



## *The Capture the Flag (CTF) Exercise Design Study*

### **ANONYMITY & CONFIDENTIALITY**

#### **INFORMATION**

The [Capture the Flag \(CTF\) Exercise Design Study](#) is the subject of the following declarations.

#### **INTRODUCTION**

You have been selected to participate in The Capture the Flag (CTF) Exercise Design Study. This research is being conducted by Kammi Kai Hefner, EDD as partial requirements for completing a [Doctorate of Science in Cybersecurity](#) degree from [Capitol Technology University](#).

#### **PURPOSE(S) OF THIS STUDY**

The objective of this study is to capture the *informal* teaching constructs used in developing CTF Exercises and to map the informal teaching constructs to the traditional theories of Instructional Design Strategies. The results of this study will document a CTF Exercise Teaching Paradigm (i.e., archetype, model, pattern, standard, theory (Merriam-Webster Dictionary, 2018)), so other teachers may embrace the potential educational benefits of how CTF Exercises are designed.

Capturing the *informal* teaching constructs (i.e., concepts, theories) and mapping them to traditional theories of Instructional Design for other educators to incorporate into teaching cybersecurity skills may be one way to address the critical shortage of cyber security professionals sought by industry, government, and the military entities.

#### **DESCRIPTION OF PROCEDURES**

This study involves completing a Web-based questionnaire and will take approximately 15 minutes for seasoned CTF Exercise Designers to respond. Approximately, 300 subjects are expected to participate in this study. Questions marked with an asterisk require an answer. You may [view the questionnaire](#) before deciding to participate.

#### **RISK AND DISCOMFORTS**

There are no known or expected risks from participating in this study.

#### **ALTERNATIVES**

You do not have to participate in this study.



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### **EXIT THE SURVEY**

You may exit the survey at any time by closing your Browser window.

### **BENEFITS**

This study is not expected to be of direct benefit to you, but the knowledge gained may be of benefit to others.

### **ANONYMITY**

The data collection tool SurveyMonkey has been set not to collect IP Addresses. Respondents are completely unknown to anyone associated with the survey.

### **CONTACT PERSONS**

For more information about this research, you can contact Kammi Kai Hefner, [kkhefner@captechu.edu](mailto:kkhefner@captechu.edu) or [DrHefner@pobox.com](mailto:DrHefner@pobox.com) at 304 216-3617, or my Committee Chair, Dr. Connie Justice at [cjustice@iupui.edu](mailto:cjustice@iupui.edu).

Any information about you obtained as a result of your participation in this research will be kept as confidential as legally possible. Your research records and test results, just like hospital records, may be subpoenaed by court order or may be inspected by the study sponsor or federal regulatory authorities without your additional consent. In any publications that result from this research, neither your name nor any information from which you might be identified will be published. Your anonymity will be protected electronically by using data storing and retrieving processes that require password protection and encryption. No one but the researcher and my Chair will have access to the data collected. CTU will not know who responds or who does not respond. CTU will not see raw data. All details of individual data collected will be kept private by the researcher and not disclosed to any third party. Summations of data will be presented in data analysis.

### **VOLUNTARY PARTICIPATION**

Participation in this study is voluntary. You are free to withdraw your willingness to participate in this study at any time and that such refusal to participate will not affect your future. Refusal to participate or withdrawal will involve no penalty to you. You have been given the opportunity to access [The Capture the Flag \(CTF\) Exercise Design Study](#) before deciding to participate.