



UBORA: Euro-African Open
Biomedical Engineering
e-Platform for Innovation
through Education

Group V presentation

Modular Multipurpose Mask

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Address problems

- Broken nose orthosis and protection
 - If un treated it leads to majors problems
 - Intranasal dysfunction like nasal block
 - Increased risk of sinus infections
 - Nasal deformity

- Facial wounds and disfiguration caused by landmine explosion
 - Protection
 - Esthetical



Existing solution



Custom made mask with high price.



Usually made for athletic.

Our solution

- Modular design with high degree of customization.
- Enjoyable shape: Everybody love Superhero!
- Strong and light material.
- Bandages like interior: easily removable structure with medical function.



The making

Face Gen software for the face

an option is a facial reconstruction using a Kinect and Skanect

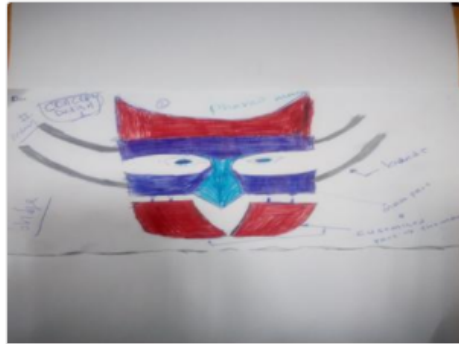
Siemens NX for the CAD part

Then we printed a simplified version



The platform

Voting



PHARAO MASK

Pharaoh mask has two pairs of str...

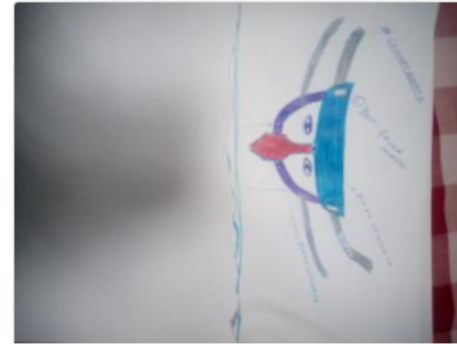
Score: 10.0



Modular Multiple Mask (MMM)

This mask incorporate a design wh...

Score: 17.0



BULL FACED.

Bull faced mask has an appearanc...

Score: 11.0

Future Development

3D print approach is good only for a small number of pieces.

We can 3D print the mold and then we can use the injection molding technique.

For the 3D a good material is PVL, for injection molding PVC.

Add more modular part for boys and girls.

The stickers for increase the esthetic.



Thank you!