

Lab 2 – Blackboard Archive Extractor

Devin R. Haslam

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Professor Thomas Kennedy

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## **1 Introduction**

Blackboard Archive Extractor is an application designed to automatically extract and

reformat material uploaded from a course archive. This application will automate a manual task which is time consuming and labor intensive. The customers of this product, teachers using Blackboard, will now be able to access old content with less effort than ever before.

## **1.1 Purpose**

Similar to other learning institutions, faculty at Old Dominion University is reviewed periodically to ensure that they are providing a proper education to students. According to the Faculty handbook, this review process will take place every year for lecturers, every three years for senior lecturers, or five years for tenured lecturers. During this performance review, professors are required to present all aspects of a course, including materials given to the class on Blackboard. Due to the ODU policy that Blackboard only stores courses for two years before exporting them to an archive, teachers will be faced with the problem of extracting material from an archived course. Currently, if a professor wants to manually extract an archive, their first step is to upload the archive into a course they are not using on Blackboard. Without an unused Blackboard course, extraction is impossible. Assuming that a professor can find this unused course, the next step is to download each individual file from Blackboard and organize it in a presentable way for the review committee. In contrast, the Blackboard Archive Extractor will not need to use any Blackboard courses solving this dilemma. The solution will be able to extract multiple archives which will expedite the current manual process.

## **1.2 Scope**

Unlike other projects, the Blackboard Archive Extractor is expected to not take a large amount of time to complete. Every feature in the full product will be contained in the prototype being constructed. The team designing the Blackboard Archive Extractor is capable of satisfying

all prototype goals and having a release ready for testing by ODU faculty.

There is a litany of goals that are expected to be achieved with the prototype. One example of these goals is that the prototype should be able to extract most types of content from an archive. In addition, ideally, the output would be saved on the hard disk. While these two goals are relatively obvious, there are also other aims such as being able to execute the program with a GUI or command line. Overall, the prototype goals are very similar to the goals of the fully functioning application.

### **1.3 Definitions, Acronyms, and Abbreviations**

**Blackboard:** a virtual learning environment and course management system developed by Blackboard Inc.

**Blackboard Archive:** A “frozen snapshot” of a course which contains a permanent record of all content.

**Blackboard Archive Extractor:** A program in development by team Crystal of the ODU course CS411W. This program will automate the previously tedious process of accessing a Blackboard Archive.

**GUI - Graphical User Interface:** a type of user interface that allows users to interact with electronic devices through graphical icons and visual indicators.

**IMS Course Cartridge:** allows Instructors and Administrators to export a package that can be used in any Learning Management System that supports Common Cartridge.

**Learning Management System:** is a software application for the administration, documentation, tracking, reporting and delivery of electronic educational technology.

**Old Dominion University:** a public, co-educational research university located in Norfolk, Virginia.

**UI - User Interface:** the means by which the user and a computer system interact, in particular the use of input devices and software.

**UX - User Experience:** the overall experience of a person using a product such as a website or computer application, especially in terms of how easy or pleasing it is to use.

## 1.4 References

BFree: Extract Blackboard content. (n.d.). Retrieved October 19, 2016, from <https://its2.unc.edu/tl/tli/bFree/index.html>

Blackboard | Reimagine Education | Education Technology. (n.d.). Retrieved October 19, 2016, from <http://www.Blackboard.com/>

"Bootstrap · The World's Most Popular Mobile-first and Responsive Front-end Framework." Bootstrap · The World's Most Popular Mobile-first and Responsive Front-end Framework. Twitter Inc., n.d. Web. 04 Feb. 2017.

Corcoran, B. (2014, July 23). Blackboard's Jay Bhatt Strikes Up the Brass Band. Retrieved October 19, 2016, from <https://www.edsurge.com/news/2014-07-23-blackboard-s-jay-bhatt-strikes-up-the-brass-band>

Haslam, D. R. (2017). *Lab 1 – Blackboard Archive Extractor*. Norfolk, VA: Old Dominion University.

".NET - Powerful Open Source Cross Platform Development." .NET - Powerful Open Source Cross Platform Development. Microsoft, n.d. Web. 15 Dec. 2016.

ODU Faculty Handbook. (2005, December 21). Retrieved October 26, 2016, from <http://ww2.odu.edu/ao/facultyhandbook/index.php?page=ch07s01.html>

## 1.5 Overview

The Blackboard Archive Extractor will consist of a User Interface that will provide functionality to automatically extract a blackboard archive. This functionality can be further broken down into algorithms that perform Linking, and Reformatting. Although the target customer base is all teachers using Blackboard, the team will focus most effort to satisfy ODU teachers. The information provided in the remaining sections of this document includes a detailed description of the hardware, software, and external interface architecture of the Blackboard Archive Extractor.

## 2 General Description

Blackboard Archive Extractor is an application designed to extract material uploaded from a course archive. Teachers using Blackboard, the target customer base, will be able to use the Blackboard Archive Extractor to save tediously labor. The Blackboard Archive Extractor will consist of a User Interface along with algorithms that perform Linking, and Reformatting.

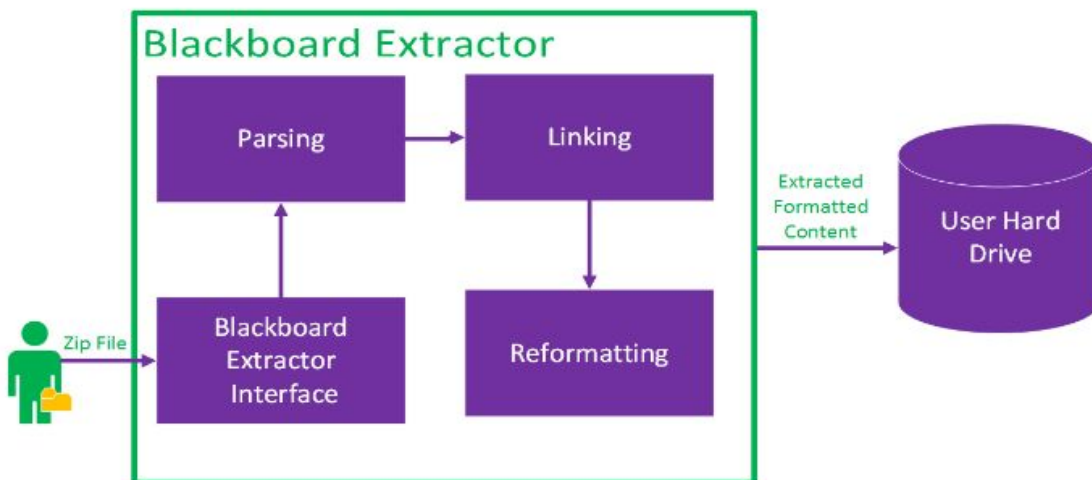
### 2.1 Prototype Architecture Description

The Blackboard Archive Extractor is comprised of only Software. Therefore, the customers will only interact with the product through a computer with a mouse and keyboard. They will be able to interact with a GUI or a command line interface to run the program.

### 2.2 Prototype Functional Description

Blackboard Archive Extractor is used to extract Blackboard content and reformat the content into presentable material. The application will automatically operate on the content. The customers of this product, teachers using Blackboard, will now be able to present old content at will, even if the course was previously archived. The functional components of this prototype will consist of a user interface along with algorithms that link, parse, and reformat as seen is figure 1.

**Figure 1. A diagram of the major functional components of the Blackboard Archive Extractor.**



## 2.3 External Interfaces

The product does not use any hardware. The Blackboard Archive Extractor only needs software and user interfaces.

### 2.3.1 Hardware Interfaces

The Blackboard Archive Extractor does not have any hardware components because the prototype is purely software. Therefore, there is no need to use any hardware aspects for the project.

### 2.3.2 Software Interfaces

Microsoft .NET: A software framework developed by Microsoft that provides capability across several programming languages.

### 2.3.3 User Interfaces

The User will need a computer with a keyboard and mouse to interact with the Blackboard Archive Extractor. With these pieces of hardware, the user can then run the program with the



correct parameters. The Graphical user interface will include drag and drop functionality and will take a zipped archive and an output location as input. The command line interface will only take the path of the zipped input file and the output location.