

LASER ENGRAVER

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Abstract:

The Project that we have intended to focus on building contains many features that benefits the students. The Laser Engraver can engrave shapes, names, and many other sketches on many pieces of objects other than metals and glass. With this great invention, students can benefit from it financially and creatively. This project can be used to help designers create a unique type of sketch that can be used as a design. Also, The Laser Engraver can be used as a financial support for some students by using its own ability to put designs on simple objects that many people can use such as phone cases, handbags, and pens.

Often consumers tend to look for certain engravings that can be catchy and unique at the same time. Likewise, business owners lean to always want the best product to sell. Therefore, this project can satisfy both producers and consumers by providing both a great quality of engraving and a different way of presenting a slogan. For example, an order for “welcome to our home” wooden unique sign was placed from a woman to hang up on a door for her husbands who is coming back from a business trip, but she didn’t find any good designs to use that fits her preference. With this laser engraver, she can create her own design on any piece of wood, rubber, or leather. This project is what’s needed to make all different types of people satisfied, because they are creating an image of what they assume is perfect and amazing to them.

In conclusion, this product has an easy software to use, and a fast way to create a perfect design of a sketch on any surface except metal or glass.

Problem Statement:

Often, you go into a shop looking for a certain engraving on a phone case, or a new “Welcome to our home” wooden sign to hang up on your door, only to find that none of the designs fit your preference. Likewise, Business owners would like to have a wide range of designs for wood, rubber, or even leather, perhaps even an unlimited range of designs, for the pleasure of the customer.

Problem Justification:

With this Laser engraver, you can engrave whatever you could possibly imagine on to a piece of wood, rubber or leather. Whether you’re looking for a new vintage wooden phone case with your very own unique design, or looking to make consumers happy with a wide range of designs, this product is what you need with an easy to use software, and it’s great for business owners looking to add another aspect to their arsenal such as custom phone case, signs, etc. Best of all, it is quick and easy, with virtually no wait time, getting your finished product in a matter of minutes.

Design Criteria:**Form:**

- Product size and Shape: About 8”x 12” rectangle shape.

Function:

- Performance: Allows the user to engrave with a laser.
- Maintenance: Will need minimal maintenance.
- Standardization: Can be used in only in a laboratory.

Materials:

- Aluminum Stick
- Acrylic Board
- Stepper Motor
- Motor Drum in-phase
- Laser Module
- Corner Fitting
- Driver Board
- Synchronous Belt
- 12V Power Adapter
- USB Data Cable
- Cable Slot
- Belt Clip
- Screws
- Screw Nuts
- Spanner
- Violet Laser Engraver

Aesthetics:

- Will have a modern design.

Safety and Legal Issues:

- Needs to wear goggles whenever you use it

Cost:

- \$100-\$200 Retail cost.

Needs:

- To engrave people's names on a wood stick.
- To design for customers what they want.
- To have some sort of graphical wood.

Suggestions:

- Wear safety glasses before using the object.
- Do not try reaching for the laser while the machine is operating.
- Do not run the machine for more than one hour.

Future upgrade:

- Put tempered tinted glass in all sides.
- Fan that can vacuum the smoke.
- Automatic emergency shut off.