

Manufacturing Processes

# 3D - Identification Tag

안정기 (Ahn, Jung Ki)

이재훈 (Lee, Jae Hoon)

손영수 (Son, Young Soo)

곽두영 (Kwak, Doo Young)

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# Do you know who he is?!

## 3D-Identification Tag!!!



# What is “3D - Identification Tag” ??

## Mixing!!!



# Purpose of our project

Ordinary Products Problem

**Sticker/Label?**

No Fun /  
No Personality



**Individualize to you!!**

**Hand-Stamp?**

Only Paper  
Available



**Protect your all  
sorts of goods**

# Why do we select Rapid Prototyping?

## Cases

- Relief (부조) Type – Carving (조각), Modeling (소조)

**Difficult Process for detail & small face surface**

- Face impression (death-mask)

**Only for 1:1 ratio, We want small size.**

- **Rapid Prototyping**

**Reasonable Size!!**

**Detailed expression!!**

**Fast Process!!**

# Process

 Take a Picture of your face!

 Rapid Prototyping

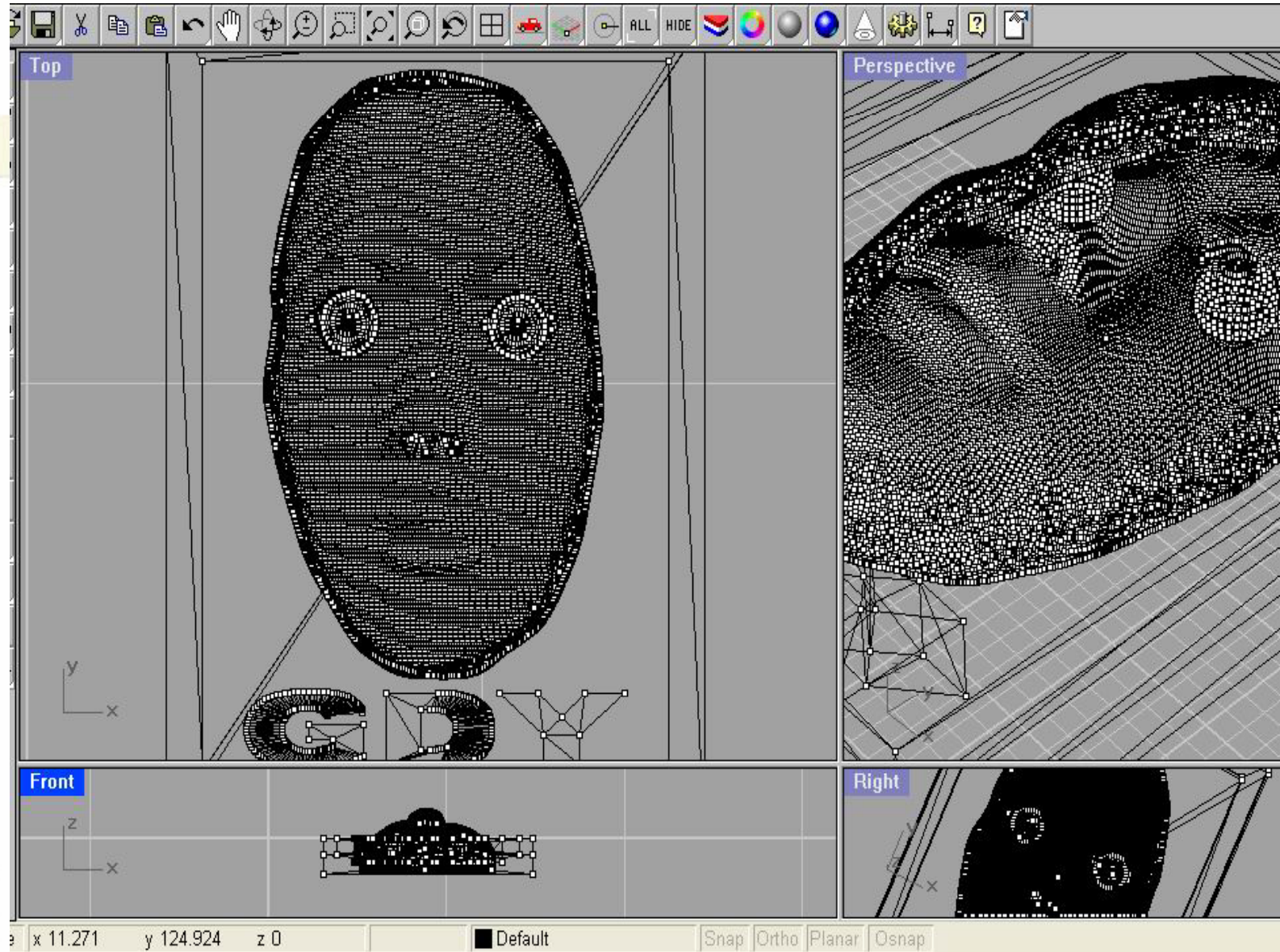
 Color Change!

**3 Steps**

12.33D Printing Colored



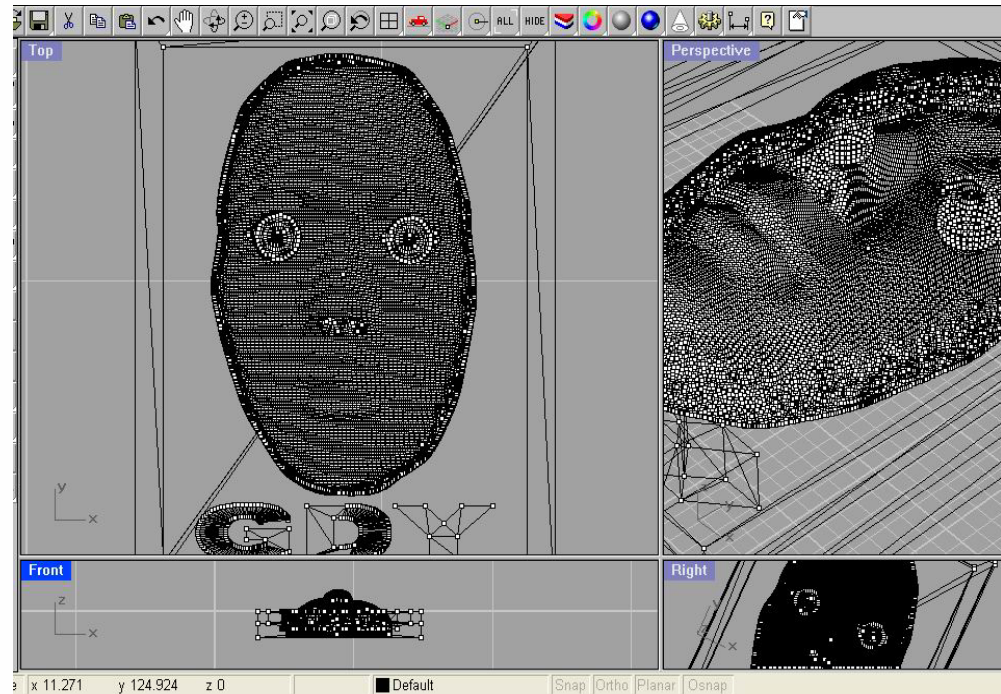
# Processing 1



# Processing 1



- product : 3DMetrics  
- scanner : 3Dflash!  
- software : 3DFlash!Cra1



1. Capture the face & revise the image  
by *3ds max & Rhinoceros Program*
2. Fixate 30mm x 40mm x 8.7mm size
3. Carve name initial : *GDY (sample)*



## Processing 2 - 3D printer



## Processing 2



Contex Design Mate Cx	
Size	254 x 396 x 203 mm
Speed	2 layers per minute
File form	*.STL
Resolution	600 x 540 dpi

**3D Printer** by Contex corp. is the **RP Machine** that exactly manufactures 3D physical model for **computational design**.

→ **More Efficient Process**

→ **Fast Speed**

→ **Superior Quality**

# Processing 3



# Processing 3

1. Imitation Gold

2. Intuos3 Ink PEN  
Powder - Yellow

3. Color change Available

4. Harmless chemicals for human beings.



# Application



Surface Roughness Comparison



Silicon Molding /  
Real Gold-plating



Hot Melt - Bonding

## 3 Steps

1. Digital Microscope  
mass-produced!!



# Surface Roughness Comparison



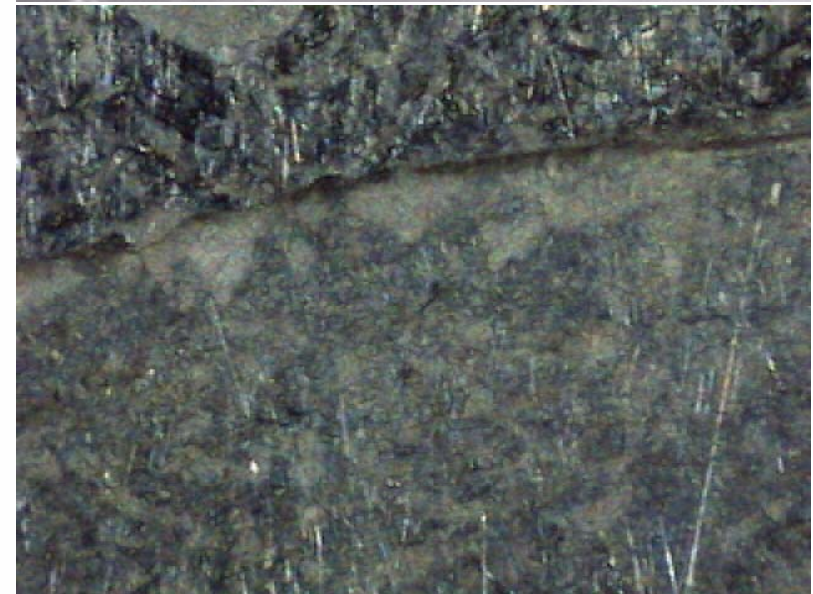
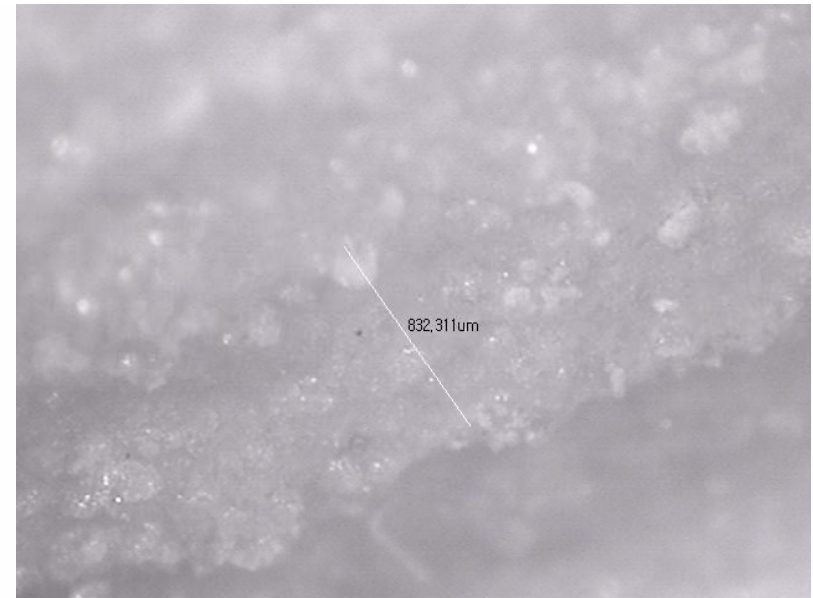
# Surface Roughness Comparison



1. Our Product's Surface  
By Digital Microscope  
(x100)

2. Coin's surface (x 140)

3. Roughness Comparison Specimens



# Silicon Molding





# Silicon Molding



- 1. 3D Tag by RP : - contract with commercial firm  
60,000 Won / proto ID tag  
Excessive price → Useless!!**
- 2. 3D tag → need reproductions.  
Use silicon molding & thermo setting resin  
(Epoxy or Urethane), make reproduction**

# Price

15~20 clone ID tag from 1 silicon based mold.

Price Calculation (Won/tag) :

(price based by <http://www.agamimodeling.co.kr/> )

List (process/30(ea))	Unit Cost	EA (unit)	Cost (Won)
3D Scanning	5000	1	5000
CAD Process	5000	1	5000
Rapid Prototyping	30000	1	30000
Silicon Molding	1350	2	2700
Duplicated casting product	100	30	3000
Adhesives & Packaging	1000	1	1000
Gold-Plating (Optional)	100	30	3000
<b>Total Cost</b>			<b>49700</b>





# Conclusion

**-New Method by using  
Rapid Prototyping (RP)**

**Quantity Production  
Available!** (Not Mass Production!!)

**-Luxuries Products by  
plating real gold (18K)**

**-Easier to use because of  
Hot-Melt Adhesives**

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*Thank you...*

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