HoneyBot: A Honeypot for Robotic Systems [1]: synthesis

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1 Introduction

An honeypot is a decoy computer which is used in order to delude attackers. This method to prevent hacking our computers allows to trace some information from the hacker, who believe that his attack is a success. HoneyBot is the first honeypot used on robot device.

But before all, we have to explain what a robot is. The term comes from Slavonic language, "rabot", which means literally "work". A robot is a electronic device usually autonomous and used to do repetitive tasks for an human. This need appears with great technological advances since 1950, and in 1961 the first industrial robot was born in General Motors factory [2]. Today robots are mainly used to remove the human factor. The article shows three biggest reasons to explain this:

- To reduce greatly the cost of labor in industries; for example, in a car manufacturing, the price of a robotic arm is less expensive than an workman (about 8 times less expensive according to the article).
- To remove the human error factor in accuracy work; For example to make a microprocessor.
- to avoid a lot of human loss (mainly military).

TODO:
-present different parts followed in the syntehsis

2 Domains of Application

TODO:
-describe domain of application of robot (link with the three main reasons on the top) then honeypots: military, industries, ...
-describe as the article does how the honeypot works

3 Purposes of the article

Why the article was written?
Definition of HoneyBot?

4 Approach

4.1 Scientific approach

How a robot works: captors, sensors, controllers, actuators.
Vulnerability of CPS (Cyber Physical Systems).
HoneyPhy software which is based HoneyBot. Weakness and assets ?

4.2 Technical approach

Le simulateur HoneyBot : une interface graphique. Pourquoi ? Une preuve de concept pour prouver la faisabilité du système sur un GoPiGo (robot programmable avec un raspberry pi). Etude en détail sur 3 capteurs : le sonar ultrasonic, le capteur de proximité et le capteur de collision.
Search about the captor Sharp GP2Y0A21YK IR

5 Critique

5.1 Positive

Resolution of issues? Expectation of the project?

5.2 Negative

Algorithmic boundary?

6 Future trails

Original tracks?

7 Conclusion

Advances since the release of the article

References

[1] Samuel Litchfield Raheem Beyah Celine Irvene, David Formby. Honeybot: A honeypot for robotic systems. *Proceedings of the IEEE*, 106(1):61–70, 2018.

[2] World-Information.org. 1961: Installation of the first industrial robot.