CASE STUDY

GREEN COMPUTING

END-OF-LIFE MANAGEMENT: E-WASTE AND RECYCLING

**Program Design Methods**

Ir. TRI ASIH BUDIONO, M.I.T.

ARVIN YUWONO (2502009721)

CHRISTOPHER ALEXANDER TJIANDRA (2502019230)

KENNETH SAMUEL DJASMIN (2502009620)

LEONARDO RICHIE (2502005856)

VINCENT YONO (2502009583)

L1BC

Computer Science

Binus International University

2021

**Backgrounds**

The environment is where we live as a human. Every human being expects a clean and comfortable environment to live in. However, judging from the environment in which we live today, it seems that we are familiar with the various damages that arise as a result of human activity itself. If this continues to happen, it is certain that our environment will be destroyed. This is certainly not what every human being wants, and fortunately some of us create movements to improve the existing environment. One of these activities is "green computing", considering that one of the impacts of environmental damage is waste from the production of technological goods. In this case, one of the topics that we will discuss is about "end of life management: e-waste and recycling. There are several explanations that will be explain later, such as background, problems, and others.

Firstly, let's discuss about the background of e-waste and recycling. Human growth and development is unavoidable. This is a natural thing, where human beings are destined to grow and develop in their lives. This also does not rule out the possibility of the Indonesian people, where it is known that Indonesia is the 4th in the world with the largest population. The more population in a country, of course, indirectly leads to an increase in population activity. This causes the emergence of more existing problems such as population density. With a dense population and activities carried out will lead to an increase in the amount of existing waste. This is due to the increasing human needs, especially electronic needs that cannot be separated from society. Garbage resulting from damaged or used electronic goods will become waste that we know as Electronic Waste (E-Waste).

The world today is living in harmony with technology and electronics. This is what causes the amount of Electronic Waste (E-Waste) not only in Indonesia, but throughout the world. Electronic Waste (E-Waste) has a very dangerous impact on the environment and if there is no solution or movement to reduce it, then the environment in which humans live will be increasingly destroyed. The buildup of Electronic Waste (E-Waste) is very fast considering the high public consumption of electronic goods. Some examples of electronic goods that have become mandatory to buy are household electronic equipment, such as water pumps (jet pumps), air conditioners, TVs, refrigerators, and many more. Generally, these household electronic devices have an active product period and do not last forever. When this electronic device product is no longer active, it will become garbage that accumulates. One of the efforts that have been tried is to carry out a process that we call the recycling process.

Goods whose active period is no longer valid, in order to be recycled, a disassembly process must be carried out or disassembly of goods into separate materials. This process aims to separate hazardous components and retrieve parts that can be recycled later. Related to this, it is necessary to do research to determine the order of disassembly that makes it easier for used goods collectors and recycling business owners in the disassembly process, as well as to get a fast and efficient unloading time.

**Problem**

Due to the more used of technology, e-waste is starting to increase. According to the United Nations University’s Global e-waste monitor, 50 million metric tons of electronic products are discarded every year. E-waste usually are electronics that are already used, worn off, or broken. It’s dangerous to the environment and people since it contains dangerous materials like mercury, lead, beryllium and many other. This waste should be disposed wisely. If not, it will cause various problems.

The problems caused by wastes can be contamination and can be dangerous to human health. During dismantling the e-waste, the dust particles can spread into the air. This dust can also cause chronic diseases and cancers not only giving health risk to humans but also animals. Not only air, if the e-wastes were dumped illegally it can cause the soil to contaminate and affect the crops which is what we eat later on, It can cause illness. This waste contains toxic materials which can cause many negative health problems like brain, heart, liver, kidney, and skeletal damage.

**Short Literature Review**

**Findings and Discussions**

**Conclusions and Recommendations**