

One New Vision to Software Programation

**Sorocaba
2020**

Biography

Kaicon Ricardo Paes Marcino de Almeida

Born in the city of Apiaí, located in the state of São Paulo, Brazil . He is currently majoring in Information Technology Management. He has some experience in the Industrial Automation area where he has already worked as an operator of an automated station for treatment and disposal of lathes waste. He has technical courses in C Sharp programming language, but he did not work on software development in a professional way, being an amateur in areas such as electronics, robotics, and even in music where he plays the violin, keyboard.

**Sorocaba
2020**

Abstract

In this book I have been gathering notes, ideas, C sharp programs that I have been writing, as well as programming techniques that work. And inserts of leftover notes from the other books.

**Sorocaba
2020**

Summary

1. Start book ,Starting with one hobbyie : horticulture	5
2. Grass seedlings	6
3. aquaponia	7
4. Aquarium	8
5. Directing arm	9
6. list system features	10
7. Intermediary book : PCAE Computer Aided Environment Project	11
8. Computer network	12
9. Final book : Head Robot	19
10. The intermediate coupling	20
11. Head robot research project	21
12. Alternative Book : Projeto Smart city e outros insights	23
13. smart city Project	24
14. Alternative Book : Two books together Management and Hobbies	25
15. Jewelry	26
16. Airsoft	27
17. Business Administration	32
18. Business	33
19. Commercial automation	34

horticulture

As has been seen in previous sections of the book. Recorded action would be the most current way to disseminate knowledge. So we realized that it would be interesting to write a script so that the videos on the subjects reported were more explained. A script that could be a presentation in some power point type program, however due to the difficulty of creating a presentation that would be unnecessary, you could then create a text and image file in pdf where you explain the ideas and keep a record of what one must speak.

An interesting area within everyday life that has generated substance for modern society to establish itself in a concrete way for a long time was agriculture. Through it, our ancestors were able to survive and perpetuate the species that has long sought new ways to relate to the environment in which they live. Within modern life, learning and fun techniques were created. One of them is hobby. a fun way to learn and spend time while learning. Among the many, an important hobby is horticulture, which is nothing more than the planting of homemade species or not in a reduced way. As time goes by, the hobby then becomes everyday. Tasks that should be done daily are postponed, forgotten. Use is made of diaries about what has been done which helps not to forget the tasks. A list of horticultural tasks would help to keep a daily record of the activities that should be done, those that have already been done, etc.

Composting

Correct planting requires a good fertile substrate for the seedlings to grow well, which makes home horticulture more expensive. Therefore, even before purchasing expensive seedlings and good quality seeds, you should learn about fertilizing the soil. Then you can go on to other phases like the choice of cultivation, etc. One way to acquire a fertile substrate is composting, where the decomposition of organic matter such as leaves, etc. is practiced.

In the forests this appears spontaneously and is where the seeds of the trees fall and twin, causing new trees. It can be made at home even with a large pot where food remains can be decomposed naturally. It is interesting to add dry and perennial organic material such as sawdust, paper etc. that mixed with organic waste absorbs moisture. It is interesting to make a drainage system like a fine sieve underneath where the substance that would be a liquid fertilizer better known as manure comes out. You can then put a fine filter like sand and foam. A tap in a rubber coupling allows the liquid to escape. The light organic matter that is produced is also known as "Terra Verde" where seeds are more easily germinated. To produce the base of the substrate a good amount of dry leaves and etc is necessary.

Grass seedlings

An interesting idea would be to produce grass seedlings in blocks such as a carpet. You can set up a slanted shelf for the greatest incidence of light and then take advantage of seedlings that have occasionally appeared in the garden without the need to buy grass seed. Making simple block of grass and plants serves start composting.

Liquid fertilizers

Liquid fertilizers are important in a number of ways for the crop, such as the fact that they comb through the soil and are absorbed more quickly by the roots. Among the most common food debris there are some more granulated ones like coffee grounds. Which are easily absorbed by the earth however the coffee grounds make the soil acidic which needs an alternative way of regulating it using for example the crushed eggshell which is mainly made up of CaCO_3 , the calcium carbonate which acts as a base neutralizing soil acidity.

In more severe cases, the analysis of the soil pH should be carried out and then sodium bicarbonate etc. should be used. Other food by-products are rice water, which contains various nutrients for the land. Some vegetables such as potatoes for example contain a lot of potassium, extremely necessary for the cellular respiration of plants, the sodium-potassium pump.

You should boil the potato peel for example to fix the nutrients of the peel in the water and then gradually pour the water so that the plant will absorb the nutrients. Like the banana peel, the egg peel generates a source of calcium that can be crushed and boiled in water to fix nutrients. Some nutrients are better absorbed into bread which keeps the plant nourished for longer. After boiling the potato skin in the water or not taking the potato skin in the sun to dehydrate the skin and then grind it and put it in the plants. An interesting tool in this horticulture hobby would be a shredder suitable for leaves and vegetable debris. However, an old blender can be used, taking care to use it only for this purpose, as its prolonged use accumulates bacteria and germs. harmful to the human organism. crush eggshell, dehydrated potato, banana stem. The dried straw of the plants can generate a protection to the soil of the plants maintaining the humidity for a longer time.

Develop an automated garden.

In view of the exacerbated cost of the items today, it would be interesting to develop a project starting from its cheapest parts. Therefore, in this system, it was decided to start with a simple vegetable garden. From the point at which there are seedlings producing, then it goes on to the point of developing a control system. You can choose analog systems, cheaper like timers etc. You can take advantage of ready-made systems like pharmacy or aquarium thermometers. In the future, when resources are available, cheap microcontrollers such as Arduino, PIC microcontroller, stm 32 etc can be purchased.

aquaponia

One of the alternatives would be For Styrofoam in a glass with green water and Artemias and then For plant seedlings that do not use much light and after that For slugs or other animals at the base of the food chain.

Among the different types of aquaponics, it would be interesting to think of sustainable systems as an aquaponics system where a shelf made with inclined boards is used, where PET bottles are deposited together by the mouth, and first a sealing test must be done to see if there is water leakage and then pierce the cap well with minimal holes, you can even test this system vertically with porous material and then hang vertically and test, first filling the first bottle with sand and placing the seedlings only in the next.

Daily care

One way to germinate the seeds would be to maintain a constant watering could perforate a cap with soldering iron with several holes and by cap in PET bottle and water the seedlings. In view of the fact that the soil usually comes with larger debris that prevents germination, you should sieve the soil initially and then with fertilizer purchased from garden stores or even add worm humus made in a homemade compost to enrich it and after that do sowing of cheap materials such as disposable cups, egg cartons etc. or even putting them in the larger seedlings which would enrich the place where the seedlings grow.

Self-irrigating vases

The use of self-irrigating pots would be a principle of hydroponics, as the plants would already absorb water and soil nutrients and facilitate their maintenance, however it requires a study of the time it would take to water the plants again and better consumption of liquid fertilizer that would be mixed with water

Which of the techniques the plant grows the most

Small vase in the pot with water

Small vase straight on the ground

Aquaponics

By plants on top in an aquaponics form

to Make a Stone Filter and a Valve

to build an Aquarium With nothing first

Aquarium

Among the various plants there are those that adapt to dark places and even those that are found in dark places such as ferns, one could then use cultivation forms such as planting in disposable cups until effective cultivation is achieved, then plant in dark environments such as aquariums etc. a filter can be used to cultivate the green alga known as spirulina which in addition to being very rich in nutrients can logically become an organic fertilizer for plants with inexpensive components like Stone, Sand, soil as for the initial cultivation can be designed and assembled a dc motor agitator next to an initial aerator made from a tire pump. Use an artemia salina breeding site to enrich the fertilizer and feed the fish. Snails can be created as a source of fish food and feed on grass leaves.

Food waste can be used as a form of feed for animals and fish with a homemade oven in a drying system with a sieve to separate the liquid from the solid and an oven to heat a fine grinder and then pack in vacuum bags

Freestanding aquarium

Design an aquarium with capacity and autonomy initially for decoration but that could generate fry for a larger tank.

Robotics

Using the already described process of prototyping robot parts where the parts are drawn in real size and then cut into cardboard, the design can be transferred to thin aluminum plates such as cans of soda and deodorant and then assemble the mechanical arm. with aluminum parts Among the most interesting projects are those that are selfsustaining, that is, that in a certain period pay their own initial cost. There are several ways to carry out self-sustaining projects and most of them require automated control such as robotics.

Solar panel

the solar panel is an important way of transforming sunlight into electrical energy and can be used in several ways, one of which would be in a tenuous lighting of gardens to leds using low voltage and lithium batteries, even those from cell phones etc.. in these places, not much light is required, it becomes simple to charge well-encapsulated batteries. bearing in mind the danger of overheating

Directing arm

In solar panels there is the problem of positioning the panel in such a way that its focus absorbs sunlight because, as we already know, the sun is in motion. It would be interesting to have an actuator for a solar panel, that is, a microcontrolled mechanical arm through sensors of light could direct the panel. In view of the fact that the movement would only be circular, a system with a two-axis arm can adapt. Using your PID control, you should design the function that suits the servo motor's control variables to follow the position of the sun until you always reach the optimum point. As there is still an implicit value in the purchase of solar panels, using in other cheaper projects would make the development more accelerated and consequently the mastery of these technologies for example to use in the solar heater where there is the greatest ease of implementation and the generation of an income. when the income generated in the test reaches a value that pays the initial cost. testing until buying solar panel substantiates the initial project.

Solar stirling engine

Among the countless ways to assemble a stirling engine, there are engines that work in the heat of the sun. The internet is a prolific source of engine designs and utilities. no, even in others such as direct current generators, an interesting application among the reported projects would be in a constant mixing in the solar heater which would heat the water more efficiently.

list system features

search prices

start from the cheapest system

greenhouse with solar lighting

solar heater

biocomposter

automatic fish breeding

biogas generator electric biodiesel generator

water filtration system for aquatic plants

solar water heating system

aquaponics

gravity filter

water reservoir with washing machine pump

enjoy rainwater with PVC gutters and closed water galleon