range of activity covering Apollo 7-17 missions, training and

supplemental simulations. It appears to include some early Apollo computer-based simulator video which would mean it some of the only footage showing the origins of computer graphics.

This film is over forty years old and being stored in a substandard manner for historical documents. The footage is estimated at around 21,000 feet of mixed 8mm and 16mm film.

Proposed Schedule

Feasibility Report One - Winter 2016

Grant Applications -

 Fall 2016 (\$500)

 Spring 2017 (\$25K)

Test Digitization - Spring 2017

4K high resolution Digitization - Summer 2017

Student & PDC archiving - Fall/Winter 2017-18

Documentary production - ongoing, finalized Fall 2017

Research Report Two - Spring 2018

Proposed Deliverables

Deliverables will include a catalogue of high-definition digital video files available for the public and researchers, a short documentary and two research reports. The original film will be archived permanently in Brown's public Northeast Planetary Data Center (PDC) facility, alongside other Apollo material and more recent Mars and Mercury datasets. The PDC will be searched for additional film that may be included in the digitizing project. A short video documentary entitled "Apollo, the Brown Perspective", featuring Dr. Jim Head and the recovered film footage, will be produced to encapsulate the material.

Proposed solution

A more complete feasibility study is being conducted through this winter. This includes a better categorization of the known film and a quote from CineLab to incorporate into grant proposals. An assay of the PDC and Planetary Geoscience will be conducted to find any extra footage.

Two grant phases will be conducted. The first is for \$500 to cover the costs of conducting the feasibility study and delivering the Phase One report. The second is for the approximately \$25,000 (estimated as of 9.6.16) to complete digitization, archiving and online availability of the material.

All film will be gathered from Brown Planetary Geoscience (Providence, RI) and hand-delivered to CineLab (Fall River, MA). CineLab will prepare and the film and digitize it using their 2K and 4K film digitizers for 8mm and 16mm film, respectively. CineLab will process the film for archiving and provide raw video files on DVD and portable hard drive.

Cine is one of few locations in the US that digitize old film for use in modern video editing and online viewing. Their technicians and equipment also process old film, clean and manipulate it in various ways. Cine is one of the few companies in the USA that do this kind of film digitization and are widely regarded as the best. Luckily, they are only about 20 miles from Brown.

The original films will be packed for archiving and stored in Brown University's PDC. The film will be available through PDC staff but is intended for archiving. An undergrad student will be awarded a small grant to provide maintenance and assistance on the material, including production support for the documentary. This is a good opportunity for any student interested in science communications. The video files will be hosted on Youtube or Vimeo online video services and on the PDC for Brown, NASA and other scientific and historical research.

Contacts for this project include:

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- James Head James_Head@brown.edu
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- Bill Chandler billco@cinelab.com

Material Calculations

Estimates of the film footage taken from Notes below along with known characterizations. An estimated 21,000' of 8mm and 16mm film is calculated based on photographs and descriptions from Ken R. Original frames-per-second were 6 and 12 fps and the estimated run-time is around 9 hours total if the canisters are all full.

Known reels include:

24 X 6" 16mm

7 X 12" 16mm

4 X 10" 16mm

3 X 3" 8mm

Financing

Rhode Island Council for the Humanities

Rhode Island Space Grant

National Endowment for the Humanities

IMLS

Smithsonian
National Science Foundation:
NASA
Brown University

Cost estimates for planning purposes:		
Task	Purpose	Estimated Cost
Digitization @ CineLab	Create digital copies of film	\$8500 - 20,000
Honorarium	Ken Ramsley, documentation, organization	\$1000
Honorarium	Joshua Gigantino, video production, documentation, organization	\$1000
Archiving	Materials for project (Two hard drives, lock box, etc)	\$2000
Student Grant	2 year undergrad grant for media production, archival assistant, video production, online maintenance	\$2000
Total	Estimate	\$14,500 - 26,000

Conclusion

This project has two merit points for going forward. First, some of the footage is unique (Apollo 15 training and simulators) and the rest of it (if in good shape) is the best copies of NASA originals. Second, the project would be a good opportunity for Brown and NASA to forge a working relationship with CineLab for bringing other film out of storage and onto the Internet.

As proposed, the work would be done by two associates of the Planetary Geoscience and Mechanical Engineering groups at Brown, namely Ken R. and Josh G. The project is welcome to be done entirely in-house between Brown and Cine as well. This document is meant to serve as a guide to accomplish this goal.

References

<http://www.geo.brown.edu/BrownNASADataCenter/index.php>

<http://www.iilabs.com/info-pop.php/reels>

<http://www.loc.gov/preservation/care/film.html>

<http://cinelab.com/>

<http://www.scenesavers.com/grfx/estimatingfilmlengths.pdf>

<http://www.philipcrewe.net/2012/08/14/standard-size-of-a-film-can/>

http://www.cinelab.com/PDFS/Cinelab_Student_Rate_Card_2016.pdf

Appendix

Self-labelled graphic and photographs from Ken Ramsley of footage:

A001 - A007



A013 - A033



A008 - A012



