The first artifact is the final project from IT 145. There are two components to this artifact, AnimalHabitats and Monitor. This artifact is a system development for a zoo. The artifact will allow the user to view either different independent animals or view a whole habitat. The artifact was created to present an alert if an alert was created in the data that was uploaded to the artifact. The original file was created in February, 2019 and has been enhanced with three new features. This artifact was selected for my ePortfolio because I believe it demonstrates my knowledge of software design and working with Java. The design and structure of the artifact proves my knowledge of design and engineering. It demonstrates ability of working with loops and designing a main function to use different classes created in different files. This artifact was improved in three different ways. The first was a security flaw. I noticed that the use of a scanner was used and never closed. This could create resource leaks. This was solved by added "scnr.close()" to each if, else if statements. After running the code, I realized this was not how to correct this error. If I wanted to close the scanner after every if, else if statement, I would not be able to obtain the data. In result, I placed "scnr.close()" on the else if statement when the user chose to exit and close the application. This will properly close the scanner and prevent any resource leaks. Next, I enhanced the library of animals and habitats. I created six additional strings; three animals, and three habitats. The three animals include, pandas, zebras and eagles. The three habitats include, elephants, sea otters, and rabbits. In order to add these six additional strings, I created string variables for each animal or habitat. Also, I created more else if statements in order to display the correct data for the animal or habitat. Finally, I added the options to the main function to show these were a selection the user can pick from. The third enhancement was created to improve the user interface. When this assignment was originally submitted, it was not user friendly. The user now has the ability to see what is in the category

before selecting it. Before, the user had to select a category to view the contents, and if the user did not find what they needed, they had to run through the program to return them to the beginning screen. Another enhancement to the interface is user inputs. Before, users had to type out “Details on lions”, now the user simply types “lions” to view data and information on lions.

I have met my objectives from module one. I have edited and fixed the code to run and compile. I have also enhanced the library and user interface. Enhancing this artifact has reminded me of a skill we should not be using regularly. I admit that I was lazy and copied and pasted if, else if statements. This resulted to me having if statements between if and else if statements. I ran into a display error of a message displaying if there was an error along with the correct data. In order to fix this error, I took the time to retype the code and discovered the multiple if statements. The result of this enhancement has reminded me of skills to use and not use. Any project or enhancement should be taken as if you were working on another person’s project. Do not be lazy and do not take shortcuts. Be sure to take your time making enhancements and working on the code, it will save time and effort.

The second artifact was part of the final project for CS 260 and was originally created in October, 2019. The original artifact requires two csv files that contains bids. This artifact “LinkedList” will allow the user to enter, load, find, and remove a bid. It will also allow the user to view all the bids in the selected csv file. The original artifact has been enhanced with two new features and an updated user interface. This artifact was selected for my ePortfolio because it demonstrates my knowledge when working with algorithms and data structures. I have proven my ability to work with algorithms by formulating correct and working code to enhance this artifact. I have shown my ability to work with data structures by being able to type different code to obtain data from different csv files. This artifact has been enhanced with three new features.

The original artifact was left in a limited functioning state. It required the user to insert the bid id and csv file name in the code in order for the application to select the correct bid and file. The first two enhancements are very similar. They pertain to the issue of having the user to enter code to find the correct file and bid. The first enhancement allows the user to type the correct file name upon running the application. If done correctly, the program will show the results of how many bids loaded and how long this took. If the user accidentally inputs a wrong csv file name, the application terminates and presents an error. The second enhancement relates to searching different bid ids. After the user enters the correct csv file name, the user is prompt to "Enter Bid id." This will allow the user to enter a bid id for the search feature. The search feature of the original artifact was left to a default bid id. Now the user has the ability to type in a bid id. The third and final enhancement was adding the prepend feature to create a better UI. The prepend function was typed in the code, however the user was never allowed access to this function because there was no case number within the code, and no option in the menu. Prepend function gives the user the ability to add a bid to the loaded csv file.

I have completed the planned enhancements and also added an additional feature. I created enhancements that allowed the artifact to have full functionality. This was achieved by the first two enhancements. The next enhancement was to create a better working user interface. This was achieved by giving more instructions on how to use the user interface. In addition, prepend was added to functionality and menu options. Enhancing this artifact has shown me that I am capable of solving problems without directions. I struggled at first on the enhance of functionality. I could not figure out how to prevent the artifact from running the default every time. The challenge that I am still facing with this enhancement is the results when a user incorrectly inputs the bid id. I have put an else statement to display "Invalid Entry." This works

and it displays the first bid of the csv file. The result I want is not to display the first bid of the csv file, but to give the user the ability to enter another bid id to use to search instead of terminate the application.

The last artifact was created from experience and knowledge gained from DAD 220. DAD 220 is an introduction class to SQL. This class, we used MYSQL in the Codio terminal. For this artifact, I created it from commands used previously in this class. We were never tasked with creating scripts in this class, so I decided to create a script that would create a phonebook database. The initial artifact created a phonebook database and showed the user the results in the order they inserted the contacts. This artifact was created at the beginning of this class CS 499. I selected to create a new artifact that shows my knowledge and skill when working with an SQL database. I decided to start from scratch because for this class, we were only required to screen shot our commands instead of creating a whole script. This script displays my knowledge working with SQL commands and databases. This artifact was enhanced in two ways. In the initial script, the phonebook was displayed to the user in the order the user inserted each value into the database. The first enhancement includes four different views the user can view the database. First view is the default view, the script will display the phonebook in ascending order based on first name. The other views include descending order of first name, ascending and descending order last name. In order to prevent duplicates of contacts, a second script was created titled “addContact.” This was the second enhancement. This script allows the user to add contacts by going in and changing the values in the insert command. There are clear comments to guide the user on how to use the scripts.

I have met the course objectives I had planned for this artifact. The first enhancement I planned was to create different filters on how to view the database. I created filters based on how

a standard contact list in a mobile phone would function. I also created an important feature to a phonebook which is adding additional contacts to the phonebook. I thought it would be acceptable for the user to enter the script to change the values. The reason is because a standard person would not be executing scripts or even attempt coding. Using scripts require a small background in coding. After completing these scripts, I relearned some of the materials from this course. I constantly kept forgetting how to execute these scripts, in result, I searched the internet and finally commented the code on how to execute a script at the beginning of each script. The challenge I faced, but resolved was displaying the correct phone number. At first, the phonebook was displaying a random number, but the same for each contact. I tried different ways to solve this issue. I result to changing the value entered from an integer to a variable character. I added parentheses and a dash to make it a variable character and it displays the correct format and phone number for each contact.