User Manual For Optimal Sample Selection System

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1 PC Application

1.1 Overview to Optimal Sample Selection System

Optimal Sample Selection System is shown in Figure 1 and in Figure 2. It has two pages, **Home Page** and **History Records Page**.

In the top half of the **Home Page**, there are six input areas, used to input m, n, k, j, s and chosen samples respectively. An output area below the input areas is used for displaying results. At the bottom of the **Home Page**, there are two buttons and a progress bar. The left one is Start/End , which can control program start and stop. The right one is History, which is the entry to jump to the history page. And the progress bar indicates the progress of processing results.

In the **History Page**, there are all history records of previous result. The first column of the results is the filename stored in database. The second column is Detail button used to view specific previous results, sample size and run time. The example is show in Figure 3. The third button Remove is used for deleting this line of result. At the bottom of **History Page**, there are two buttons. The left one is Back, which is the entry back to **Home Page**. And the right one is RemoveAll is used to delete all records in database.

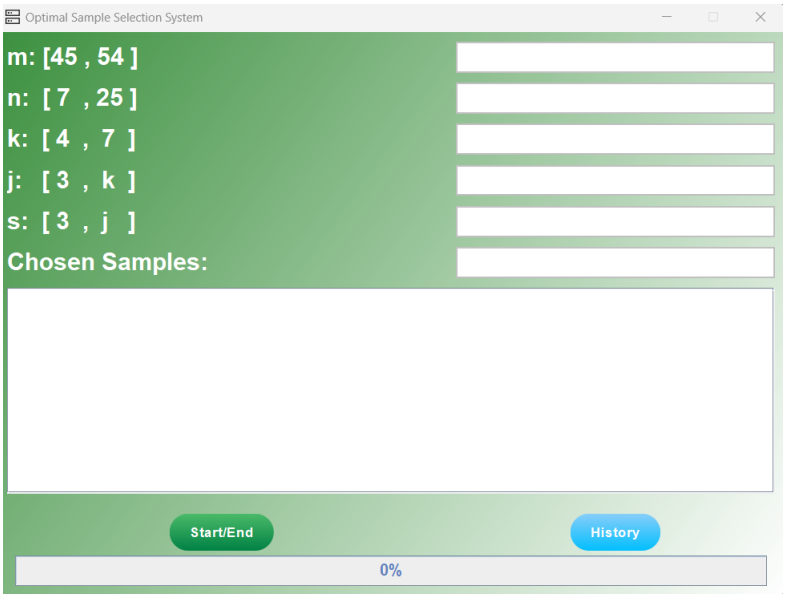

Figure 1: Home Page in PC

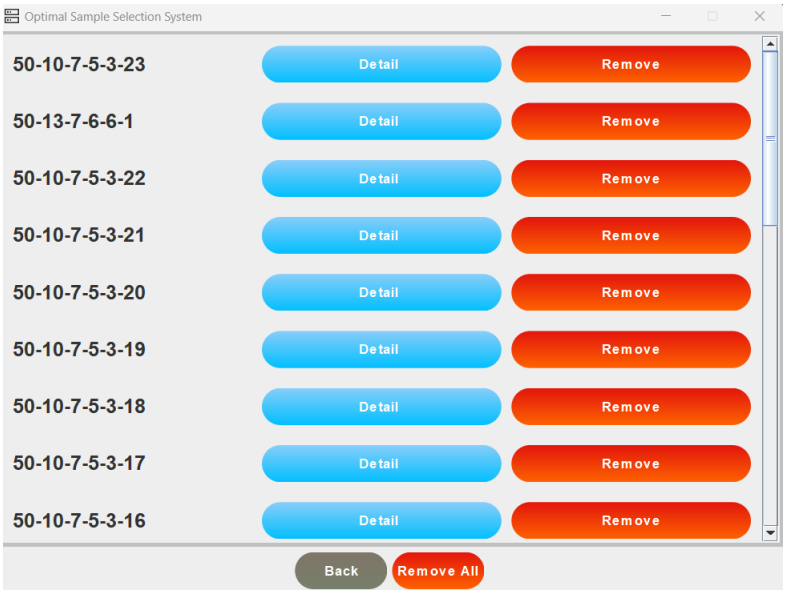

Figure 2: History Page in PC

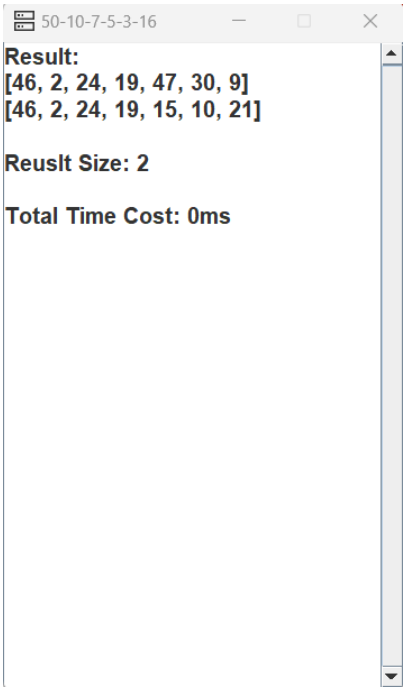

Figure 3: History Result in PC

1.2 Using Optimal Sample Selection System

1.2.1 Recommended Configuration

Processor:12th Gen Intel(R) Core(TM) i7-12700H 2.30 GHz
Random Access Memory:16.0 GB

1.2.2 App Start-up

To run *Optimal Sample Selection System*:

1. Insert USB drive in your PC.
2. Copy the `osss_GROUP_7.zip` folder from the software folder to the desktop and unzip it
3. Run the file `Optimal Sample Selection.exe`.

1.2.3 Progress Start

When you start *Optimal Sample Selection System*,you would go to the **Home Page**.

1. Input m(the number of all samples,ranging from 45 to 54) in the first input area.
2. Input n(the number of samples in each group,ranging from 7 to 25)in the second input area.
3. Input k(the sizes of each selected sample,ranging from 4 to 7) in the third input area
4. Input j(higher than 3 and lower than k) in the forth input area.
5. Input s(higher than 3 and lower than j) in the fifth input area.
6. If you want to specify the chosen samples, you can enter the samples you want in the sixth input area. Separate each sample number with a comma.
7. Click the Start/End button.

> m,n,k,j,s are integer

The result would display in the output area. It shows in Figure 4

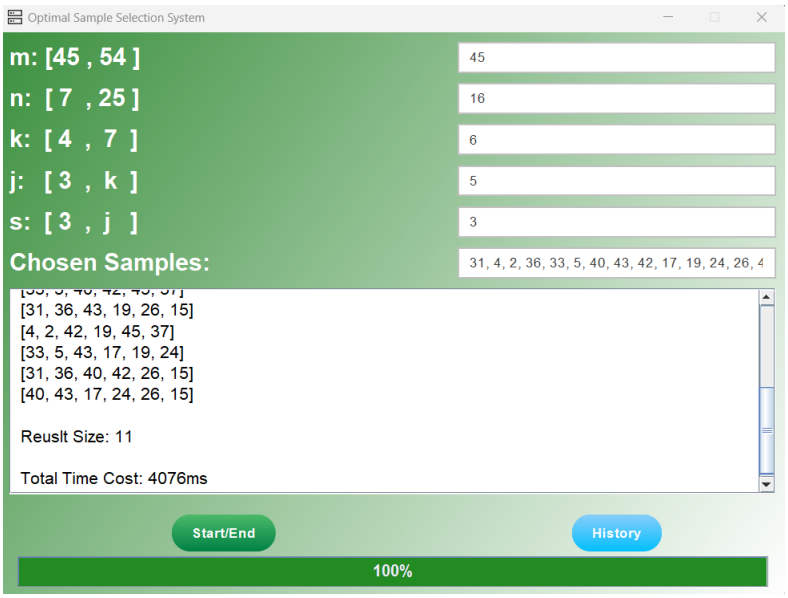

Figure 4: Example of Results in PC

1.2.4 End Computation

When the program is running, you can end this computation by clicking the Start/End button. At this time, a pop-up window will appear asking to reconfirm whether to terminate the program, if necessary, please click Yes.It shows in Figure 5

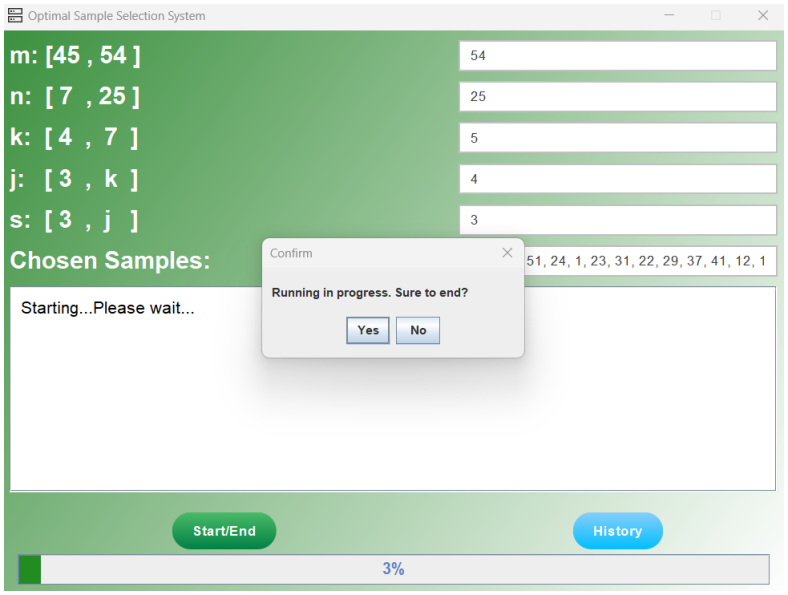

Figure 5: Example of Computation End

1.2.5 Exit the App

Click the cross in the upper right corner to exit the program.

1.3 Error Warning

1. m, n, j, k, and s have domains respectively. If the input number does not fit the range or the input content is not an integer, the following pop-up box will appear Figure 6. You just need to adjust the input and continue running the program.

2. When the number of chosen samples is inconsistent with n, the system will randomly select chosen samples based on n and prompt an error message

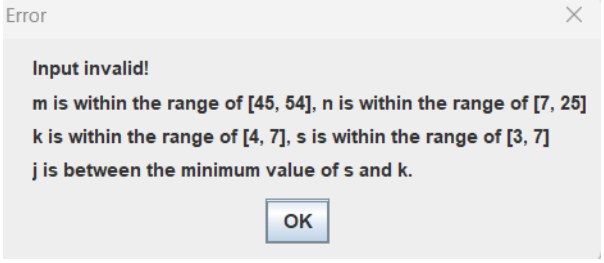

Figure 6: Error Warning

2 Mobile Application

2.1 Overview to Optimal Sample Selection System

Optimal Sample Selection System is shown in Figure 7 and in Figure 8. It has two pages, **Home Page** and **History Records Page**.

In the top half of the**Home Page**, there are six input areas, used to input m, n, k, j, s and chosen samples respectively. An output area below the input area is used for displaying results. At the bottom of the **Home Page**, there are two buttons. The higher one is Start/End , which can control program start and stop. The lower one is History, which is the entry to jump to the history page.

In the **History Page**, there are all history records of previous result. The first column of the results is the filename stored in database. The second column is Detail button used to view specific previous results, sample size and run time. The example is show in Figure 9. The third button Remove is used for deleting this line of result. At the bottom of **History Page**, there are two buttons. The left one is Back, which is the entry back to **Home Page**. And the right one is RemoveAll is used to delete all records in database.

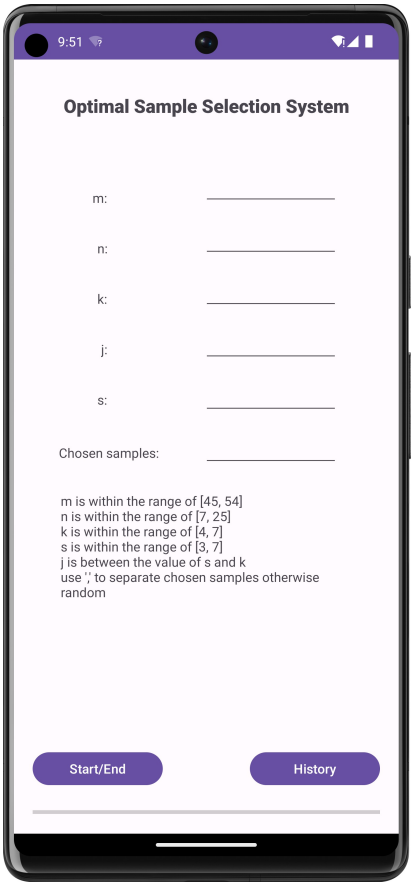

Figure 7: Home Page in Mobile Phone

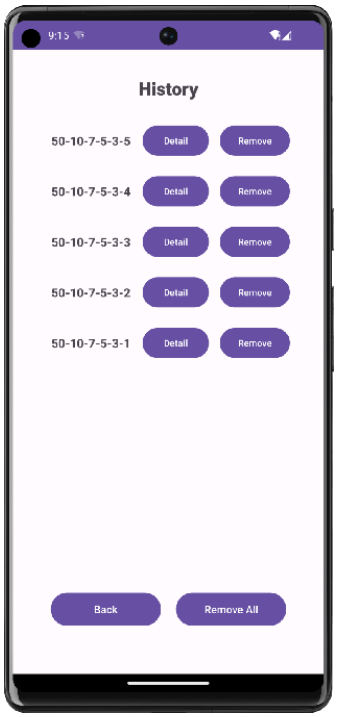

Figure 8: History Page in Mobile Phone

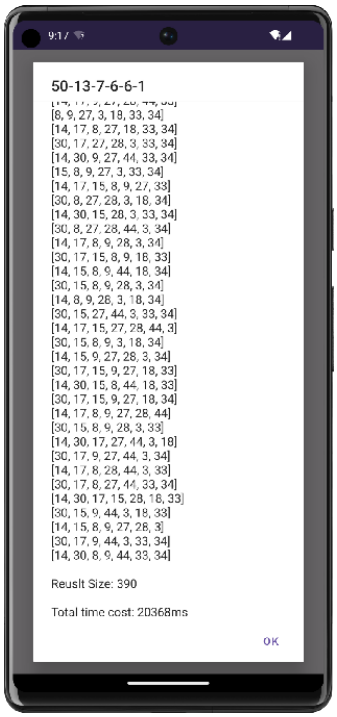

Figure 9: History Result in Mobile Phone

2.2 Using Optimal Sample Selection System

2.2.1 Recommended Configuration

CPU: Snapdragon 8 Gen2

2.2.2 App Start-up

To run *Optimal Sample Selection System*:

1. Send `OSSS.apk` to your mobile phone.
2. Install `OSSS.apk`
3. Run the application `OSSS`.
4. Click the Enter button into the **Home Page**.

2.2.3 Progress Start

1. Input m(the number of all samples,ranging from 45 to 54) in the first input area.
2. Input n(the number of samples in each group,ranging from 7 to 25)in the second input area.
3. Input k(the sizes of each selected sample,ranging from 4 to 7) in the third input area.
4. Input j(higher than 3 and lower than k) in the forth input area.
5. Input s(higher than 3 and lower than j) in the fifth input area.
6. If you want to specify the chosen samples, you can enter the samples you want in the sixth input area. Separate each sample number with a comma.
7. Click the Start/End button.

> m, n, k, j, s are integer.

The result and the progress of the program would be displayed in the output area. It shows in Figure 10

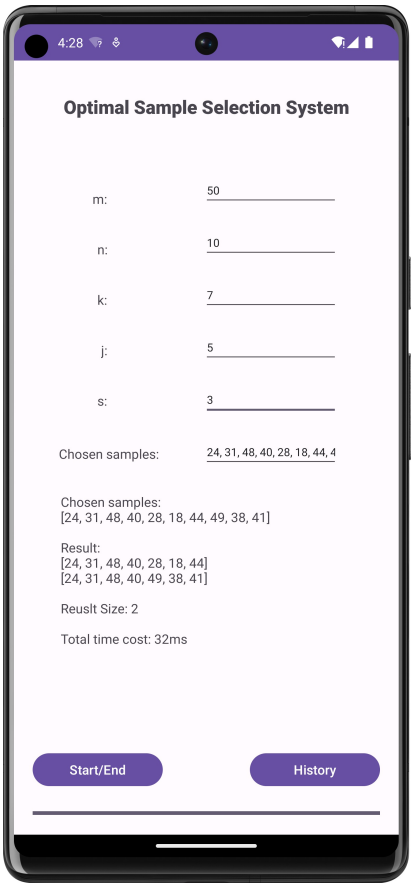

Figure 10: Example of Results

2.2.4 End Computation

When the program is running, you can end this computation by clicking the Start/End button. At this time, a pop-up window will appear asking to reconfirm whether to terminate the program, if necessary, please click Yes.

2.2.5 Exit the App

Swipe up to exit the app in the background of the phone.

2.3 Error Warning

1. m, n, j, k, and s have domains respectively. If the input number does not fit the range or the input content is not an integer, there are warning in the output area. You just need to adjust the input and continue running the program.

2. When the number of chosen samples is inconsistent with n, the system will randomly select chosen samples based on n and prompt an error message