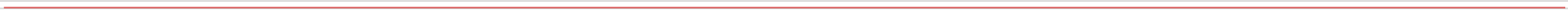


mala škola elektronike



About me

- Dušan Milić M.Sc.
 - Interested in electronics and technology from childhood
 - High school: Tech school “Nikola Tesla” Belgrade
 - Faculty for traffic and transport, Belgrade University
 - 1000 young leaders in Serbia
-

Little School of Electronics

Why I start it?

- I love electronics
 - I know to explain complicated things on a very simple way
 - I have succes in animating childrens
 - My and my wife month salary is not enough for 30 days of living in Belgrade
-

Why electronics & robotics?

- ❑ Electronics & robotics is my passion
 - ❑ Electronics & robotics is important but it is even more important that people gather around ideas that can improve the daily lives of the people
 - ❑ Children interested in the field of electronics & robotics need organized activity in order to improve their knowledge and gather experience.
 - ❑ Robotics is way to gather around children who have the same interests
-

Only electronics is important on the classes?

- Tidying up after work
 - Good behavior
 - Manners
 - How to deal with conflict situation
 - Telling jokes
 - Telling about his success on the other fields (school, sport, music...)
 - Support each others
 - Make friendships
-

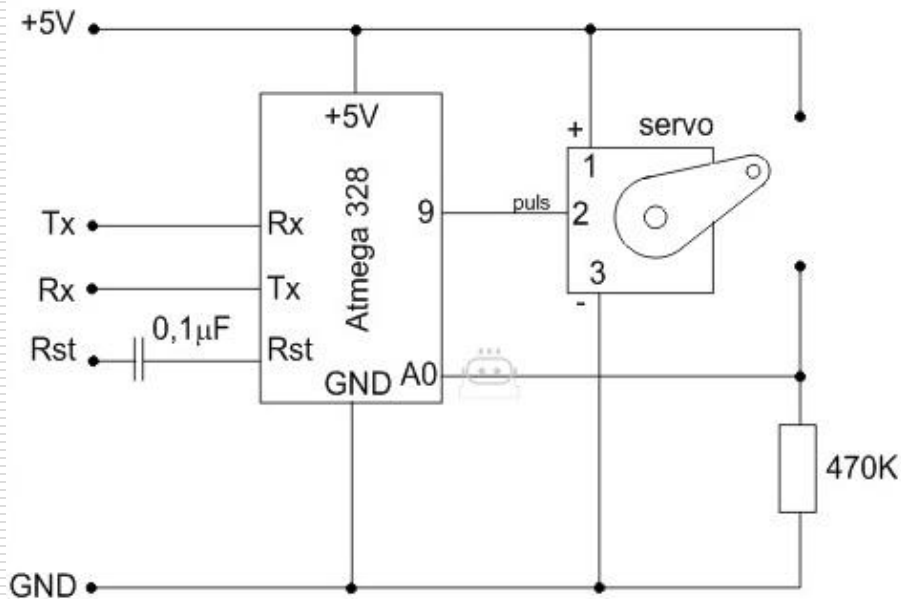
Why is support important?

- ❑ Get from anonymity kids who are interested in electronics.
 - ❑ Show that making the robots is equally difficult, beautiful and important as well as learning how to play an instrument or playing football match. This is impossible by talking about that. This is possible only with experiments that be loved by children.
 - ❑ We selecting experiments that we doing on classes to be appropriate and easy understand in situation when our pupil would like to show experiments in his school.
 - ❑ With his knowledge and with fun experiments that they learn, kids become popular in his schools and among his friends, straight his self-confidence and become satisfied with themselves.
-

Dusan, do you have any example of interesting experiment?

- For every level of knowledge you need to develop different type of interesting experiment.
 - Example: Anything detector – for middle level of knowledge
 - Servo motor, needle, scale
-

Detector of anything



Detector of anything

```
#include <Servo.h>
Servo pointer;
int anything = A0;
int howmanyanything;

void setup()
{
  pointer.attach(9);
}

void loop()
{
  howmanyanything = analogRead(anything);
  howmanyanything = map(howmanyanything, 0, 1023, 0, 179);
  pointer.write(howmanyanything);
  delay(100);
}
```


Detector of anything



First class of electronics

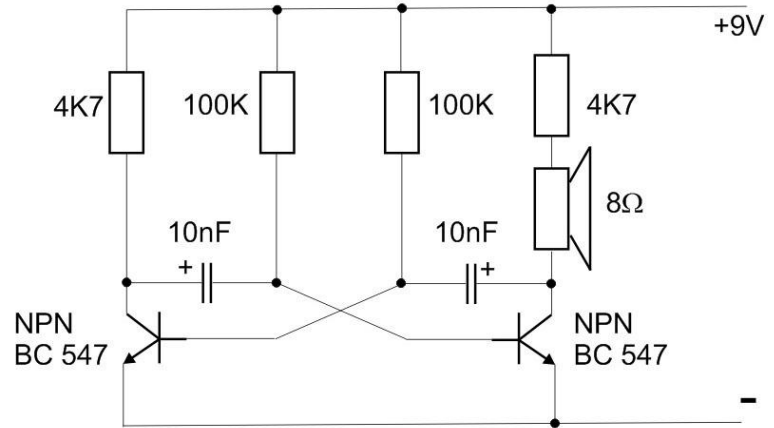
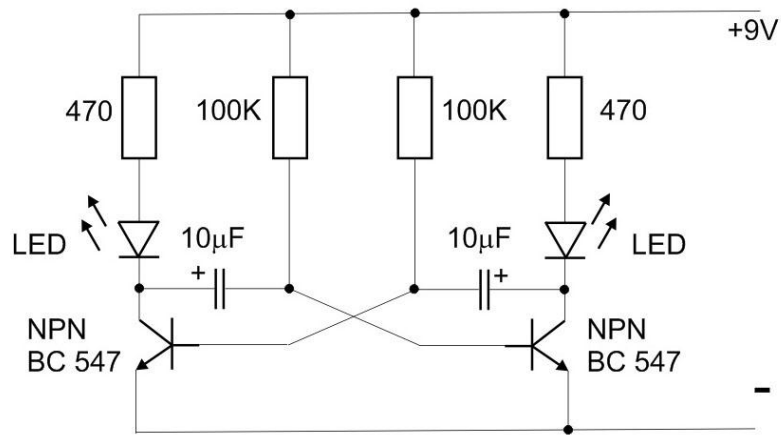
- ❑ Everything need to be very simple. When you think that it cant be simpler you need to simplify again.
 - ❑ For kids resistor and LED is peaty clear but transistor and capacitor always make problems in understanding
 - ❑ Proto board is for us something that is intuitively clear but for children you need to take a time and explain them what is it actually.
-

What else is important on the beginning

- Fun and easy
 - Jokes
 - Take a time
 - Ask a questions often to gather feedback
 - Make games for easy remembering new terms.
-

Make youks or be sirious

Example - how complicated things become simple?



Competition as challenge

- ❑ Challenge on the end of every experiment
 - ❑ Example: What element you need to change in timer in order to switch on LED earlier?
 - ❑ Kids are bored to thinking about something abstract. Give them challenge and they will be very interested to find solution.
 - ❑ Is not good to challenge be very difficult.
 - ❑ Competition is challenge and if kids have enough knowledge they will enjoy solving problems and making robots.
-

How to deal with difficult childrens?

- Difficult children do not want to be difficult
 - They would like to other people pay attention on them.
 - Some kids cant adopt
-

Where I can found ideas?

- ❑ Ten circuits
 - ❑ Three school years of material
 - ❑ Always following area of electronics, robotics, kids education
 - ❑ Always following trends in films, music, TV series
-

How to promote your activities?

- Pay advertisement is too expensive and mayby not efficient enough
 - Free workshop will introduce your activities in right way
-

Free workshops

- ❑ Teach them completely
 - ❑ Kids who will be interested in electronics will come on classes to improve himself.
 - ❑ Kids who is not interested will have one nice afternoon. Kids and his parents will talk about workshop to their friends
 - ❑ TV and newspapers are very interested in to talk about new innovative concepts like this and you will have space in media to promote your activities.
-

Free workshop – Title and content of announcement

- Title – most important
 - Text part of content of announcement is need to be precise and clear: place, hour, age, theme, ...
 - Photo is must of the announcement.
-

Free workshop – content of workshop

- ❑ Simple
 - ❑ Interesting (something to moving around, something to light, something with batterys, easy to make and use,)
 - ❑ Safe
 - ❑ Aproppriate space
 - ❑ Aproppriate educator
 - ❑ Friendly and pleasent approach to parrents and kids
 - ❑ Fun way of presenting
-

What you need to do during important events

- Make photos
 - Photos are very important for promotion
 - Be careful about legal aspect
-

Wath you need to do after important event

Making info for:

Newspapers

Radio

Tv

Facebook

Twitter

Web site

Tv appearances

- Who should appearance on TV
 - In which shows?
 - Preparations kids and educators for tv appearances (speach, clothes).
-

Facebook Twitter

- How to find right photo for Facebook
-

How to make good educators?

- ❑ Guidelines
 - ❑ Example
 - ❑ Provide them experience
 - ❑ Freedom to find its way
 - ❑ Give them filling of safe
 - ❑ Award every attempt to improvement of classes even if fail because it is the path to improvement and success
-

Are you listening your educators?

- Give it a free hands to do innovations.
-

Do not forget...

During this long way you newer forget:

- To enjoy
 - To smile
 - To be happy
 - To be satisfied because you have the most beautiful job on the world
-

Photo of our class



Thank you!
