1. How to Bolster Academic Integrity

- Students (and even instructors) report that Blackboard Learn "ate their homework".
- Students claim to have taken an assessment, turned in an assignment, written discussion posts, or other activities in the system.
- Some instructors believe them and give the student another chance to submit, but more believe that the student is trying to "pull a fast one", and want validation of the student's activity.
- Academic integrity monitors want reports (and often opinions)
- Using system logs and course reports, the system administrator can track user activity throughout the system and (in)validate claims.
- In this session, we will examine what tools are available, and see how they are used to verify activity.

Instructors have several tools at their disposal for tracking student activity and promote academic integrity, including

- Course Reports
- Test Access Logs
- Grade History
- Grade Details
- Submissions Receipts
- Respondus LockDown Browser & Monitor

System Adminstrators have access to more resource, including

- System Logs (Authentication, Tomcat Access, and Email)
- Database (OpenDB or DDA)
- Bb Data (in SaaS)

2. Instructor Tools

There are several tools within Blackboard Learn courses that instructors can use to track student activity.

Some of these are

1. Course Reports
2. Test Access Logs
3. Grade Details
4. Assignment Submission Receipts
5. Grade History

2A. Instructor Tools: Course Reports

Instructors can run several types of course reports to view information about course usage and activity. Instructors can view summaries of course usage such as which course areas are used most frequently and course access patterns for specific students.

Under Course Management Control Panel —> Evaluation —> Course Reports

Reports available:

- All User Activity Inside Content Areas
- Course Activity Overview
- Course Coverage Reports
- Course Performance
- Overall Summary of User Activity
- Single Course User Participation Report (Microsoft Excel spreadsheet)
- User Activity in Forums
- User Activity in Groups

Descriptions of report summaries are available on the *Course Reports* page.

Student Overview for Single Course

Course Name	**COMBINED COMM 1233 - MEDIA COMMUNITY & CITIZENSHIP (MASTER-1166-THEUA-COMM-1233-SEC901)**	Report Options
Course ID	MASTER-1166-THEUA-COMM-1233-SEC901	
Student Name	**Name, Student (sname)**	
Student ID	sname	
Date Range	06/01/2016 - 06/30/2016	

Activity is shown for enrolled users only.

Student Overview

Student Activity by Day

06/01/2016 - 06/30/2016
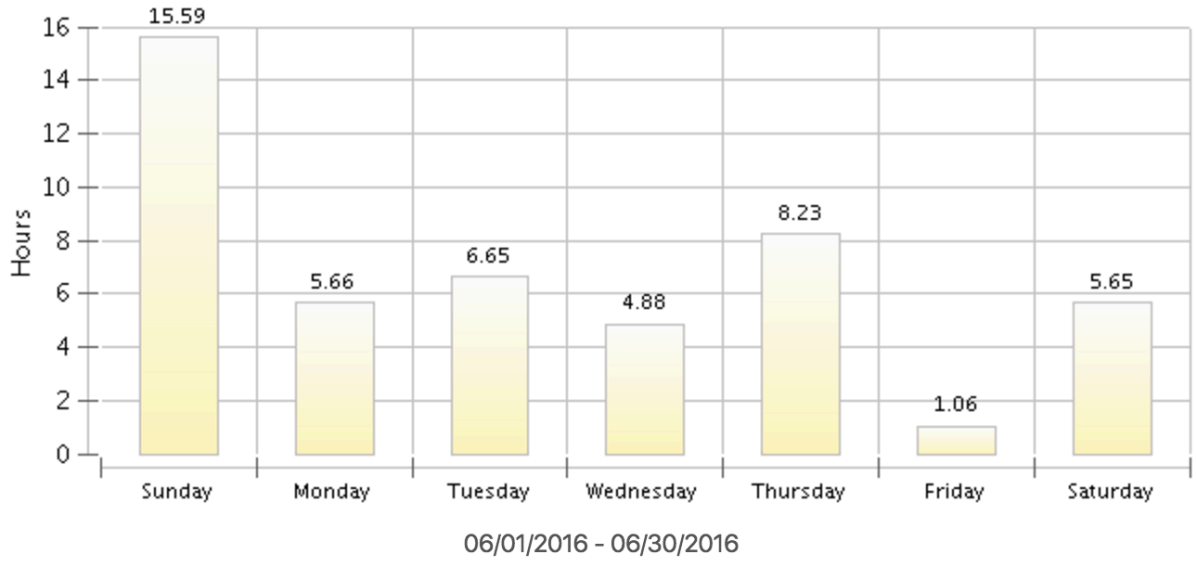
Student Time in Course	47:43:23	HH:MM:SS
Avg Time Per User	29:20:27	HH:MM:SS
Total Items	64	
Total Logins	183	
Last Login Date	7/4/16 03:20 PM	

Student Activity by Item in the Course

Item Name And Type	Total Time Spent in Hours	Number of Times Accessed	Initial Access Date/Time
<u>"Everything That's Wrong With Advertising in One Video" (from UPWORTHY)</u> Web Link	**0.04**	1	Jun 14, 2016 3:56 PM
<u>Advertising Messages Made by Audiences</u> Web Link	**0.01**	1	Jun 14, 2016 4:49 PM
About Instructor Content Folder	**0.00**	1	Jun 13, 2016 9:18 PM
Class Schedule Content Folder	**0.01**	2	Jun 4, 2016 1:04 AM
Four Tricks Advertisers Use to Get Us to Buy Stuff We Don't Need Web Link	**0.01**	1	Jun 14, 2016 3:55 PM
GROUPING and INTERPRETATION :: Media Literacy Skills Item	**0.01**	1	Jun 14, 2016 4:50 PM
Journal 01 :: Media Log Journals	**0.32**	1	Jun 5, 2016 4:07 AM
Journal 02 :: Dimensions of Appreciation Journals	**1.09**	1	Jun 1, 2016 11:17 PM

Program Seven :: Histories of the Media Industries Content Folder	**3.97**	3	Jun 14, 2016 1:40 AM
Program Six :: Audiences as Products of the Media Content Folder	**1.09**	8	Jun 7, 2016 10:19 PM
Quiz S1 Test	**0.29**	2	Jun 5, 2016 11:12 PM
Quiz S2 Test	**0.20**	2	Jun 9, 2016 7:00 PM
Quiz S3 Test	**0.35**	1	Jun 19, 2016 2:11 PM
Quiz S4 Test	**0.25**	1	Jun 26, 2016 12:05 AM
START HERE! Content Folder	**0.00**	4	Jun 1, 2016 6:35 PM
Sharing Ideas :: "Next-Step Reality" Advert Discussion Board	**0.10**	4	Jun 4, 2016 1:05 AM

2B. Instructor Tools: Test Access Logs

Instructors and other users who are granted permission can view a test attempt's *Access Log* for a list of times of various student interactions with the test. The log can help to confirm whether a student began a test or ran into problems during a test. This is found within *Test Information* when viewing an assessment attempt.

Test Information

Current Grade	23.0 out of 40 points
	Grade based on Last Evaluated Attempt
Status	Completed
Attempt Score	23 out of 40 points
Time Elapsed	11 minutes out of 1 hour Access Log
Started Date	2/6/14 8:52 PM
Submitted Date	2/6/14 9:04 PM
Due Date	2/6/14 11:59 PM
Clear Attempt	Clear Attempt Click **Clear Attempt** to clear this user's attempt.
Edit Test	Edit Test Click **Edit Test** to make changes.
Instructions	

The Access Log shows a detailed list of all the interactions a student had with the test for that attempt. The log shows the time the test was started, when each question was saved, and when it was submitted.

You might interpret an unusual gap in activity as a connectivity problem if the student claims to have had one. However, the system can't determine what caused the time gap. The system can only show that the time gap occurred.

Be aware that the time spent on a question may include the time that the student spent looking at other questions before saving that answer.*(Time Spent column shows the amount of time since the last 'event'.)*

If a test is displayed "All at Once", all questions are shown on the same screen. Students can browse and answer questions in any order. Even though a test can be randomized, the students can randomly choose which questions they answer, similar to a paper exam.

Saving Answers

There are several ways answers can be saved.

- When the student presses "Save Answer"
- When the student marks a Multiple Choice / True False answer, an Auto-Save occurs.

The auto-save happens every 10 seconds, while the question is being answered.
- Essay and Short Answer questions are auto-saved every ten seconds, once typing begins, and continues as long as there is text entry.
- When the student presses "Save All Answers"

- When "Save and Submit" is pressed.
- When a test is set to Auto-Submit after a specified period of time.
- When the test is submitted, Essay and Short Answer questions are re-saved.
  - If "Save and Submit" is pressed directly, the Access Log returns "Test Submitted" followed by "Saved question #" events.
  - If "Save All Answers" is pressed just before "Save and Submit", the Access Log returns "Saved question#" events followed by "Test Submitted"

- Un-answered questions are saved upon submitting the assessment, specifying that the answers were blank in the Access Log Access type column
- Multiple answer saves, especially for Essay and Short Answer questions will return an Access Log Access Type in the format: *Saved question # multiple times over a period of: ##:##*
- Questions with Multiple Answer questions will return an Access Log Access Type in the format: *Saved question # multiple times over a period of: ##:##*

Creating this example, I marked and changed and saved the answer several times. This is reflected in the Test Access Log:

DATE AND TIME	ACCESS TYPE	TEST TIME	TIME SPENT*
6/4/20 2:00:03 PM	Test started	00:00	00:00
6/4/20 2:01:35 PM	Saved question 1 multiple times over a period of: 01:19	01:32	01:32

Upon submitting the test, the Essay and Short answer questions were re-saved:

6/4/20 6:28:13 PM	Saved question 9	04:06	00:10
6/4/20 6:28:16 PM	Saved question 3	04:09	00:02
6/4/20 6:28:16 PM	Saved question 4	04:09	00:00
6/4/20 6:28:16 PM	Saved question 5	04:09	00:00
6/4/20 6:28:16 PM	Saved question 7	04:09	00:00
6/4/20 6:28:16 PM	Saved question 8	04:09	00:00
6/4/20 6:28:23 PM	Test submitted	04:16	00:06
6/4/20 6:28:23 PM	Saved question 3	04:16	00:00
6/4/20 6:28:23 PM	Saved question 4	04:16	00:00
6/4/20 6:28:23 PM	Saved question 5	04:16	00:00
6/4/20 6:28:23 PM	Saved question 7	04:16	00:00
6/4/20 6:28:23 PM	Saved question 8	04:16	00:00

If some questions were not answered, it will save them upon Submit, specifying that they were blank.

6/4/20 2:02:30 PM	Test submitted	02:27	00:54
6/4/20 2:02:30 PM	Saved question 2 (Answer was blank)	02:27	00:00
6/4/20 2:02:30 PM	Saved question 3 (Answer was blank)	02:27	00:00
6/4/20 2:02:30 PM	Saved question 4 (Answer was blank)	02:27	00:00
6/4/20 2:02:30 PM	Saved question 5 (Answer was blank)	02:27	00:00

Notes and Resources:

- When Mulitple Answer questions are in a Test, the Access Logs for individual attempts show ambiguous information. The Multiple Answer question as saved twice, and there is no indication of manual or auto save. *(Saved question # multiple times over a period of: ##:##)*
- When a test is auto-submitted, the students receive the following message: "Test time has ended. The system has saved and submitted your work."

2C. Instructor Tools: Grade Details

On the *Grade Details* page, you can view a student's attempts and grade history, assign and edit a grade, and clear and exempt grades.

This is found in the Grade Center —> Assignment or Assessment submission —> View Grade Details

12.00

10.

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View Grade Details

Exempt Grade

Attempt 12/25/18 12.00

Attempt 2/11/19

Attempt 3/11/19

Grade Details example

Attempts tab

Current Grade:

12.00 out of 36 points   Exempt

Grade based on Last Graded Attempt
Due: None
Calculated Grade 12.00

View Attempts

Attempts	Manual Override	Column Details	Grade History

Delete Last Attempt ⬍   Go

Date Created	Date Submitted (or Saved)	Value	Feedback to Learner	Grading Notes	Actions
Mar 11, 2019 2:57:55 PM	Mar 11, 2019 2:57:55 PM (Needs Grading)	🟡⬤			Grade Attempt Clear Attempt Ignore Attempt Edit Grade
Feb 11, 2019 1:08:12 PM	*Feb 11, 2019 1:08:12 PM (Needs Grading)*	🟡⬤ *- Attempt Ignored*			Grade Attempt Clear Attempt Do Not Ignore Attempt Edit Grade
Dec 25, 2018 6:51:13 AM	Dec 25, 2018 6:51:13 AM (Completed)	12.00	not your work! BITS Learn Help Resources 2018Jan25.docx		Grade Attempt Clear Attempt Ignore Attempt Edit Grade

Grade Details example

Grade History tab

Current Grade:

12.00 out of 36 points | Exempt |

Grade based on Last Graded Attempt
Due: None
Calculated Grade 12.00

| View Attempts |

| Attempts | Manual Override | Column Details | **Grade History** |

Date	Last Edited by	Value	Comments
Mar 19, 2019 11:33:42 AM	Blackboard Administrator	Attempt marked as Ignored	
Mar 11, 2019 2:57:55 PM	Chris Student	Attempt submitted (needs grading).	

| View Complete History |

Grade Details example

Expanded *Grade History* tab

	Attempts	Manual Override	Column Details	**Grade History**

Date	Last Edited by	Value	Comments
Mar 19, 2019 11:33:42 AM	Blackboard Administrator	Attempt marked as Ignored	
Mar 11, 2019 2:57:55 PM	Chris Student	Attempt submitted (needs grading).	
Feb 11, 2019 1:08:12 PM	Chris Student	Attempt submitted (needs grading).	
Dec 25, 2018 6:56:10 AM	Blackboard Administrator	Attempt Grade **12.00**	**Feedback to Learner** not your work! BITS Learn Help Resources 2018Jan25.docx
Dec 25, 2018 6:54:52 AM	Blackboard Administrator	Attempt Grade **12.00**	**Feedback to Learner** not your work! BITS Learn Help Resources 2018Jan25.docx
Dec 25, 2018 6:51:14 AM	Chris Student	Attempt submitted (needs grading).	

Hide Complete History

"No Grade History information is available" = no attempt.

Grade Details

User ▓▓▓▓▓▓▓▓▓▓▓▓ ⟨ ⟩ Column **Test 1 (Test)** ⟨ ⟩

Current Grade: **-** out of 10 points   [Exempt]

Grade based on Last Graded Attempt
Due: None

| Attempts | Manual Override | Column Details | **Grade History** |

No Grade History information is available.

Grading Recommendations:

- *Ignore Attempt* or *Allow Additional Attempt* instead of *Clear Attempt* for Assignments.
- Do not choose *Clear Attempts for All Users* for Assignments unless you really really mean it.
- *Ignore Attempt* instead of *Clear Attempt* for Assessments.
- Do not choose *Clear Attempts for All Users* for Assessments unless you really really mean it.
- Do not clear attempts.
- If a student does not submit an assignment or test, enter a ZERO for the grade. Otherwise, they might not see it in *My Grades*.

2D. Instructor Tools: Submission Receipts

When students submit assignments successfully, the *Review Submission History* page appears with information about their submitted assignments and a success message with a confirmation number. Students can copy and save this number as proof of their submissions and evidence for academic disputes. For assignments with multiple attempts, students receive a different number for each submission.

Success! Your submission appears on this page. The submission confirmation number is 3c78-434b-9da8-43325f52. Copy and save this number as proof of your submission.

Review Submission History: Week 1 Study Guide Questions

Assignment Instructions ∧	**Assignment Details** ∨
Add two potential questions that could appear on the Week 1 test. Include the answers. I will compile all submissions for the class to use as a study guide. You're allowed one attempt.	**GRADE** LAST GRADED ATTEMPT **ATTEMPT** 9/14/16 4:52 PM Submission 📄 study_guide_pdurand.c

Students will also receive an email with a confirmation number and other details for each submission.

do-not-reply@blackboard.com   2:56 PM
Submission received
To: chris@uark.edu

Your work was received!

You successfully submitted your coursework. Each time you submit coursework, you receive a unique confirmation ID to verify when your submission was received. You can view your submission receipts on your My Grades page.

Submission details:
Submission confirmation ID: 9221b48ed6cf465ca7ad70178ff27f06
Title of course: Crocodoc to Box Transition Testing
Course ID: croc2box
Title of coursework: Assignment 1 (Before Box View)
Date/time of submission: Nov 9, 2017 2:56 PM
Size of written submission: 0bytes
Size and name of files received: FAQs - Walmart Intermediate Financial Accounting Foundations I.docx (281.1kb)
Unique Item ID (for administrator use only): _5_1

Instructors and administrators have a retrievable record in the system even if an attempt, assignment, or student is later deleted from the course. These records are maintained in the course and also retrievable after the archive and restore process.

You can access all of your students' confirmation numbers from the Grade Center. Access the *Reports* menu and select*Submission Receipts*.
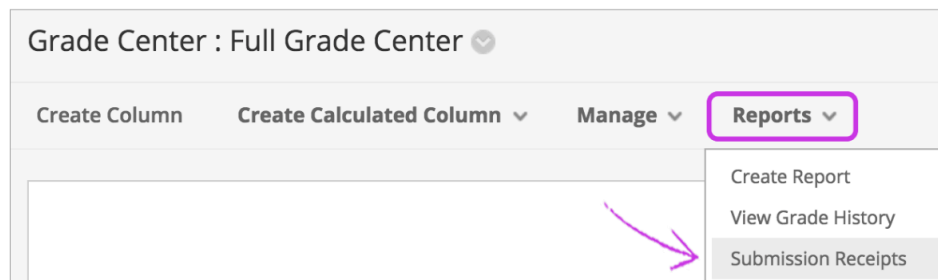
On the *Submission Receipts* page, you can view information for each assignment, such as who submitted and when. Group assignments are also logged and the *Submitter* column lists who submitted for the group. In the *Submission* column, view if a student submitted a file or wrote the submission in the assignment's editor.

Submission Receipts

CONFIRMATION NUMBER	STUDENT	SUBMITTER	COURSEWORK	DATE	SUBMISSION	SIZE
9e710457-8d9f-4bdd-b553-7aa3703813e9	Alyssa Dubois	Alyssa Dubois	Week 1 Study Guide Questions	Sep 14, 2016 7:19 PM	study_guide_adubois.doc	29.5kb
41ab7c64-aa91-4879-8711-ba4a8ae8fcf2	Juan Hernandez	Juan Hernandez	Week 1 Study Guide Questions	Sep 14, 2016 6:21 PM	Written submission	0.8kb
21a25e5e-c1e6-46e1-ac66-01a2a1ed1697	Bruce Lopez	Chris Casper	Group Outline	Sep 14, 2016 8:46 PM	grp_outline_casper.docx	113.8kb
21a25e5e-c1e6-46e1-ac66-01a2a1ed1697	Chris Casper	Chris Casper	Group Outline	Sep 14, 2016 8:46 PM	grp_outline_casper.docx	113.8kb
21a25e5e-c1e6-46e1-ac66-01a2a1ed1697	Sarah Spooner	Chris Casper	Group Outline	Sep 14, 2016 8:46 PM	grp_outline_casper.docx	113.8kb

2E. Instructor Tools: Grade History

On the *Grade History* page, you can view all grade actions within a course and export the information. You can view all the data for grade submissions for the course within a set date range.

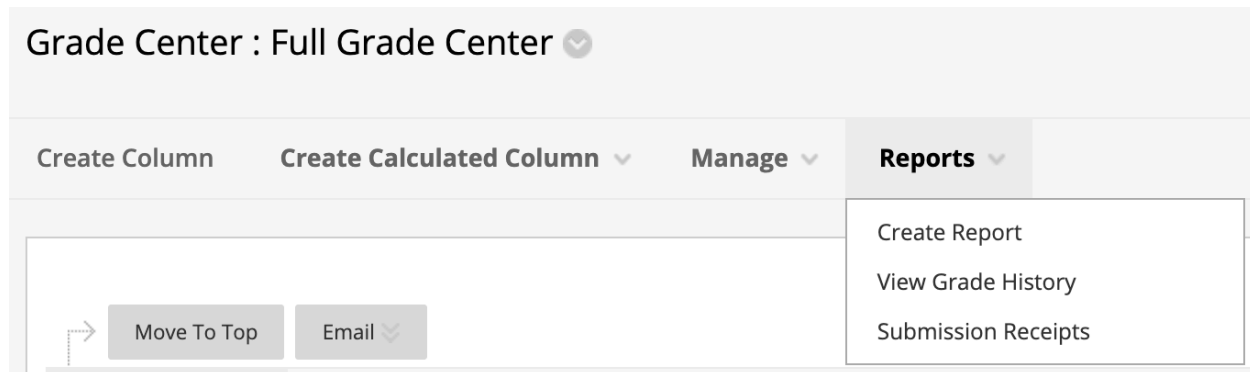Access the *Grade History* page from the *Reports* menu in the Grade Center.

The Grade History is useful to determine:

Who did what to a gradable item or column in the Grade Center

- Did a Student attempt an assessment?
- Did an Instructor (or Teaching Assistant or Grader) clear attempts?
- Did an Instructor (or Teaching Assistant or Grader) change a grade?

You can download the grade history to your computer as a comma or tab delimited file. This version of the grade history contains more information including the IP address where a gradable item was submitted and graded.
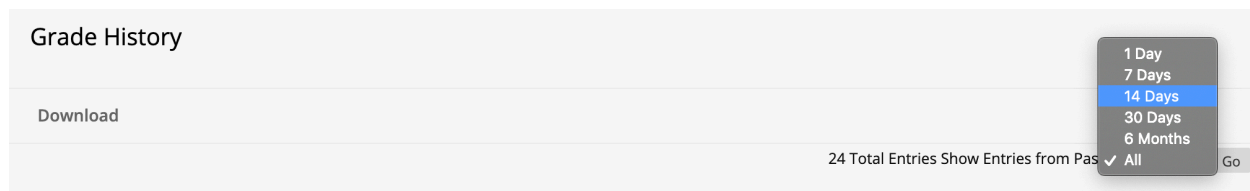
Grade Center —> Reports —> View Grade History

Grade Center : Full Grade Center ⌄

Create Column   Create Calculated Column ⌄   Manage ⌄   Reports ⌄

                                                           Create Report
                                                           View Grade History
        Move To Top   Email ⌄   Submission Receipts

You can filter the data on the *Grade History* page and display entries within a date range.

Access the *Show Entries from Past* menu, select a range, and select Go.

Grade History

Download

                                                                    1 Day
                                                                    7 Days
                                                                    14 Days
                                                                    30 Days
                                                                    6 Months
                    24 Total Entries Show Entries from Pas ✓ All   Go

In two situations, you may see Blackboard Administrator listed in the Last Edited By column:

- A student started a timed test set to auto-submit but left the test. The system auto-submits the test when the time is up.
- A student was removed from your course and an item's attempt grade was then cleared.

Grade History

DATE	COLUMN	LAST EDITED BY	USER	VALUE	ATTEMPT SUBMITTED
Nov 26, 2018 3:49:56 PM	Terminology Test	Blackboard Administrator	Mei Wong	Attempt submitted (needs grading).	Nov 26, 2018 3:44:56 PM
Nov 22, 2018 1:15:19 PM	Week 2 Test - History of Ocean Science	Blackboard Administrator	Ellie Walker	Attempt Grade Cleared	Oct 30, 2018 7:46:50 AM

Downloaded *Grade History* examples

date	item	Name	Username	Role	IP Address	student		Submitted	event
6/6/16 9:49	Commas in filename	Blackboard Administrator	bbadmin	P	130.184.253.76	Fake8 Student	User Exempted	6/10/14 11:13	instructor.grade.history.attempt.ignored.nograde
5/10/16 21:16	Essay Test that will need grading	Blackboard Administrator	administrator			Fake Student Account		5/10/16 21:16	Attempt submitted (needs grading).
5/9/16 15:44	Assignment #0526	Blackboard Administrator	bbadmin	P	130.184.253.74	Fake Student Account	User Exempted		instructor.grade.history.exempted.nograde
5/9/16 15:44	Assignment #0526	Blackboard Administrator	bbadmin	P	130.184.253.74	Fake8 Student	User Exempted		instructor.grade.history.exempted.nograde
5/9/16 15:44	Assignment #0526	Blackboard Administrator	bbadmin	P	130.184.253.74	Fake Student Account	User Exempted		instructor.grade.history.exempted.nograde
4/17/16 13:41	Essay Test that will need grading	Fake Student Account	fake7	S	130.184.253.73	Fake Student Account		4/17/16 13:41	Attempt submitted (needs grading).
4/17/16 10:30	Turn in your file	Blackboard Administrator	bbadmin	P	130.184.253.73	Fake Student Account	120	4/17/16 10:27	Attempt Grade
4/17/16 10:27	Turn in your file	Fake Student Account	fake7	S	130.184.253.73	Fake Student Account		4/17/16 10:27	Attempt submitted (needs grading).
4/15/16 10:21	Commas in filename	Blackboard Administrator	bbadmin	P	130.184.253.75	Fake8 Student	0	6/10/14 11:13	Attempt Grade
4/15/16 10:17	Turn in your file	Blackboard Administrator	bbadmin	P	130.184.253.75	Fake Student One	0	6/21/14 13:21	Attempt Grade
4/3/16 11:04	Camtasia Video Course	Fake Student Account	fake7	S	130.184.253.73	Fake Student Account	20	4/3/16 11:00	Attempt Grade
4/3/16 10:53	Camtasia Video Course	Fake Student Account	fake7	S	130.184.253.73	Fake Student Account		4/3/16 10:52	instructor.grade.detail.attempt.submitted.nograde
4/3/16 10:52	Camtasia Video Course	Fake Student Account	fake7	S	130.184.253.73	Fake Student Account		4/3/16 10:52	instructor.grade.history.attempt.notIgnored.nograde
2/17/16 9:07	test blog	Chris Bray	cbray	N	130.184.253.77	_ chris	8.5	2/17/16 9:03	Attempt Grade
2/17/16 9:05	test blog	Chris Bray	cbray	N	130.184.253.77	_ chris	7.5	2/17/16 9:03	Attempt Grade
2/6/16 10:30	AWESOME Survey	Blackboard Administrator	bbadmin	P	130.184.253.76	_ chris	5		Override Grade
2/6/16 10:29	AWESOME Survey	_ chris	chris	S	130.184.253.76	_ chris	0	2/6/16 10:29	Attempt Grade
1/27/16 17:30	Grade this discussion	Blackboard Administrator	bbadmin	P	130.184.253.73	_ chris		1/27/16 17:29	instructor.grade.detail.attempt.grade.cleared.nograde
1/8/16 9:59	Essay Test that will need grading	_ chris	chris	S	130.184.253.73	_ chris		1/8/16 9:59	Attempt submitted (needs grading).
11/14/14 12:32	Turn in your file	Blackboard Administrator	bbadmin	P	130.184.253.77	_ chris	120	11/14/14 12:28	Attempt Grade
11/14/14 12:28	Turn in your file	_ chris	chris	S	130.184.253.77	_ chris		11/14/14 12:28	Attempt submitted (needs grading).
11/7/14 13:31	Turn in your file	Blackboard Administrator	bbadmin	P	130.184.253.76	_ chris	7	10/3/14 10:35	Attempt Grade
10/28/14 13:02	Demo Test 0108- Requires Respondus Lc	Blackboard Administrator	bbadmin	P	130.184.253.78	_ chris	9	10/28/14 12:59	Attempt Grade
10/28/14 12:59	Demo Test 0108- Requires Respondus Lc	_ chris	chris	S	130.184.253.78	_ chris		10/28/14 12:59	Attempt submitted (needs grading).
10/15/14 12:52	blackboard test	Blackboard Support	bbsupport	P	216.150.182.2	_ chris	1	10/15/14 12:51	Attempt Grade
10/9/14 17:16	Testing Stuff Out					_ chris		10/9/14 17:15	instructor.grade.detail.attempt.grade.cleared.nograde
10/8/14 16:34	Turn in your file	Chris Bray	cbray	N	130.184.253.77	_ chris		10/3/14 10:35	instructor.grade.detail.attempt.grade.cleared.nograde
10/3/14 10:35	Turn in your file	_ chris	chris	S	130.184.253.76	_ chris		10/3/14 10:35	Attempt submitted (needs grading).
9/30/14 10:10		Oct-14	_ chris	chris	S	130.184.253.74	_ chris	8.58	9/30/14 10:10	Attempt Grade
9/23/14 13:24	Test Assignment	Blackboard Administrator	bbadmin	P	130.184.253.77	_ chris	User Exempted		instructor.grade.history.exempted.nograde
8/8/14 9:54	Graded forum	Blackboard Administrator	bbadmin	P	130.184.196.24	Chris Bray	1	8/8/14 9:51	Attempt Grade
7/2/14 11:28	Commas in filename	Blackboard Administrator	bbadmin	P	130.184.196.24	Fake8 Student	38	6/10/14 11:13	Attempt submitted (needs grading).
7/2/14 11:26	Commas in filename	Blackboard Administrator	bbadmin	P	130.184.196.24	Fake8 Student	40	6/10/14 11:09	Attempt Grade
6/21/14 13:24	Turn in your file	Blackboard Administrator	bbadmin	P	130.184.196.24	Fake Student Account	10000	1/29/14 11:08	Attempt Grade
6/21/14 13:24	Turn in your file	Blackboard Administrator	bbadmin	P	130.184.196.24	Fake8 Student	9000	1/29/14 11:04	Attempt Grade

3. System Administrator

There are several tools within Blackboard Learn that system administrators can use to track student activity.

We will take a look at

1. What data is tracked
2. What data is collected, during analysis
3. System Logs

3A. System Administrator - Tracking

What is Tracked?

Using the system database and server logs, the following can be discovered:

Connection Details

- When someone logged in, logged out, or quit using the system (without logging out)
- When someone did not login
- Application server
- The user's IP address (geo-trackable)
- Device type (Mac, Windows, iPhone, Android, Chromebook, …)
- Device Operating System and Version
- Browser (Chrome, Safari, Edge, Firefox, Internet Explorer …)

Accesses

- System
- Course
- Content Areas
- Content (files, videos, images, etc.)
- Tools
- Time spent / Time idle

<u>Gradable Objects</u>

- Assignments (followed link, download attachments, submissions)
- Assessments (start, saved answers, question navigation, submissions)
- Discussions
- Time & IP of submissions
- Time & IP of Instructor grading/changes

3B. System Administrator - Data Collection & Analysis

What's in the Report?

- Original Request Text
- "Short Summary"
- Collected Forensic Data with annotations
- Base-Line Comparison Data
- Splunk activity charts

For most requests, the following data is collected:

Original Correspondence:

Short Summary:

Full analysis:

Name:	
Username	
User PK1	

System interactions:

Course ID	
Course PK1	
Instructor	

Course interactions:

Content/Artifact Name:	
Content/Artifact Location:	
Content/Artifact ID:	
Availability Period:	

Content/Artifact Interactions:

What are we looking for?

- Accesses on specific day/time
- Did they enter the course?
- Did they enter a Content Area?
- Use a Building Block based tool?
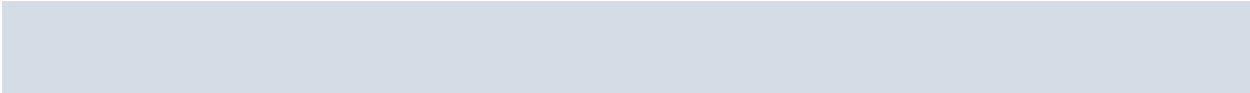
Base Line Comparison

- Find a student who did complete the task
- Grab their log data, and search for the appropriate keywords
- Clean up sensitive information, and include this in your report.

Analyze & Annotate

- Does User Activity Log show any valuable references?
- If not, search logs for keywords/content ids
- Carefully go through the logs
    - Paste into favorite text editor
    - Commenting and Markup
    - Highlight
- Annotate and describe their actions
- Use OpenDB queries to verify results

Who Gets the Report

- Student Request? Send to student and instructor
- Instructor request? Send to instructor
- Academic Integrity Board
- Department head and Deans

3C. Logs and Locations

For Self and Managed Hosting, most logs are stored in the <blackboard_install_directory>/logs directory.

Several types of logs

- Blackboard
- Web Server (httpd/)
- Authentication
- Email
- Tomcat (tomcat/bb-access-log…)
- Building Blocks

Logs can also be managed and viewed within the System Admin area (System Admin —> Logs).

Remember, you'll need to look at the logs on all of the application servers.

I have my system tomcat access, email, and authentication logs sent to me nightly from Managed Hosting courtesy of a grandfathered log shuttling service.

They are then forwarded into *Splunk* for analysis.

In SaaS, you can find system logs in the Content Collection. From the *Administrator Panel*, select *Manage Content* in the *Content Management* section. Select *internal > logs*.

SaaS logs contain one hour of log data per Blackboard Learn node and are stored in a compressed format. If three nodes run in an hour, you will see three files. When decompressed, the result is a text file containing log events stored in JSON objects. Each JSON object starts and ends with a curly brace and has the following fields:

- path, which shows the file on the Blackboard Learn server where the event originated
- @timestamp, the time the event occurred
- clientId
- version
- host, the IP address for the Blackboard Learn node where the event originated
- message, the information Blackboard Learn included in the log file about the event

https://help.blackboard.com/Learn/Administrator/SaaS/System_Management/Logs includes a convertlogs.py script, which can be used to convert

When we move to SaaS, I will collect the logs using webdav, convert them using the python script, and then push them into Splunk.

3D. Authentication Logs

- When did they login?
- When did they logout?
- Did they logout or was their session automatically expired after ~ 3 hours?
- GUI version contains only recent events.
- Back-end authentication log contains historic data

Event Type	Type	Username	IP Address	Date	Provider Name
LOGIN		bbhelp	72.204.18.98	Jul 6, 2016 2:21:59 PM CDT	ds.uark.edu
LOGIN		bbhelp	130.184.24.249	Jul 6, 2016 10:35:02 AM CDT	ds.uark.edu
LOGOUT	Session Expired	bbhelp		Jul 1, 2016 1:38:25 PM CDT	ds.uark.edu
LOGIN		bbhelp	72.204.18.98	Jul 1, 2016 7:27:57 AM CDT	ds.uark.edu
LOGOUT	Session Expired	bbhelp		Jun 30, 2016 6:38:30 PM CDT	ds.uark.edu
LOGOUT	Session Expired	bbhelp		Jun 30, 2016 6:38:20 PM CDT	ds.uark.edu
LOGIN		bbhelp	72.204.18.98	Jun 30, 2016 3:01:26 PM CDT	ds.uark.edu
LOGIN		bbhelp	130.184.253.73	Jun 30, 2016 9:01:01 AM CDT	ds.uark.edu
LOGOUT	Session Expired	bbhelp		Jun 29, 2016 8:38:19 PM CDT	ds.uark.edu
LOGOUT	Session Expired	bbhelp		Jun 29, 2016 7:38:15 PM CDT	ds.uark.edu
LOGIN		bbhelp	72.204.18.98	Jun 29, 2016 4:39:21 PM CDT	ds.uark.edu
LOGIN		bbhelp	130.184.24.249	Jun 29, 2016 10:34:22 AM CDT	ds.uark.edu

Event Type	Type	Username	IP Address	Date	Provider Name
LOGOUT	Manual Logout	cbray	130.184.253.74	Jul 1, 2016 8:40:57 AM CDT	ds.uark.edu
LOGIN		cbray	130.184.253.74	Jul 1, 2016 8:40:45 AM CDT	ds.uark.edu
LOGOUT	Manual Logout	cbray	130.184.253.74	Jun 28, 2016 4:10:27 PM CDT	ds.uark.edu
LOGIN		cbray	130.184.253.74	Jun 28, 2016 3:01:55 PM CDT	ds.uark.edu

Clicking on an Event Type will returned detailed information about the session:

Event: Login
Username: bbhelp
IP Address: 130.184.24.249
Date: Jul 6, 2016 10:35:02 AM CDT
Provider Name: ds.uark.edu
Appserver Id: fgprd-210018-152896-app006.mhint
Destination Server: learn.uark.edu
User Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10.11; rv:47.0) Gecko/20100101 Firefox/47.0

Log Message:
timestamp=Jul 06 2016 10:35:02.296
CDT|app_vend=blackboard|app_name=learn|app_ver=9.1.201510.1171621|evt_code=0|evt_name=login
succeeded|sev=0|cat=authentication|authnprovider=_124_1|dhost=learn.uark.edu|outcome=success|src_ip=130.184.24.249|duid=_185572_1|duser=bbhelp|text=login
succeeded|authnmethod=login page|http_useragent=Mozilla/5.0 (Macintosh; Intel Mac OS X
10.11; rv:47.0) Gecko/20100101 Firefox/47.0

Splunk View:

My authentication logs are also sent into Splunk, so I can search for a username (or pk1) and
see the logins:
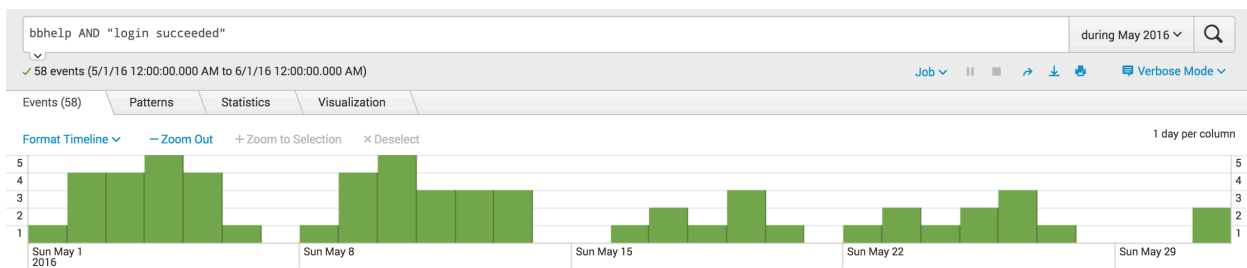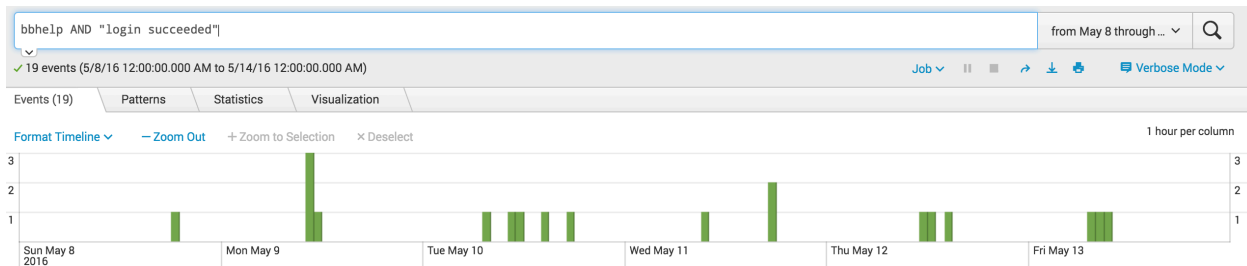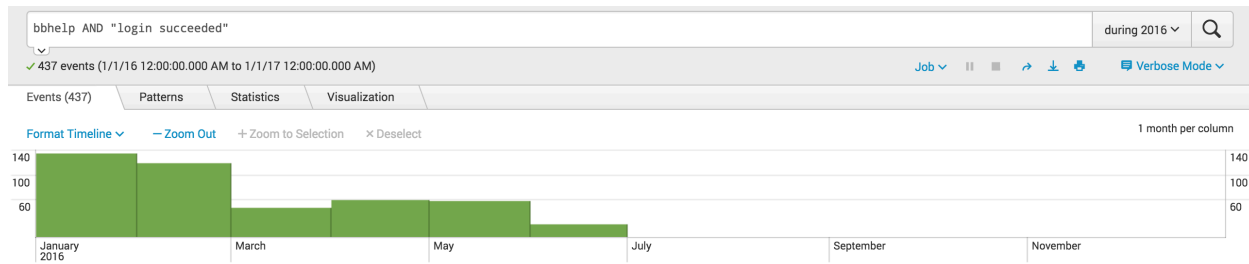
3E. Tomcat Access Logs

In release 9.0 and later, tracking users movements throughout the application is logged in the tomcat access logs.

- These access logs are located in the directory: blackboard/logs/tomcat
- The filenames take the form: bb-access-log.<date>.txt
- SaaS location: ~/Logs/ip-10-146-226-9/logs/tomcat/bb-access-log.2020-04-01.txt

Log format: standard access log in W3C common format, enhanced

72.204.54.23 172.16.120.124 connector-212 _1170550_1 [17/Jul/2019:23:39:23 -0500] "GET /webapps/blackboard/content/listContentEditable.jsp?content_id=_7120434_1&course_id=_223243_1 HTTP/1.1" 200 17248 "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_14_5) AppleWebKit/605.1.15 (KHTML, like Gecko) Version/12.1.1 Safari/605.1.15"

Returned Data	Description
72.204.54.23	client's IP-address (or load-balance
172.16.120.124	Load-balancer IP address
connector-212	Tomcat request processing thread
_1170550_1	pk1-value of the user or {unset id}

[17/Jul/2019:23:39:23 -0500]	%t date and time
"GET /webapps/blackboard/content/listContentEditable.jsp?content_id=_7120434_1&course_id=_223243_1	%r request string *https://blackboard.secure.for... id=kAC70000000004E includes a t...*
"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_14_5) AppleWebKit/605.1.15 (KHTML, like Gecko) Version/12.1.1 Safari/605.1.15"	User-agent string

Tomcat Access Log - Activity Values (Request Strings)

Tracking User Activity in the Webserver Logs (Article No.: 000014571) has a list of user activities paired with the request string to look for.

Information Desired	Searchable Value
User Activity	_pk1_
Course Activity	_pk1_ or course_id=_pk1_
Open Assignment Submission	/webapps/blackboard/execute/uploadAssignment
Assignment Submitted	/webapps/blackboard/execute/uploadAssignment?action=submit
Course Content	content_id=_pk1_

Clicking upload file in course files	/webapps/cmsmain/webui/courses/"Course_id"?action=upload&subaction=uploadFiles
Submitting an upload file	/webapps/cmsmain/webui/courses/"Course_id"?action=upload&subaction=fi
Creating a folder in course files	/webapps/cmsmain/webui/courses/"Course_id"?action=upload&subaction=createdirectory
Deleting a folder in course files	/webapps/cmsmain/dwr_open/call/plaincall/FileFolderRemoval
Submitting SafeAssign Assignment	/webapps/mdb-sa-
Clicking on create assessment in content area drop down	/webapps/assessment/do/content/assessment?action=ADD
Clicking the create test button on page	/webapps/assessment/do/content/addAssessment
Filling in the test information and clicking submit	/webapps/assessment/do/authoring/modifyAssessmentInfo
Filled in question form and submitted	/webapps/assessment/do/authoring/modifyTrueFalseQuestion
Clicking edit from chevron for	/webapps/assessment/do/content/assessment?action=MODIFY

test content item	
Student taking test	/webapps/assessment/take/take.jsp
Student saving attempt	/webapps/assessment/do/take/saveAttempt
Student submitting test	/webapps/assessment/take/submitted.jsp
Editing content folder	/webapps/blackboard/content/manageFolder.jsp
Clicking discussion board link in course navigation menu	/webapps/blackboard/content/manageFolder_proc.jsp
Click create forum button in a course	/webapps/discussionboard/do/forum?action=create&nav=discussion_board_
Submitting the forum creation page	/webapps/discussionboard/do/forum?action=save
Clicking grade for discussion board using chevron	/webapps/discussionboard/do/grades?action=forum&nav=discussion_board_
Clicking chevron > edit for a graded forum	/webapps/discussionboard/do/forum?action=modify&nav=discussion_board_

Saving a graded discussion board after edit	/webapps/discussionboard/do/forum?action=save
Deleting a post/forum both in mass or a single deletion	/webapps/discussionboard/do/forum?action=deleteThread&do=delete&type=thread&forum_title
Student clicking on a forum from the list of discussion board pages	/webapps/discussionboard/do/forum?action=list_threads&nav=discussion_board_entry
Student clicking on a thread	/webapps/discussionboard/do/message?action=list_messages&forum_id
Deleting a course from the admin tab	/webapps/blackboard/execute/modifyCourseNavItemBasedContextMenuGer sourceType=COURSES&course_id
Course User Manager	/webapps/blackboard/execute/userManager?
Delete User in User Search	/execute/userManager?course_id=#contextMenu
Change User password in User Search	/execute/launcher?type=UserAdminPasswordChange&id=
Instructor using the in-course	/execute/batchAddEnrollUsers?course_id=

batch upload tool:	
User with Enrollment privileges manually adding or changing enrollments in the Course Search page:	/execute/editCourseEnrollment?course_id=
SIS Feed File Upload	/execute/uploadFeed?

Searching the Tomcat Access Logs

Collect all server tomcat logs in one hierarchy

app01/   app02/   app03/   app04/   app05/   app06/

Searching

- grep –h _[pk1] app0?/tomcat/bb-access-log* >> *username.log*
- grep –h _[pk1] app0?/tomcat/bb-access-log.2013-03-0[6-9]*
- zgrep _[pk1] app0?/tomcat/bb-access-log*.gz >> *username.log*

This can get tedious very quickly.

In SaaS, it's better since the logs are collected in the Content Collection, so all application

server/node logs are in one place.

In 2014, I started pushing all of my tomcat access logs and authentication logs into *Splunk* for log analysis.

What's great about this is I have a web interface to search the logs, with activity (event) graphs.

Instructors love the pretty pictures, especially compared to raw log data.
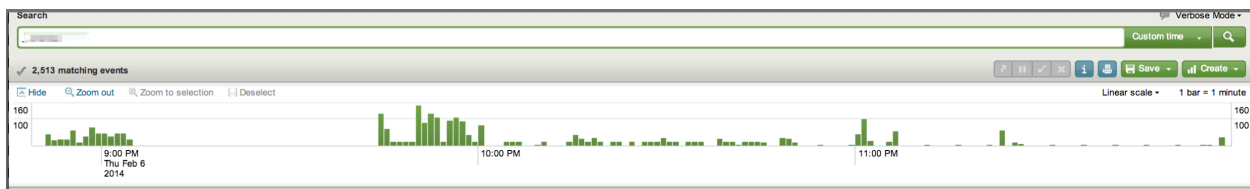
3F. Common Lookups

User PK1:

Under System Administrator —> Users. Search for User. Open Context Menu next to Username.

"Right" click on *Course Enrollments* then selecting "Copy Link Address" in the browser pop-up menu will copy the URL (and pk1) to your clipboard.

https://learn.uark.edu/webapps/blackboard/execute/userEnrollment?nav_item=list_courses_by_user&group_type=Course&user_id=_497_1
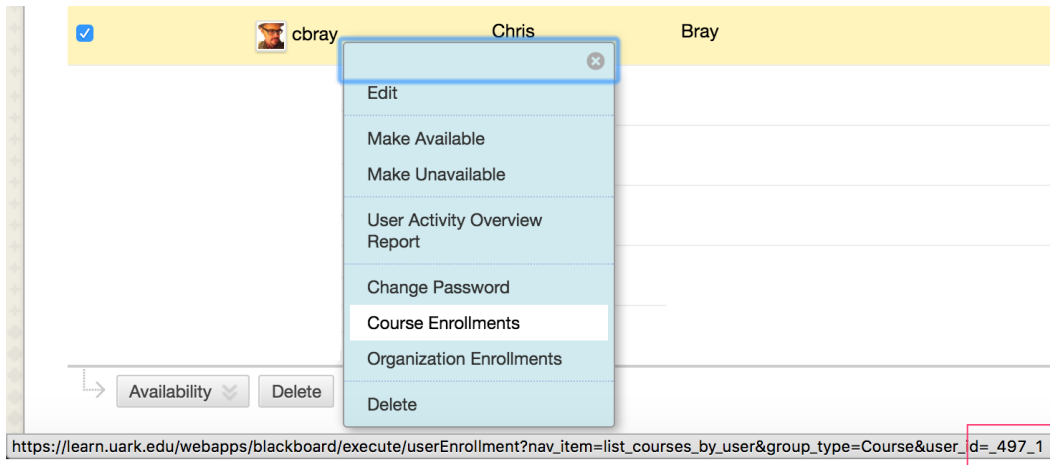
The User PK1 can also be found in the Authentication Logs, listed as the *duid*.

Course PK1:

Look in the course URL: https://bb.campus.edu/webapps/blackboard/execute/courseMain?course_id=_116105_1

Content ID / pk1

This can be found in the URL of the Content Item / Assignment / Assessment.

https://bb.campus.edu/webapps/blackboard/content/launchAssessment.jsp?course_id=_31285_1&content_id=_6121403_1&mode=cpview

https://learn.uark.edu/webapps/blackboard/content/launchLink.jsp?course_id=_46297_1&content_id=_1531973_1&mode=cpview

https://learn.uark.edu/webapps/blackboard/content/listContent.jsp?course_id=_33749_1&content_id=_1110936_1

<u>Common Application Log References</u>

mdb = SafeAssign
assessment = test
uploadAssignment = assignments
InstanceNotFound = third-party cookies not set
courseTocLabel = course menu
discussionboard = discussions
listContent = student page listing
listContentEditable = instructor page listing

Every Building Block on the system will have their own identifier, such as

- Bb-McGrawHill
- bbgs-mylab_mastering_b2
- osv-kaltura
- rs-lockdown
- bbgs-mindlinks

Mc-Graw-Hill:

130.184.5.7 - _3238_1 [22/Apr/2012:20:52:23 -0500] "GET /webapps/Bb-McGrawHill-BBLEARN/images/mh_icon_50x50.png HTTP/1.1" 200 3792 "Mozilla/5.0 (compatible; MSIE 9.0; Windows NT 6.1; WOW64; Trident/5.0)" 728F4D8F47CBF6F022C8C6C708FE78C0 0.034 34 3792

Kaltura:

https://learn.uark.edu/webapps/osv-kaltura-BBLEARN/LtiMashupPlayIframeWrapper?playUrl=/browseandembed/index/media/entryid/0_vlykcv7u/showTags/true/showUploadDate/false/playerSize/400x285/showDescription/true/showTitle/true/showDuration/true/showOwner/true/&course_id=_5187_1&content_id=_4029351_1

Respondus LockDown Browser:

130.184.5.7 - _27148_1 [22/Apr/2012:20:52:23 -0500] "GET /webapps/<mark>rs-lockdown-BBLEARN</mark>/images/lockdown.gif HTTP/1.1" 200 1271 "Mozilla/5.0 (compatible; MSIE 9.0; Windows NT 6.1; WOW64; Trident/5.0)" 728F4D8F47CBF6F022C8C6C708FE78C0 0.030 30 1271

4: Report With Template

Original Correspondence:

From: Student
Subject: Lost quiz grades
Date: May 2, 2019

There are 3 of my quiz grades of MGMT4583 section 2 not showing.
I was wondering if you could get my grades back.
Looking forward to hearing from you.

Short Summary:

- Student claims that three quizzes (2,3, and 5) were completed and the grades are now missing.
- There were no attempts for those 3 quizzes in the course.
- For Quiz 2, the student did not access the course during the availability period.
- For Quiz 3, the student did not access the course during the availability period.
- For Quiz 5, the student did access the course during the availability period, for a total of 46 seconds over two days.
- This might be considered a Level One Violation (falsification of attendance and/or participation), based on http://honesty.uark.edu/sanction-rubric/index.php.

Full analysis:

Name:	*redacted*
Username	*redacted*
User PK1	_1115435

System interactions:
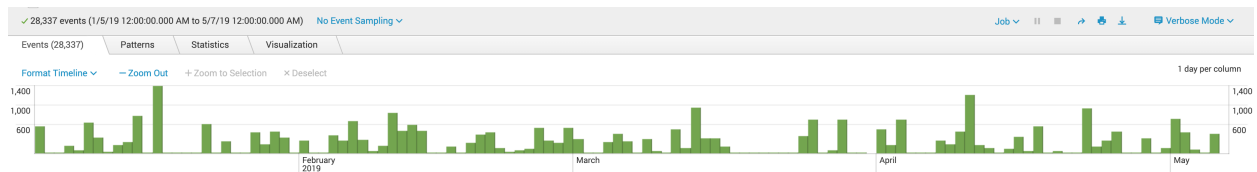
Course ID	MASTER-1193-THEUA-MGMT-1234-SEC001
Course PK1	332497
Instructor	*redacted*

Course interactions:

Content/Artifact Name:	Quizzes
Content/Artifact Location:	TOC
Content/Artifact ID:	6668514
Availability Period:	

Content/Artifact Interactions:
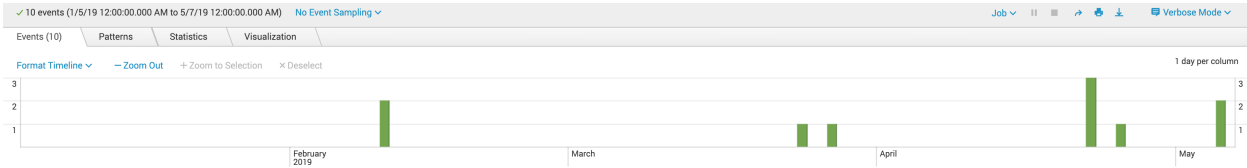
Assessment results from 3 days this semester in the course:

2/10	6668564	Quiz 1
3/24	6668567	Quiz 4
4/22	6668529	Exam

Content/Artifact Name:	Quiz 2

Content/Artifact Location:	Quizzes TOC
Content/Artifact ID:	6668565
Availability Period:	02/17/2019 11:59 PM - Feb 26, 2019 2:00 PM

Content/Artifact Interactions:

No accesses.

There were no course accesses during the availability window:

✓ 0 events (2/17/19 12:00:00.000 AM to 2/28/19 12:00:00.000 AM)   No Event Sampling ⌄

Events (0)   Patterns   Statistics   Visualization

Format Timeline ⌄   — Zoom Out   + Zoom to Selection   × Deselect

⚠ No results found.
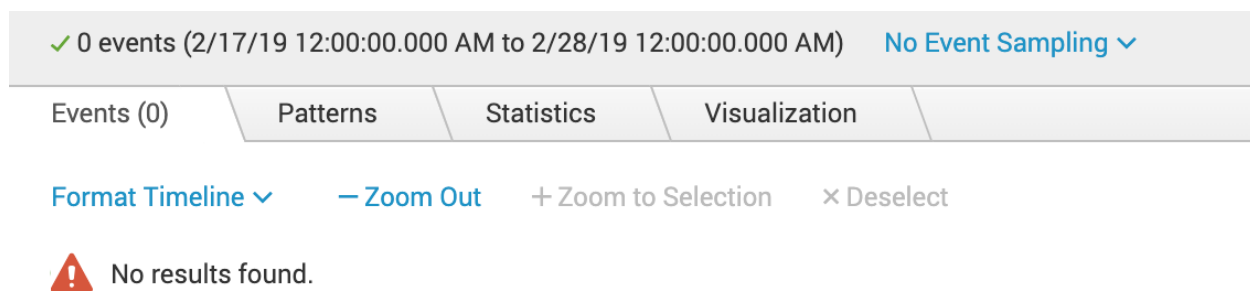
Content/Artifact Name:	Quiz 3
Content/Artifact Location:	Quizzes TOC
Content/Artifact ID:	6668566
Availability Period:	03/03/2019 11:59 PM - Mar 13, 2019 5:30 PM

Content/Artifact Interactions:

No accesses.

No course accesses during the availability period:

✓ 0 events (3/3/19 12:00:00.000 AM to 3/15/19 12:00:00.000 AM)   No Event Sampling ⌄

Events (0)   Patterns   Statistics   Visualization

Format Timeline ⌄   — Zoom Out   + Zoom to Selection   × Deselect

⚠ No results found.

Content/Artifact Name:	Quiz 5
Content/Artifact Location:	Quizzes TOC
Content/Artifact ID:	6668568
Availability Period:	03/31/2019 11:59 PM - Apr 16, 2019 2:00 PM

Content/Artifact Interactions:

No accesses.

There were some course accesses on 4/09 and 4/10 for a total of 46 seconds.

4/09: entered course from 11:11:45 - 11:11:46 AM (1 second)
4/10: checked grades from 01:11:57 - 1:12:42 PM. (45 seconds)

✓ 10 events (3/31/19 12:00:00.000 AM to 4/18/19 12:00:00.000 AM)   No Event Sampling ⌄   Job ⌄ ⏸ ⏹ ↗ 🖶 ⤓   ▭ Verbose Mode ⌄

Events (10)   Patterns   Statistics   Visualization

Format Timeline ⌄   — Zoom Out   + Zoom to Selection   × Deselect   1 day per column
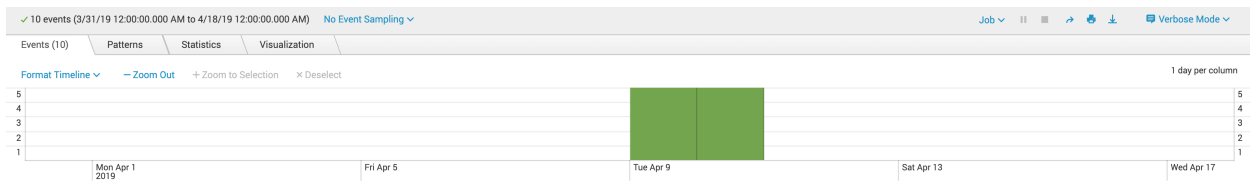
4A. Missing Quiz

I completed a quiz last night and in the morning I had a zero and when i contacted my teacher she said there was no attempt for the quiz from me.

I was wondering why this happened and if there is some setting that could be messing with the attempts because any attempt i completed on another computer is in there but any i did on my own computer there is like 50/50 chance it went through…

It was in CMJS 3043 and it was quiz 10. There were others in the past that i didnt realize wernt submitted but i dont know which ones those were for sure but all the ones that I completed on another computer are in there for sure.

duid = _1398574

CMJS 3043 - THE POLICE & SOCIETY (1173-THEUA-CMJS-3043)
course_id=_113231

Lessons > Chapter 11: Accountability and Ethics > Quiz 10 (Ch. 11 Accountability and Ethics) 12/04/2016

Lessons: content_id=_4089902
Ch 11: content_id=_4102056_1&course_id=_113231
Quiz 10: course_id=_113231_1&content_id=_4102062

Availability: Item is no longer available. It was last available on Nov 20, 2016 11:59 PM.

☑ Due Date 11/20/2016 📅 11:59 PM 🕐

Enter dates as mm/dd/yyyy. Time may be entered in any increment.

That quiz was due on 11/20/2016, and not visible after that day, therefore she could not have attempted the quiz on 12/04/2016.

System Accesses from 11/01/2016 - 12/06/2016:
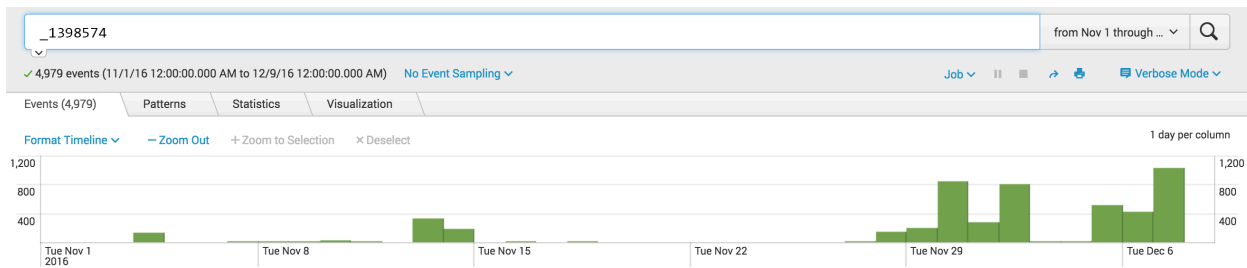
On 12/04, their only access was using the Blackboard Mobile Learn app, without any course access other than Grades…

Course accesses during this time period:
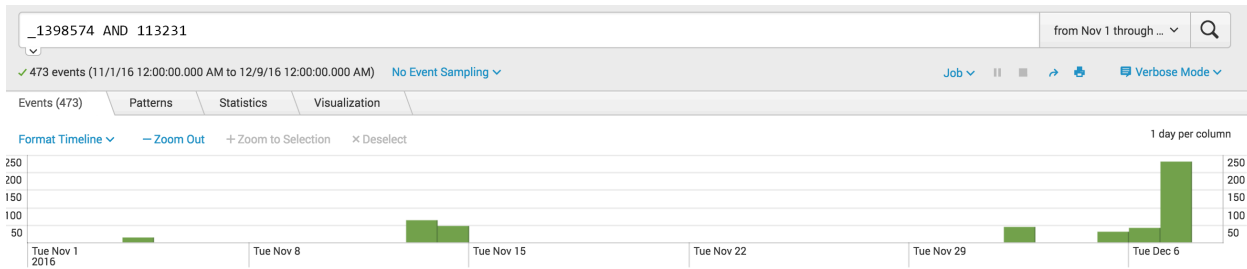
Going back, access to Lessons folder:
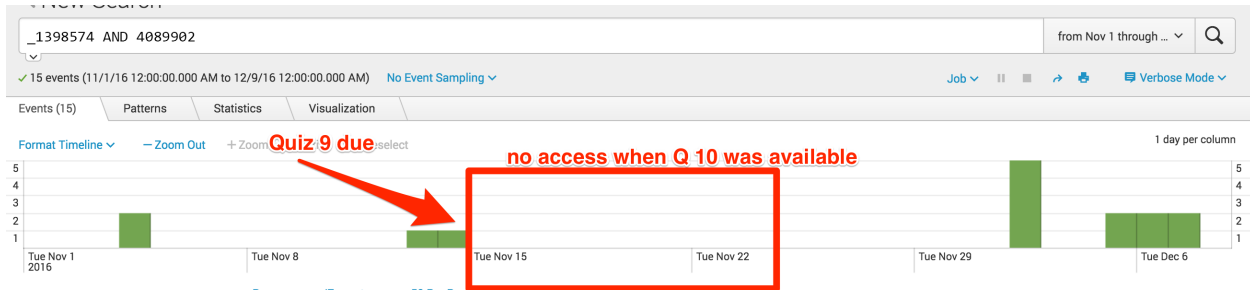
Quiz 9 was due on 11/14, which was their last access in the course until 12/02.

Access to Chapter 11 folder: None.
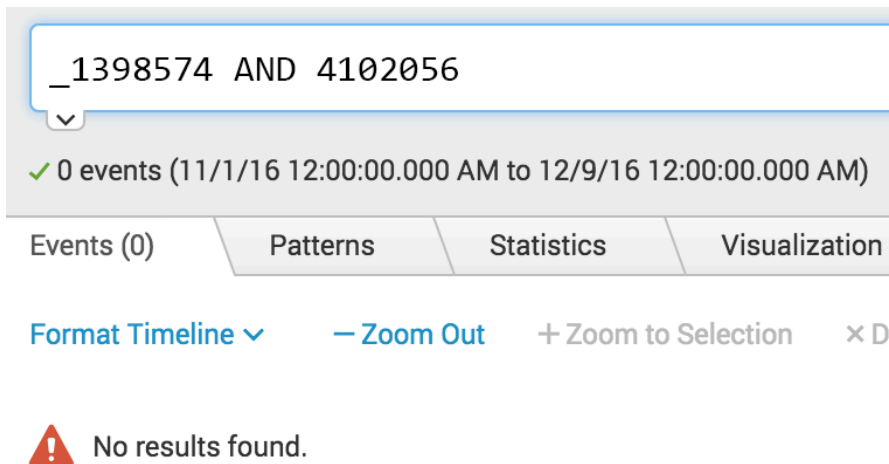
Looking back at activity for all assessments, I only see submissions for Quiz #2,3, 5, and the Final:

"jdoe","1173-THEUA-CMJS-3043",2016-09-04 12:55:32,"COURSE_ACCESS","","/webapps/assessment/take/submitted.jsp","Quiz 2 - (Ch. 2 Police History)",4091893,155612472
"username","1173-THEUA-CMJS-3043",2016-09-07

19:15:25,"COURSE_ACCESS","","/webapps/assessment/take/submitted.jsp","Quiz 3 (Ch. 3 Legal Issues)",4096277,155917499
"jdoe","1173-THEUA-CMJS-3043",2016-09-27
13:40:03,"COURSE_ACCESS","","/webapps/assessment/take/submitted.jsp","Quiz 5 (Ch. 5 Police Management)",4097730,157812774
"jdoe","1173-THEUA-CMJS-3043",2016-12-07
01:57:06,"COURSE_ACCESS","","/webapps/assessment/take/submitted.jsp","FINAL EXAM",4390865,163976684

Quiz 9 did have some attempt at an attempt, but it was past due at the time:

"jdoe","1173-THEUA-CMJS-3043",2016-11-14
15:18:03,"COURSE_ACCESS","","/webapps/assessment/do/pastDue","Quiz 9 (Ch. 10 Force and Coercion)",4102054,162120915
"jdoe","1173-THEUA-CMJS-3043",2016-11-14
15:28:13,"COURSE_ACCESS","","/webapps/assessment/do/pastDue","Quiz 9 (Ch. 10 Force and Coercion)",4102054,162120915
"jdoe","1173-THEUA-CMJS-3043",2016-11-14
15:28:52,"COURSE_ACCESS","","/webapps/assessment/do/pastDue","Quiz 9 (Ch. 10 Force and Coercion)",4102054,162120915
"jdoe","1173-THEUA-CMJS-3043",2016-11-14
15:29:38,"COURSE_ACCESS","","/webapps/assessment/do/pastDue","Quiz 9 (Ch. 10 Force and Coercion)",4102054,162120915
"jdoe","1173-THEUA-CMJS-3043",2016-11-14
15:34:21,"COURSE_ACCESS","","/webapps/assessment/do/pastDue","Quiz 9 (Ch. 10 Force and Coercion)",4102054,162120915

4B. Attached File to Assignment

Subject: Help!

I had an assignment 3 due on blackboard for my Art Lecture class (ARHS 1003) and I submitted it but I guess there was an issue and my teach never received the submission. I called blackboard tech and they said that I might of just exited out too early before it processing all the way. My teacher just needs proof that I actually tried submitting the assignment! So if you could just email me back saying you checked and say I tired submitting it or did that would be great!

janedoe
user_id=_1104473

MASTER-1169-THEUA-ARHS-1003-SEC902
course_id=_126286

Assignment #3: content_id=_4294317
Due 09/11/2016 11:59 PM

Clicks on Assignment #3:

_1104473 AND 4294317

✓ 4 events (8/24/16 12:00:00.000 AM to 12/8/16 12:00:00.000 AM)   No Event Sampling ⌄

Events (4)   Patterns   Statistics   Visualization

Format Timeline ⌄   — Zoom Out   + Zoom to Selection   × Deselect

4   Aug 24, 2016   4 events during Sunday, September 11, 2016
3
2
1

2016

✓ 4 events (9/11/16 8:00:00.000 PM to 9/11/16 9:00:00.000 PM)   No Event Sampling ⌄

Events (4)   Patterns   Statistics   Visualization

Format Timeline ⌄   — Zoom Out   + Zoom to Selection   × Deselect

1

8:00 PM   8:10 PM   8:20 PM   8:30 PM
Sun Sep 11
2016

```
98.186.92.254 172.16.120.124 connector-46 [REDACTED] [11/Sep/2016:20:30:04 -0500] "GET /webapps/assignment/uploadAssignment?
course_id=_126286_1&content_id=_4294317_1&mode=view HTTP/1.1" 200 21796 "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_5) Ap
pleWebKit/537.36 (KHTML, like Gecko) Chrome/52.0.2743.116 Safari/537.36" "JSESSIONID=A56FD567506C2DD732AD0B8358409BCC;
NSC_210018_wjq_69.196.229.112*443=ffffffff090d190c45525d5f4f58455e445a4a4229a0;
JSESSIONID=68E2D0BFF3BF46E4CB86D1F7DD5219A8; web_client_cache_guid=0d81f622-de74-4876-b6a8-6c820b588820; __utmt=1;
wl_auth=client_id=000000004C110F3E&status=notConnected; __utma=65023795.499763241.1473285465.1473285465.1473642045.2; __utm
b=65023795.22.10.1473642045; __utmc=65023795; __utmz=65023795.1473285465.1.1.utmcsr=(direct)|utmccn=(direct)|utmcmd=(none);
 session_id=73BF5E63E084311E02E01B50B45DBA32; s_session_id=0869659E4FFF21D3D0A9BF1E7E34DBB2" 455 21796

98.186.92.254 172.16.120.124 connector-31 [REDACTED] [11/Sep/2016:20:27:05 -0500] "GET /webapps/assignment/uploadAssignment?
content_id=_4294317_1&course_id=_126286_1&assign_group_id=&mode=view HTTP/1.1" 200 26056 "Mozilla/5.0 (Macintosh; Intel Mac
 OS X 10_11_5) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/52.0.2743.116 Safari/537.36" "JSESSIONID=A56FD567506C2DD732AD0
B8358409BCC; NSC_210018_wjq_69.196.229.112*443=ffffffff090d190c45525d5f4f58455e445a4a4229a0; JSESSIONID=68E2D0BFF3BF46E4CB8
6D1F7DD5219A8; web_client_cache_guid=0d81f622-de74-4876-b6a8-6c820b588820; __utmt=1; wl_auth=client_id=000000004C110F3E&sta
tus=notConnected; __utma=65023795.499763241.1473285465.1473285465.1473642045.2; __utmb=65023795.21.10.1473642045; __utmc=65
023795; __utmz=65023795.1473285465.1.1.utmcsr=(direct)|utmccn=(direct)|utmcmd=(none); session_id=73BF5E63E084311E02E01B50B4
5DBA32; s_session_id=0869659E4FFF21D3D0A9BF1E7E34DBB2" 399 26056

98.186.92.254 172.16.120.124 connector-59 [REDACTED] [11/Sep/2016:20:15:42 -0500] "GET /webapps/assignment/uploadAssignment?
content_id=_4294317_1&course_id=_126286_1&assign_group_id=&mode=view&mode=view HTTP/1.1" 200 26049 "Mozilla/5.0 (Macintosh;
 Intel Mac OS X 10_11_5) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/52.0.2743.116 Safari/537.36" "JSESSIONID=A56FD567506
C2DD732AD0B8358409BCC; NSC_210018_wjq_69.196.229.112*443=ffffffff090d190c45525d5f4f58455e445a4a4229a0; JSESSIONID=68E2D0BFF
3BF46E4CB86D1F7DD5219A8; web_client_cache_guid=0d81f622-de74-4876-b6a8-6c820b588820; __utma=65023795.499763241.1473285465.1
473285465.1473642045.2; __utmb=65023795.14.10.1473642045; __utmc=65023795; __utmz=65023795.1473285465.1.1.utmcsr=(direct)|u
tmccn=(direct)|utmcmd=(none); session_id=73BF5E63E084311E02E01B50B45DBA32; s_session_id=0869659E4FFF21D3D0A9BF1E7E34DBB2" 2
50 26049

98.186.92.254 172.16.120.124 connector-7 [REDACTED] [11/Sep/2016:20:02:54 -0500] "GET /webapps/assignment/uploadAssignment?c
ontent_id=_4294317_1&course_id=_126286_1&assign_group_id=&mode=view&mode=view HTTP/1.1" 200 26056 "Mozilla/5.0 (Macintosh;
Intel Mac OS X 10_11_5) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/52.0.2743.116 Safari/537.36" "NSC_210018_wjq_69.196.2
29.112*443=ffffffff090d190c45525d5f4f58455e445a4a4229a0; JSESSIONID=68E2D0BFF3BF46E4CB86D1F7DD5219A8; __utmt=1;
web_client_cache_guid=0d81f622-de74-4876-b6a8-6c820b588820; __utma=65023795.499763241.1473285465.1473285465.1473642045.2; __ut
mb=65023795.11.10.1473642045; __utmc=65023795; __utmz=65023795.1473285465.1.1.utmcsr=(direct)|utmccn=(direct)|utmcmd=
(none); session_id=73BF5E63E084311E02E01B50B45DBA32; s_session_id=0869659E4FFF21D3D0A9BF1E7E34DBB2" 248 26056
```
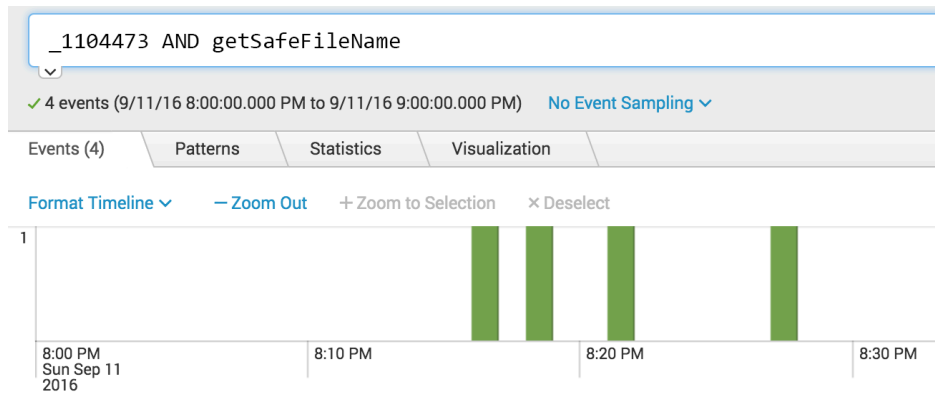
After pressing "Browse My Computer" in an Assignment, and selecting a file, the system outputs the following to the tomcat access log:

"POST
/webapps/assignment/dwr/call/plaincall/AssignmentDWRFacade.getSafeFileName.dwr
HTTP/1.1"

Attached files to an assignment:

_1104473 AND getSafeFileName

✓ 4 events (9/11/16 8:00:00.000 PM to 9/11/16 9:00:00.000 PM)   No Event Sampling ⌄

Events (4)   Patterns   Statistics   Visualization

Format Timeline ⌄   — Zoom Out   + Zoom to Selection   × Deselect

1

8:00 PM   8:10 PM   8:20 PM   8:30 PM
Sun Sep 11
2016

98.186.92.254 172.16.120.124 connector-39 ▮▮▮▮ ▮ [11/Sep/2016:20:27:13 -0500] "POST /webapps/assignment/dwr/call/plainca
ll/AssignmentDWRFacade.getSafeFileName.dwr HTTP/1.1" 200 138 "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_5) AppleWebKit/5
37.36 (KHTML, like Gecko) Chrome/52.0.2743.116 Safari/537.36" "JSESSIONID=A56FD567506C2DD732AD0B8358409BCC; NSC_210018_wjq_69.
196.229.112*443=ffffffff090d190c45525d5f4f58455e445a4a4229a0; JSESSIONID=68E2D0BFF3BF46E4CB86D1F7DD5219A8; web_client_cache_gu
id=0d81f622-de74-4876-b6a8-6c820b588820; __utmt=1; wl_auth=client_id=000000004C110F3E&status=notConnected;
__utma=65023795.499763241.1473285465.1473285465.1473642045.2; __utmb=65023795.22.10.1473642045; __utmc=65023795; __utmz=650
23795.1473285465.1.1.utmcsr=(direct)|utmccn=(direct)|utmcmd=(none); session_id=73BF5E63E084311E02E01B50B45DBA32; s_session_id=
0869659E4FFF21D3D0A9BF1E7E34DBB2" 7 138

98.186.92.254 172.16.120.124 connector-33 ▮▮▮▮ ▮ [11/Sep/2016:20:21:19 -0500] "POST /webapps/assignment/dwr/call/plainca
ll/AssignmentDWRFacade.getSafeFileName.dwr HTTP/1.1" 200 138 "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_5) AppleWebKit/5
37.36 (KHTML, like Gecko) Chrome/52.0.2743.116 Safari/537.36" "JSESSIONID=A56FD567506C2DD732AD0B8358409BCC; NSC_210018_wjq_69.
196.229.112*443=ffffffff090d190c45525d5f4f58455e445a4a4229a0; JSESSIONID=68E2D0BFF3BF46E4CB86D1F7DD5219A8; web_client_cache_gu
id=0d81f622-de74-4876-b6a8-6c820b588820; __utmt=1; __utma=65023795.499763241.1473285465.1473285465.1473642045.2; __utmb=650
23795.15.10.1473642045; __utmc=65023795; __utmz=65023795.1473285465.1.1.utmcsr=(direct)|utmccn=(direct)|utmcmd=(none); sess
ion_id=73BF5E63E084311E02E01B50B45DBA32; s_session_id=0869659E4FFF21D3D0A9BF1E7E34DBB2" 7 138

98.186.92.254 172.16.120.124 connector-50 ▮▮▮▮ ▮ [11/Sep/2016:20:18:24 -0500] "POST /webapps/assignment/dwr/call/plainca
ll/AssignmentDWRFacade.getSafeFileName.dwr HTTP/1.1" 200 143 "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_5) AppleWebKit/5
37.36 (KHTML, like Gecko) Chrome/52.0.2743.116 Safari/537.36" "JSESSIONID=A56FD567506C2DD732AD0B8358409BCC; NSC_210018_wjq_69.
196.229.112*443=ffffffff090d190c45525d5f4f58455e445a4a4229a0; JSESSIONID=68E2D0BFF3BF46E4CB86D1F7DD5219A8; web_client_cache_gu
id=0d81f622-de74-4876-b6a8-6c820b588820; __utmt=1; __utma=65023795.499763241.1473285465.1473285465.1473642045.2; __utmb=650
23795.15.10.1473642045; __utmc=65023795; __utmz=65023795.1473285465.1.1.utmcsr=(direct)|utmccn=(direct)|utmcmd=(none); sess
ion_id=73BF5E63E084311E02E01B50B45DBA32; s_session_id=0869659E4FFF21D3D0A9BF1E7E34DBB2" 166 143

98.186.92.254 172.16.120.124 connector-57 ▮▮▮▮ ▮ 1/Sep/2016:20:16:43 -0500] "POST /webapps/assignment/dwr/call/plainca
ll/AssignmentDWRFacade.getSafeFileName.dwr HTTP/1.1" 200 143 "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_5) AppleWebKit/5
37.36 (KHTML, like Gecko) Chrome/52.0.2743.116 Safari/537.36" "JSESSIONID=A56FD567506C2DD732AD0B8358409BCC; NSC_210018_wjq_69.
196.229.112*443=ffffffff090d190c45525d5f4f58455e445a4a4229a0; JSESSIONID=68E2D0BFF3BF46E4CB86D1F7DD5219A8; web_client_cache_gu
id=0d81f622-de74-4876-b6a8-6c820b588820; __utmt=1; __utma=65023795.499763241.1473285465.1473285465.1473642045.2; __utmb=650
23795.15.10.1473642045; __utmc=65023795; __utmz=65023795.1473285465.1.1.utmcsr=(direct)|utmccn=(direct)|utmcmd=(none); sess
ion_id=73BF5E63E084311E02E01B50B45DBA32; s_session_id=0869659E4FFF21D3D0A9BF1E7E34DBB2" 8 143

4C. Many Missing Quizzes

I am a student at the UARK Fayetteville, and in my BIOL 3863 class they say that I have not turned in many of my quizzes, and though I did miss a few, I'm certain that I did more than

five overall. Is there any way that you could check on my activity for this class? They were due on Fridays, if that helps.

1163-THEUA-BIOL-3863-SEC001

Quiz 4   02/14 — 02/17
Quiz 6   02/28 — 03/03
Quiz 7   03/07 — 03/10
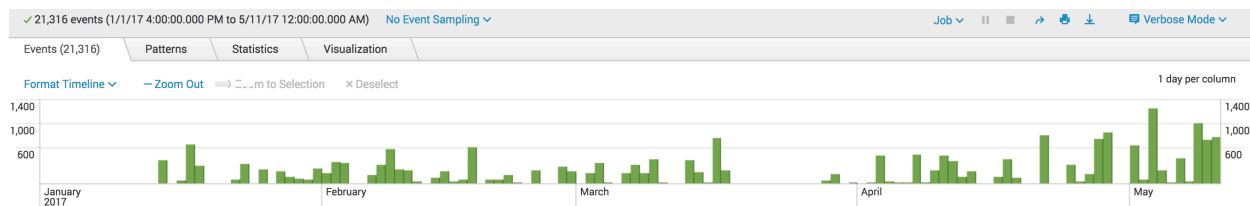Quiz 8   03/14? — 03/17?
Quiz 10   04/11 — 04/14

Summary:

- Student is missing 4 quizzes that were given through Blackboard (4, 6, 7, 10)
- Student did not click the link for any of the 4 quizzes.
- Student is also missing a grade for Quiz 8, which appears to be an in-class assessment.

Full analysis:

John Doe
jdoe
duid=_129155

Full system accesses:

1163-THEUA-BIOL-3863-SEC001
course_id=_117298

BIOL 3863 Course accesses
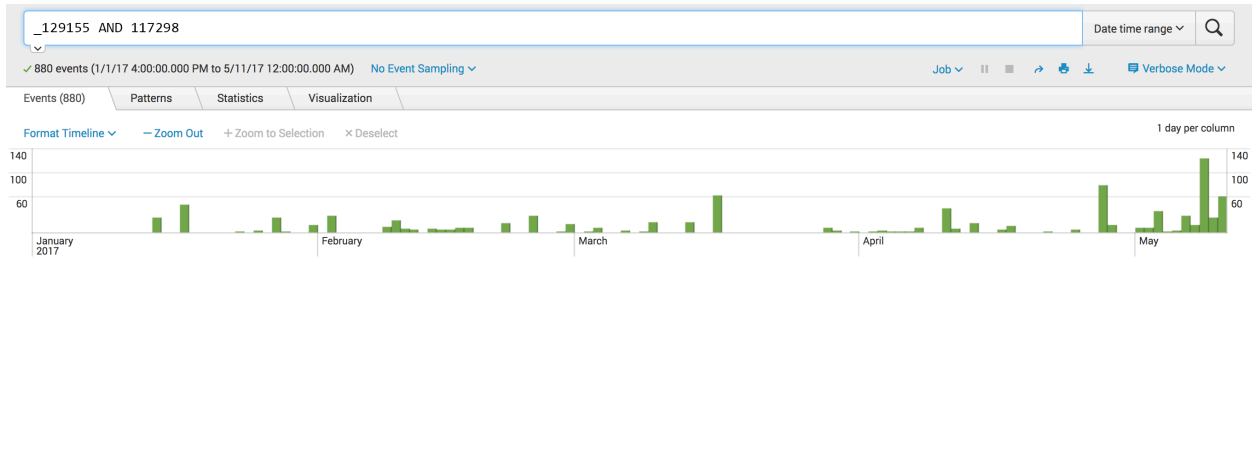
Course Assessment Events:

Missing Quiz availability times are shown.
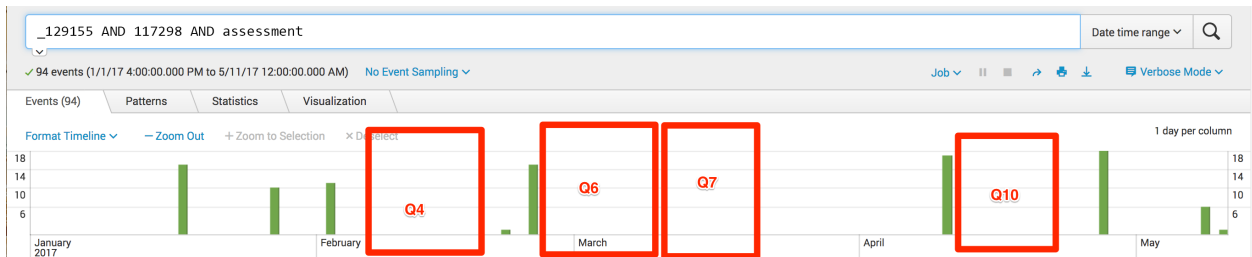
4D. Forged Submission Receipt

Original Correspondence:

Could you please check into the issue in the email below? We could see no indication anything had been submitted by this student, but he received an email from Blackboard.

From: Student
Sent: Tuesday, February 19, 2019 4:48 PM
Subject: HW2 Submission proof

Here is the proof of submission that I was referring to. I also attached my word document containing all of my work. I understand that there was an error that occurred at some point, and I would like to resolve this however possible. Please let me know if there's anything I can do to help.

Submission received

D do-not-reply@blackboard.com   👍 ↩ Reply all | ∨
Thu 2/14, 7:03 PM
▓▓▓▓▓▓▓

Inbox

Your work was received!

You successfully ==submitted== your coursework. Each time you submit coursework, you receive a unique confirmation ID to verify when your submission was received. You can view your submission receipts on your My Grades page.

Submission details:
Submission confirmation ID: 07ad7181b6da48d88f3ce08153951490
Title of course: ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓
Course ID: ▓▓▓▓▓▓▓▓▓▓▓▓
Title of coursework: HW2
Date/time of submission: Feb 14, 2019 7:03 PM
Size of written submission: 0bytes
Size and name of files received: Ergo HW2.docx (8.58mb)
Unique Item ID (for administrator use only): _1209687_1

Getting too much email from do-not-reply@blackboard.com? You can unsubscribe

Short Summary:

- The student did go into the assignment twice on Feb 14th, beginning at 8:52:17.000 PM.
- There are indications that he did attach and upload files to an assignment coinciding with his access times.
- Submission Receipt screen shot
  - The font for the time and date is a different font than the rest of the header information.
  - The confirmation email that the student supplied shows the submission time as 7:03 PM, which is way before his initial access to the assignment.
  - The confirmation ID in the screenshot of the Feb 14 2019 7:03 PM assignment confirmation from the student contained the confirmation ID for his initial "Lab 1 Report (FINAL)" assignment on Feb 7 2019 7:03 PM.
  - The confirmation IDs would be unique.
  - The confirmation timestamp would not be the same.
  - The Unique ID for student's Feb 7th assignment was 1201687. It appears that he changed one digit in the middle of the number, to make it appear as a different ID, in the screen shot.
  - No emails were sent out to student regarding "Submission Received" on 2/14.
  - It is my opinion that his screenshot is a forgery.
- The student supplied header information for the email shown in the submission receipt screen shot.
  - The MessageID in his Feb 14th email is identical to the Feb 7th email, except for the middle digits.
  - The MessageID value is a unique value.
  - Searching back through two years of logs, there are no similar MessageIDs. The only one containing the prefix was the Feb 7th email.
  - There was a Received from: line with a mismatch of application server IDs that would not occur in a verified emIl.
  - It is my opinion that the supplied email headers is a forgery.
- The student was not active in the course between 6:14 PM and 8:52 PM on 2/14.
- This might be considered a Level One Violation (falsification of attendance and/or participation), based on http://honesty.uark.edu/sanction-rubric/index.php.

Full analysis:

System interactions:
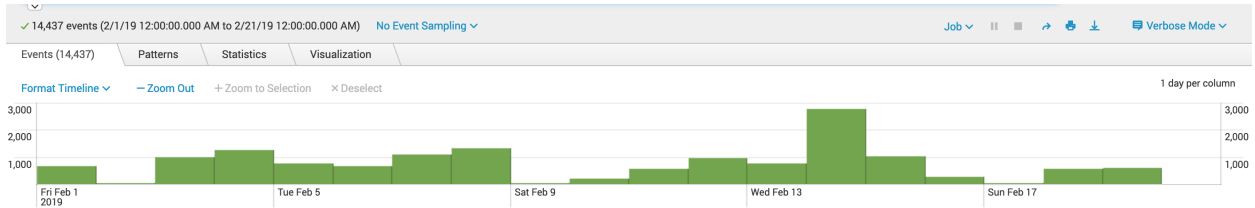
 Course interactions:
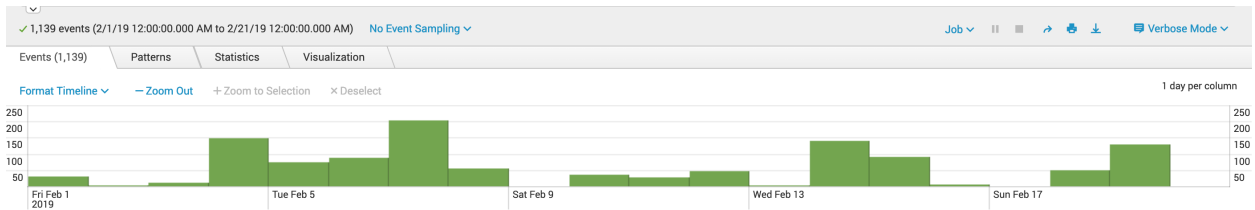
No access in course in the 7PM hour on 2/14:
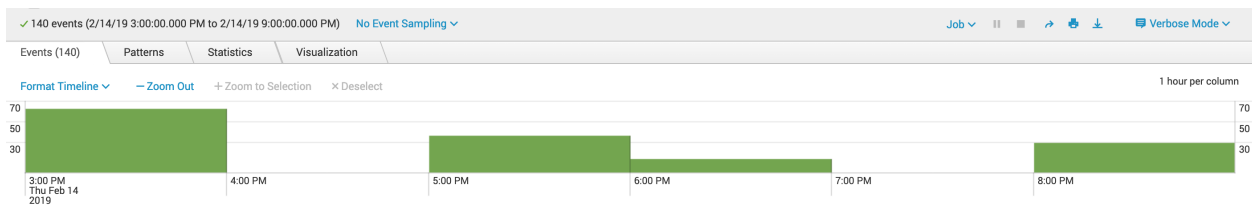
4 assignment submissions in this course:

CONFIRMATION NUMBER	STUDENT	SUBMITTER	COURSEWORK	DATE	SUBMISSION	SIZE
07ad7181-b6da-48d8-8f3c-e08153951490			Lab 1 Report (FINAL)	Feb 7, 2019 7:03 PM	Works Methods & Ergonomics Lab 1.docx	508.5kb
c3dc52e2-fd4b-44d5-a8d0-a3c40839c1e2			Lab 1 Report (FINAL)	Feb 7, 2019 4:53 PM	Works Methods & Ergonomics Lab 1.docx	508.4kb
933588fe-d849-4b1c-abf3-d5b68e1122f6			Lab 2 Report (DRAFT)	Feb 7, 2019 4:38 PM	Works Methods & Ergonomics Lab 1.docx	508.4kb
f4bba8ed-ee68-432a-a6a6-64d83ca67387			HW1	Jan 31, 2019 3:53 PM	Ergo HW1.docx	245kb

10 "Submission Received" emails were sent out to student between Jan 31st and Feb 18th. None were sent out on Feb 14th.

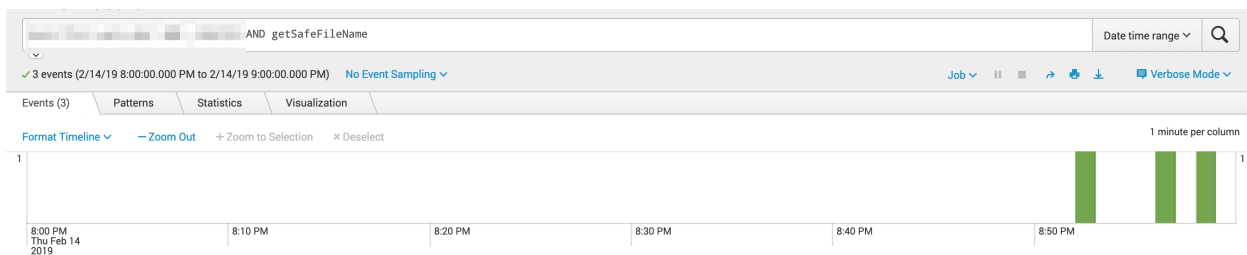|	
Content/Artifact Name:	HW2
Content/Artifact Location:	Content --> Homework and Case Studies - Spring 2019
Content/Artifact ID:	6712554
Availability Period:	Feb 14, 2019 11:59 PM

Content/Artifact Interactions:

2/10 - mobile app data acquisition

2/14 - he went into the assignment at 8:52:17.000 PM and 8:58:05.000 PM, but there was no submission.
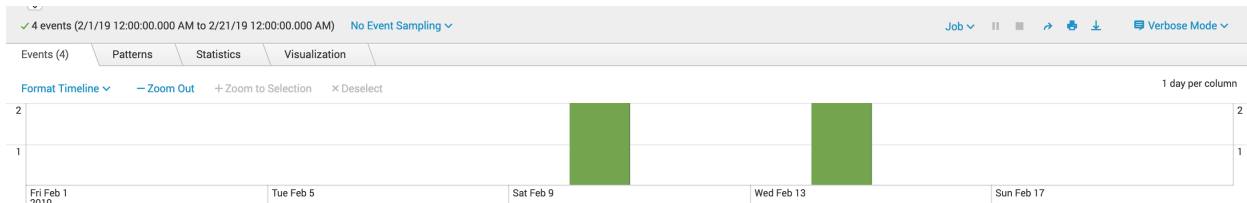
I do see assignment file upload attempts at 8:52:24.000 PM, 8:56:57.000 PM, and 8:58:12.000 PM.

Content/Artifact Name:	"HW2 - S19.pdf"
Content/Artifact ID:	https://server/bbcswebdav/pid-6712553-dt-content-rid-82122591_1/xid-82122591_1 https://server/bbcswebdav/pid-6712553-dt-content-rid-82122591_1/courses/1193-THEUA-INEG-3714-SEC001-6229/HW2%20-%20S19%281%29.pdf

Content/Artifact Interactions:

HW2 pdf file was accessed multiple times from Feb 11th - Feb 14th.
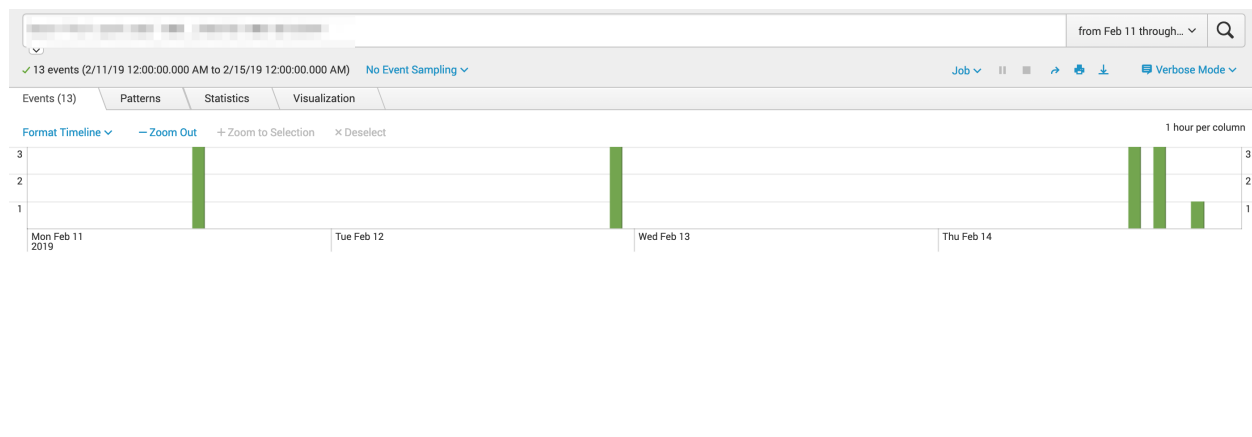

Submission Receipt Analysis

The student submitted the following screen shot of his "submission receipt", which appears to be a forgery. Note: student highlighted the word "submitted' in the screen shot, so the image was modified by the student.

Notes:

- The font for the time and date is a different font than the rest of the header information.
- The "Unique item ID" is listed as 1209687.
  - This matches a Unique ID for an assignment submitted on 2/10/2019 in [another course] by another student.
  - This ID is an incremental value.
  - The Unique ID for student's Feb 7th assignment was 1201687. It appears that he changed one digit in the middle of the number, to make it appear as a different ID.
  - The confirmation email that the student supplied shows the submission time as 7:03 PM, which is way before his initial access to the assignment.
  - The confirmation ID in the screenshot of the Feb 14 2019 7:03 PM assignment confirmation from the student contained the confirmation ID for his initial "Lab 1 Report (FINAL)" assignment on Feb 7 2019 7:03 PM.

Submission received

D	do-not-reply@blackboard.com		👍 🔄 Reply all | ∨

Thu 2/14, 7:03 PM   **Date/time has a different font.**

Inbox

Your work was received!

You successfully submitted your coursework. Each time you submit coursework, you receive a unique confirmation ID to verify when your submission was received. You can view your submission receipts on your My Grades page.

Submission details:
Submission confirmation ID: 07ad7181b6da48d88f3ce08153951490
Title of course:
Course ID:
Title of coursework: HW2
Date/time of submission: Feb 14, 2019 7:03 PM
Size of written submission: 0bytes
Size and name of files received: Ergo HW2.docx (8.58mb)
Unique Item ID (for administrator use only): _1209687_1   **Unique ID similar to Feb 7th submission. Matches ID for another student's submission in another course.**

Getting too much email from do-not-reply@blackboard.com? You can unsubscribe

Email "header" analysis

Feb 7th submission email:

2019-02-07 19:03:32 -0600 - [DEBUG] SUCCESS: "MessageID: <671956905.37624.1549587812393.JavaMail.bbuser@fgprd-210018-152896-app003.mhint>", "Thursday, February 7, 2019", "do-not-reply@blackboard.com; ", "Submission received", "student@uark.edu Student Name; "

February 7th email was sent out from app003, where the student did his work.

There is a mismatch in the following row, for the server where the email was sent:

Received: from fgprd-210018-152896-app003.mhint (fgprd-210018-152896-app005.mhint [10.5.9.12])

This does not occur in other emails where I inspected the headers. This row was forged.

The Message ID is identical, except for the middle digits: Message-ID: <671956905.46550.1549587812393.JavaMail.bbuser@fgprd-210018-152896-app005.mhint>

Reference: https://en.wikipedia.org/wiki/Message-ID:

- **Message-ID** is a *unique identifier* for a digital *message*, most commonly a *globally unique identifier* used in *email* and *Usenet newsgroups*.

- *Message-IDs are required to have a specific format which is a subset of an email address[2] and to be globally unique. That is, no two different messages must ever have the same Message-ID. A common technique used by many message systems is to use a time and date stamp along with the local host's domain name, e.g.,950124.162336@example.com.*

Supplied by student, does not include email content, just the header:

Here are the copy and pasted view message details information:

Received: from BYAPR04MB3814.namprd04.prod.outlook.com (2603:10b6:805:de::24) by SN6PR04MB3822.namprd04.prod.outlook.com with HTTPS via SN5PR0601CA0022.NAMPRD06.PROD.OUTLOOK.COM; Thu, 14 Feb 2019 01:03:24 +0000
Received: from CO2PR04CA0104.namprd04.prod.outlook.com (2603:10b6:103:4::27) by SN6PR04MB3825.namprd04.prod.outlook.com (2603:10b6:805:43::34) with Microsoft SMTP Server (version=TLS1_2, cipher=TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384) id 15.20.1618.19; Thu, 14 Feb 2019 01:03:23 +0000
Received: from DM6NAM03FT042.eop-NAM03.prod.protection.outlook.com (2a01:111:f400:7e48::204) by CO2PR04CA0104.outlook.office365.com (2603:10b6:103:4::27) with Microsoft SMTP Server (version=TLS1_2, cipher=TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384) id 15.20.1618.19 via Frontend Transport; Thu, 14 Feb 2019 01:03:23 +0000
Authentication-Results: spf=fail (sender IP is 148.163.148.202) smtp.mailfrom=blackboard.com; uark.edu; dkim=pass (signature was verified) header.d=blackboard.com;uark.edu; dmarc=pass action=none header.from=blackboard.com;compauth=pass reason=100
Received-SPF: Fail (protection.outlook.com: domain of blackboard.com does not designate 148.163.148.202 as permitted sender) receiver=protection.outlook.com; client-ip=148.163.148.202; helo=mx0b-0014ea01.pphosted.com;
Received: from mx0b-0014ea01.pphosted.com (148.163.148.202) by DM6NAM03FT042.mail.protection.outlook.com (10.152.81.159) with Microsoft SMTP Server (version=TLS1_2, cipher= TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384) id 15.20.1580.10 via Frontend Transport; Thu, 14 Feb 2019 01:03:22 +0000
Received: from pps.filterd (m0096090.ppops.net [127.0.0.1])
        by mx0b-0014ea01.pphosted.com (8.16.0.27/8.16.0.27) with SMTP id x180sTEF010037
        for <student@uark.edu>; Thu, 14 Feb 2019 20:03:22 -0500

Received: from mail-relay4-va2.blackboard.com (mail-relay1-va2.blackboard.com [69.196.241.4])
        by mx0b-0014ea01.pphosted.com with ESMTP id 2qd34udsdx6-1
        (version=TLSv1.2 cipher=ECDHE-RSA-AES256-GCM-SHA384 bits=256 verify=NOT)
        for <student@uark.edu>; Thu, 14 Feb 2019 20:02:22 -0500
Received: from fgprd-210018-152896-app003.mhint (fgprd-210018-152896-app005.mhint [10.5.9.12])
        by mail-relay4-va2.blackboard.com (Sentrion-MTA-4.3.2/Sentrion-MTA-4.3.2) with ESMTP id x181dR02219897
        for <student@uark.edu>; Thu, 14 Feb 2019 24:34:05 GMT
DKIM-Filter: OpenDKIM Filter v2.7.5 mail-relay4-va2.blackboard.com x181dR02219897
DKIM-Signature: v=1; a=rsa-sha256; c=relaxed/relaxed; d=blackboard.com;
        s=sep2018; t=1512387945;
        bh=F2oUwbhVYFGzlcTSHwXVOCdaaeX/NdjDR1f9xGMMZ7tM=;
        h=Date:From:Reply-To:To:Subject;
        b=h6/TabaZCe+hHi0K0HSvgwQ04mVsa1sLmQtkTnoacKDWYTkhyJNOfsLn/lGBlYZ
vo
         50MsVPjAsBDiMM9XcuRsm++qcOu2C2ytYKeX1zWjwxviN3wl3Ph0fyXRRYpTcgU
GNY
         R9nrIM22cTWyUVCeCbqYiJP/SuBXFDuTrOYUPD9347C6kxUhNpw3ojArraPdgExs
7K
         ubZwVbbR2xy5gxWmWn9zX2FshCIeHEx1ZTNUmwW/5h5dbAcMFatC7PjAXH9Xg
oSpr6
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Hu
         kaHyivUePab4g==
Date: Thu, 14 Feb 2019 19:03:24 -0600 (CST)
From: do-not-reply@blackboard.com
Reply-To: do-not-reply@uark.edu
To: student@uark.edu
Message-ID: <671956905.46550.1549587812393.JavaMail.bbuser@fgprd-210018-152896-app005.mhint>
Subject: Submission received
MIME-Version: 1.0
Content-Type: multipart/alternative;
        boundary="----=_Part_37548_1744295708.1544987812193"
Return-Path: do-not-reply@blackboard.com
X-MS-Exchange-Organization-ExpirationStartTime: 14 Feb 2019 23:37:34.2478 (UTC)
X-MS-Exchange-Organization-ExpirationStartTimeReason: OriginalSubmit
X-MS-Exchange-Organization-ExpirationInterval: 2:00:00:00.0000000
X-MS-Exchange-Organization-ExpirationIntervalReason: OriginalSubmit
X-MS-Exchange-Organization-Network-Message-Id:
6bgd1faa-e602-5d98-627b-08d69d61420c
X-EOPAttributedMessage: 0
X-EOPTenantAttributedMessage: 79c742c4-e61c-4fa5-be89-a3cb566a80d1:0

X-MS-Exchange-Organization-MessageDirectionality: Incoming
X-Matching-Connectors:
131940614145434374;();(a6c60116-7a50-4293-d7c7-08d38f1ea22b)
X-Forefront-Antispam-Report:
CIP:148.163.148.202;IPV:NLI;CTRY:US;EFV:NLI;SFV:SKA;SFS:;DIR:INB;SFP:;SCL:-1;SRVR:B
YAPR04MB3814;H:mx0b-0014ea01.pphosted.com;FPR:;SPF:None;LANG:en;
X-MS-Exchange-Organization-AuthSource:
DM6NAM03FT042.eop-NAM03.prod.protection.outlook.com
X-MS-Exchange-Organization-AuthAs: Anonymous
X-MS-PublicTrafficType: Email
X-MS-Office365-Filtering-Correlation-Id: 6bgd1faa-e602-5d98-627b-08d69d61420c
X-Microsoft-Antispam:
BCL:1;PCL:0;RULEID:(2390118)(7020095)(4652040)(5600110)(711020)(4605077)(4608076)
(4709027)(1401299)(8001031)(1421009)(1402068)(71702078);SRVR:BYAPR04MB3814;
X-Microsoft-Exchange-Diagnostics:
1;BYAPR04MB3814;3:nzvOiUY4HaOqWue8qbkJZCGe8Fm6td/QAX71n5tSW0ZFRIszHy651K
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+TY7Rx7Z6hnD8PMMdszXpq1YA5crB6HDPJeN+5QJ2RRoj0y9IHgeO0e9i8ZY2qHTOp8DSVs
0TjK92q9mmBrCLv/es477cNSsUvEaRAW67Yn8BnLB10nbk8p7ReqHszDsXtZ7Fnzs07lkv5oX
tMqeH18MFifEhOKWW9UReZWGaMrfzLu5Ul1u0GpzBK;25:NQ/ 7
Y6n/0EPpg/6KD2bfts59y3jxh+v5miBMfvmkiwstgFvX09fUd3WAw2KezqE18lYC2ncQGwznczh
DJOtpo/R
m/EVCEfBm1xprLQX+J0YM/lh8R1Ojo0GdaJ613U1zb6+zn5lc+QIUvxAVpHQnXMVQd4yhHlV
gR7yDGXHP3Mtl+Hdt7l0J0HfksEIKsBWA5E6wXslwYIByEHiz2V//ZthagPJe7d6FYSB9KZ5Hb
HBJ0221ouOagn40iWok8cRKJEzQ==
X-MS-TrafficTypeDiagnostic: BYAPR04MB3814:
X-Microsoft-Exchange-Diagnostics:
1;BYAPR04MB3814;31:DA54lQdbR37OSSn77L2MZaxlnjJI06aEuN7jUTz89+Elr4D0JuAwR6o
DGvBhmoBVmjuceyBYl25N5n6OZpiDn/Cr77Bh2/qLHDZosHqtZG3HsNB2lPGiGZXicm1eznx
A5hgApxa4CYA8aUY7oz3zOzoSKM4n56Vm1YENiW7V42yhzppb2sAumJbOGCZYZcsSxaud
YFWfZKI4Md/guU24AXcQaLRaa8+AxS7qJ+
SxRCGgfM9Coewk5ri5t/xPv+cWNmJPCq2hxeTvki62zflOw3cd8ams3NN2irMnnkt5h0gIzw1rx
41dz+z0PcNfyAwfSYB+vDkix7rL8Cnvb2wZl9ZvboQC2VZeBjjG+08HBqtKmuhPZKD4p2DUQ
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X-Microsoft-Exchange-Diagnostics:
1;BYAPR04MB3814;4:SmgHdhFzLDupEUN++3rhBNhNsu+j2EM33n6f1eNjV2siezJ7G+vKwdn
etCah+pORYd1p9jl20xC0ZwWUGjtyIrYOi7GMcTAXWY9FtrfOe7SRLOTRetKPwmZhs5x7o9bj
XHlq+CyoAOSdB8VxaphPRpOShXqAnMgveRFDhu9hZiqldA97etqRWfToP+nzERUlKyUjQFpx
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utJvB6vVPCh5Xc8oJXlfhft3QQV4b84Vm4tTSrvxPc+ZMcU5E+x859CqUe5aXRc1WHbq3izBY
LGSDnd0Ubik/vgBc8QupTYcNqk5cY2yuHmf4SraNX1l/Q==
X-MS-Exchange-Organization-SCL: -1
X-Microsoft-Exchange-Diagnostics:
1;BYAPR04MB3814;6:XVUCGb2EjkFb6ZMl/wbanzksfytmg5aiumPRfTNmovOtU+CWIhfCmFe
vnq9zqtNESS6QT5uu/YXz/+e+h+c5k3346rFGF7LgBshTDc3TudXDbs6vD5M6EnKmC4S+xmn
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D5l/d9q8xCG48FHF/9jfWDwByrwGiPV7Km4N6RHxddjSD3jWmmEy3H6Tbg81aLbA6Eh9sJq
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c8x4giRgKv/GxUbDLMlJoA==
X-MS-Exchange-CrossTenant-OriginalArrivalTime: 14 Feb 2019 19:03:23.4152
(UTC)
X-MS-Exchange-CrossTenant-Network-Message-Id: 6bgd1faa-e602-5d98-627b-
08d69d61420c
X-MS-Exchange-CrossTenant-Id: 79c742c4-e61c-4fa5-be89-a3cb566a80d1
X-MS-Exchange-CrossTenant-FromEntityHeader: Internet
X-MS-Exchange-Transport-CrossTenantHeadersStamped: BYAPR04MB3822
X-MS-Exchange-Transport-EndToEndLatency: 00:00:01.9419602
X-MS-Exchange-Processed-By-BccFoldering: 15.20.1618.19
X-Microsoft-Exchange-Diagnostics:
1;SN6PR04MB3822;9:KRisZRYsuOxK2Eo4Sq6KS43GUZE/HlmoSD/41NbQw+IkBCsWi32Ez
Kd5qhtrUOdB4im/X9j9X2Bl0vQi1GKdxVlBf8+
3CZYB2VyVxpXmMVueJJQRaGlzBjVkzLs0Ic4=
X-Microsoft-Antispam-Mailbox-Delivery:
        ucf:0;jmr:0;ex:0;auth:0;dest:I;ENG:(750119)(520011016);
X-Microsoft-Antispam-Message-Info:
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+l4Tn84cOPeq1BB3BtoxQEm9KBl2pDBi1osaUWeLGNtAFIuQZ2mKnNpdX0TT?=
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=?us-ascii?Q?uHuJ+gv0KUtvBsvv94CocD7PgtNzwj5GmQ=3D=3D?=

5. Resources

help.blackboard.com:

Administrator Help

- *Blackboard Server AdministrationGuide*
- *https://help.blackboard.com/Learn/Administrator/Hosting/System_Management/Logs*
- *https://help.blackboard.com/Learn/Administrator/SaaS/System_Management/Logs*

Behind the Blackboard:

- *Tracking User Activity in the WebserverLogs* (BtBb Article # 000014571)
- *Apache Logs and the Activity Accumulator* (BtBB Article # 000014497)

Community Resource:

- *BBADMIN-L (http://is.asu.edu/instruction/faq/usingBBADMIN-L.html)*
- *BLKBRD-L (http://is.asu.edu/instruction/faq/usingBLKBRD-L.html)*
- *Blackboard Community: https://community.blackboard.com/*
- *Slack: https://blackboardtechies.slack.com*

Tracking:

- *InfoSniper (http://www.infosniper.net/)*
- *User Agent String (http://www.useragentstring.com/)*

Instructor Help

- *Course Reports: https://help.blackboard.com/Learn/Instructor/Performance/Course_Reports*
- *Test Access Log: https://help.blackboard.com/Learn/Instructor/Tests_Pools_Surveys/Resolve_Issues_With_Tests*
- *Grade History: https://help.blackboard.com/Learn/Instructor/Grade/Grade_History*
- *Grade Details: https://help.blackboard.com/Learn/Instructor/Grade/Grading_Tasks/View_Grade_Details*

Teaching Innovation & Pedagogical Support

- https://tips.uark.edu/

6. How to Bolster Academic Integrity

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Presentation will be made available at http://bbadmin.uark.edu/bbworld20/