

## Incident Report - December 14, 2015

### Incident #2015-121

#### Summary

On December 14, 2015, Film 240 students had an online timed exam (60 questions with a 60 minute window, from 9-10 am). After numerous reports from students, the Instructor closed the exam at 9:30 am.

The Film 240 Instructor made every effort to ensure the successful outcome of this quiz. Prior to the exam, the Instructor was in contact with ITS to ensure there would be no server traffic problems. ITS confirmed that the draft quiz (20 questions, 1 question per page) presented no concerns from a system capacity perspective. The Instructor was asked to confirm that she would be adding questions to the [OTHER] quiz that, at that time, contained zero questions. Confirmation was also requested on who would do the approximate 50 user overrides (students requiring extra time).

The Instructor indicated that rather than overrides, alternate tests would be created. The Instructor reiterated that her concern was specific to server traffic.

Moodle support staff assured the Instructor that they would be available throughout the quiz if any issues/questions arose.

On December 14, at 9 am Moodle was down briefly. ITS Infrastructure staff were monitoring and immediately corrected this. Downtime was less than 30 seconds.

At 9:17 am, Continuing & Distance Studies (CDS) submitted an issue ticket on behalf of the Instructor as students continued to see problems. Infrastructure and Moodle Support began investigation but could not identify unusual system performance that was being experienced by students and being communicated to the Instructor.

After being inundated with student e-mails, the Instructor closed the exam at 9:33 am. At the time, the CDS representative working with ITS was unaware that the quiz had been closed.

CDS offered to manage any student concerns on behalf of the Instructor.

In the afternoon of December 14, the Instructor provided the following information to ITS: "Moodle did not run as expected for my students. Some students had minimal issues, others were panicking because of a lag, and others were shut out completely. The Instructor provided e-mails and screen shots from the affected students to assist ITS in diagnosing the problem."

#### Impact

The exam was cancelled and a decision was made at the Faculty level to not run a second exam. This meant a redistribution of grades to the term work.

#### Root Cause

There was a lack of clarity between ITS and the Instructor around what was being tested. Sufficient testing on the final exam, which included 60 questions in 60 minutes, was not done. We believe this caused the slowdown that students saw. This identifies an underlying issue in process that is addressed below.

The identified exam was assessed by the team based on 600 students, 20 questions (1 question/page), a one hour time period and no multimedia. This translates into 10 requests/sec and the system should have supported that. Had the initial calculations been done on a 60-question model, it is likely that we would have identified that the system could not support the load.

Other issues have been identified, that did not contribute to this event, but are addressed in the Lessons Learned and Action Items.

## **Communications (Internal)**

The communications trail is outlined in the summary above.

## **Communications (External)**

On December 18, the following email was sent to all Film 240 students by the AVP/CIO:

*To all Film 240 students,*

*As you are aware the FILM 240 exam was cancelled because numerous students reported problems with Moodle responsiveness, beginning at 9:00 am. This happened despite Dr. Matrix and ITS's best efforts. Dr. Matrix has given this type of exam to hundreds of students at one time for several years without a problem. She works closely and diligently with the ITS staff, testing the system beforehand, and closely monitoring the exam from the moment it went live. We at ITS were confident there would be no problem, given our past experience and expertise. Please be assured that ITS is taking this very seriously and continues to investigate what happened in this isolated case.*

*I apologize for the confusion and stress this may have caused and wish you all a relaxing holiday break.*

There was an additional communications from the department.

## **Lessons Learned**

### **Testing & Validation**

It is essential that all system load validation be done on exact duplicates, (e.g., same number of questions, kinds of questions, formats).

### **Communications**

In a crisis situation, it is essential to coordinate communication to ensure that everyone receives all information, the same information and in the most timely way possible.

### **Action Items**

In the future, we will identify a lead point of contact prior to conducting the quiz. This individual will identify all parties (in this situation that would include the Instructor, CDS representative(s), Infrastructure, and Support, at a minimum). The lead's email and phone information will be broadly available. During the quiz, the lead will be responsible for obtaining updates from all parties, as well as communicating any issues/system measurements. It will also be their responsibility to clearly communicate and confirm with the Instructors that testing is done on the final version of the exam.

ITS will continue to load test as a follow-up, identifying the resources required to successfully execute a quiz with similar parameters in the future. Resources available to Moodle infrastructure will be verified and increased where possible, recognizing that Moodle is being phased out as the Queen's Learning Management System.