

# The Open Digital Archaeology Textbook Environment

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# Welcome

This volume goes hand-in-glove with a computational environment built on the DHBox.



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# Introduction

Digital archaeology as a field rests upon the creative use of primarily open-source and/or open-access materials to archive, reuse, visualize, analyze and communicate archaeological data. This reliance on open-source and open-access is a political stance that emerges in opposition to archaeology's past complicity in colonial enterprises and scholarship; digital archaeology resists the digital neo-colonialism of Google, Facebook, and similar tech giants that typically promote disciplinary silos and closed data repositories. Specifically, digital archaeology encourages innovative, reflective, and critical use of open access data and the development of digital tools that facilitate linkages and analysis across varied digital sources.

To that end, this document you are reading is integrated with a cloud-based digital exploratory laboratory of multiple cloud-computing tools with teaching materials that instructors will be able to use 'out-of-the-box' with a single click, or to remix as circumstances dictate. Part of our inspiration comes from the 'DHBox' project from CUNY (City University of New York, [link](#)), a project that is creating a 'digital humanities laboratory' in the cloud. While the tools of the digital humanities are congruent with those of digital archaeology, they are typically configured to work with texts rather than material culture in which archaeologists specialise. The second inspiration is the open-access guide 'The Programming Historian', which is a series of how-tos and tutorials ([link](#)) pitched at historians confronting digital sources for the first time. A key challenge scholars face in carrying out novel digital analysis is how to install or configure software; each 'Programming Historian' tutorial therefore explains in length and in detail how to configure software. The present e-textbook merges the best of both approaches to create a singular experience for instructors and students: a one-click digital laboratory approach, where installation of materials is not an issue, and with carefully designed tutorials and lessons on theory and practice in digital archaeology.





# About the Authors

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**Michael Carter**

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# Getting Started

## 0.1 How to use this text

yadda

## 0.2 How to contribute changes, or make your own version

bigglybeep

## 0.3 How to access and use the computational environment

link to site, instructions, also repo, also dhbox-on-a-stick

## 0.4 Colophon

how this site was made



# Part One: Going Digital

In this section, blah blah blah.

**0.4.1**    discussion

**0.4.2**    exercises



# Chapter 1

## Project management basics

blah

### 1.1 Github & Version control

blah ### discussion

#### 1.1.1 exercises

### 1.2 Failing Productively

blah

#### 1.2.1 discussion

#### 1.2.2 exercises

### 1.3 Open Notebook Research & Scholarly Communication

blah

#### 1.3.1 discussion

#### 1.3.2 exercises





## Chapter 2

# The Ethics of Big Data in Archaeology

Ethics! Lots of Ethics!

**2.0.1** discussion

**2.0.2** exercises



## Chapter 3

# Introduction to Digital Libraries, Archives & Repositories

yadda

### **3.1 Command Line Methods for Working with APIs**

yadda

### **3.2 Working with Open Context**

yadda

### **3.3 Working with Omeka**

yadda

### **3.4 Working with tDAR**

yadda

### **3.5 Working with ADS**

yadda



# Part Two: Making Data Useful

blah blah introd



## Chapter 4

# Designing Data Collection

yada yada

4.0.1 discussion

4.0.2 exercises





## Chapter 5

# Cleaning Data with Open Refine

blahde blah blah

**5.0.1** discussion

**5.0.2** exercises



## Chapter 6

# Linked Open Data and Data Publishing

yargble blarble floss

**6.0.1** discussion

**6.0.2** exercises



# Part Three: Finding and Communicating the Compelling Story

blah blah blah



## Chapter 7

# Statistical Computing with R and Python Notebooks; Reproducible code

blah ### discussion

### 7.0.1 exercises





## Chapter 8

# D3, Processing, and Data Driven Documents

blerg ### discussion

8.0.1 exercises



## Chapter 9

# Storytelling and the Archaeological CMS: Omeka, Kora

blargle



## Chapter 10

# Web Mapping with Leaflet

...I wonder if we should talk about GIS & Pandas, etc... or in R?

### 10.0.1 discussion

### 10.0.2 exercises



## Chapter 11

# Place-based Interpretation with Locative Augmented Reality

yep.

11.0.1 discussion

11.0.2 exercises





## Chapter 12

# Archaeogaming and Virtual Archaeology

yay archaeogaming

**12.0.1** discussion

**12.0.2** exercises



## Chapter 13

# Social media as Public Engagement & Scholarly Communication in Archaeology

boo socmed

13.0.1 discussion

13.0.2 exercises



# Part Four: Eliding the Digital and the Physical

crazytown



## Chapter 14

# 3D Photogrammetry & Structure from Motion

vsfm

14.0.1 discussion

14.0.2 exercises





## Chapter 15

# 3D Printing, the Internet of Things and “Maker” Archaeology

yay ### discussion

### 15.0.1 exercises



## Chapter 16

# Artificial Intelligence in Digital Archaeology

### 16.1 agent models

blah

#### 16.1.1 discussion

blah

#### 16.1.2 exercises

blah

### 16.2 machine learning for image captioning and other classificatory tasks

blah

#### 16.2.1 discussion

blah ### exercises



# Part Five: Digital Archaeology's Place in the World

blerg



## Chapter 17

# Marketing Digital Archaeology

blog ### discussion

### 17.0.1 exercises





## Chapter 18

# Sustainability & Power in Digital Archaeology

the big ticket item.

**18.0.1** discussion

**18.0.2** exercises