

KROMA

watch



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Introduction

Watch is defined as a small timepiece worn typically on a strap on one's wrist. Has watch always been the same from the start? No, the evolution has been from sundial to smart watch. Initially Men used to use it as a pocket watch and women on wrist as a fashion statement. Later during war men started tying it to the wrist for ease of use and this trend continued to evolve the pocket watch to a wrist watch. Watch has always been a fashion statement from the starting.

The technology has also evolved over the time from analog to digital to smart watch. In the present scenario a watch has changed from a timepiece to a fashion statment, navigation system, health monitoring unit etc. Even though many modifications and improvements have been done to structure and functionalities, the basic structure and functionality (Viewing time) remains the same (as seen in the image below).

Each user has different perception of a watch. It may be percieved as a time tracking device, a lifestyle tracker, a life assistant, a momento (may have an emotional attachment -gift from special person,


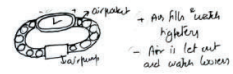

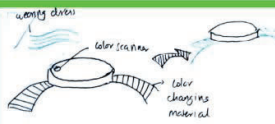

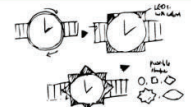

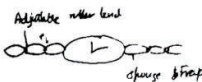



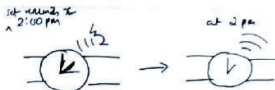
fruit of the ambition, prize of some activity), fashion statement by some, yet for others it'll be a sign of prestige.













When it comes to a prosumer, how much freedom has been given in the field of watch? Mainly Aesthetic and appearance freedom has been provided. There are watches like Lyke, Unity Watches etc which provides platform to change the appearance of the watch they are wearing. In Lyke they are given complete freedom to change any time whereas in unity they are given initial freedom to create not change after that. In terms of functionality, much freedom has not been given to the user. In smartwatches, options to create apps, and change the hardware (Blocks) have been given. But is it giving complete freedom to meet the desires of the users?


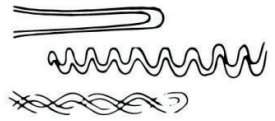







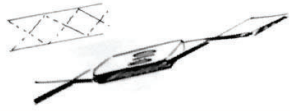


As a user i would like to change my watch according to the occasion without buying new ones every time. For ex. I would like a compass on my watch when i go for trekking, or i would like my watch to look royal when i attend a function etc. the desire of a user keeps changing. How can we meet the changing desires of the user by using the concept of prosumer?

Introduction

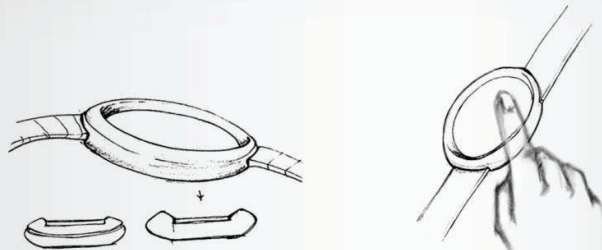
NEED	FUNCTIONAL ANALYSIS	IDEA SAMPLE	PRINCIPAL OF OPERATION	NEW IDEA	DESIGN
Changeable Form	Skin		The skin gradually changes its size, texture and elasticity with time	The watch can change its form with time or climate.	
	Owl neck		Owl neck can rotate in 360 degrees.	The watch may be reversible and used in any side that can act as fashion statement	
	Hair		Hair strands can be knitted in different patterns and forms.	Different strands can be given to the user which can be woven in different forms	
	Shoe Laces		Shoelaces can be changes all the time, while shoe being constant.	The watch straps can be matched to the user's clothes and changed everyday.	
	Origami paper fortune teller		With different kinds of folds the paper object can change its form.	Different components can be given to the user and the watch can be build.	
	Rice		Rice inflates when boiled / cooked	The straps can inflate to alert some function like alarm or after every hour	

NEED	FUNCTIONAL ANALYSIS	IDEA SAMPLE	PRINCIPAL OF OPERATION	NEW IDEA	DESIGN
Changeable Form	Balloon		Shape of balloon can be changed by amount of air, twisting and bending.	Watch strap length adjustment using air	
	Chameleon		Changes colour according to situation	Watch with colour capture and the strap changes colour according to captured	
	Turtle		Turtle legs and head goes inside in case of danger	Watch dial shape can be changed according to need of user	
	Sponge		Using rubber bands you can create multiple shapes in a sponge	Sponge shape with adjustable position of rubber band	
	Invisible Ink		The colour produced when two chemicals react	Strap which can be painted and designed as user wants	
	Parrot		Repeats whatever people say	customizing reminder and alarm in the watch -memories stored	

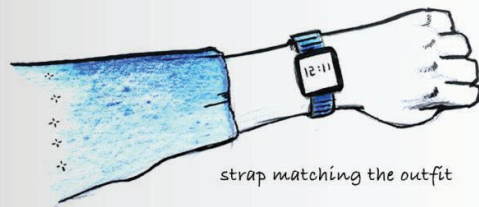
NEED	FUNCTIONAL ANALYSIS	IDEA SAMPLE	PRINCIPAL OF OPERATION	NEW IDEA	DESIGN
Changable Forms	Balloon		Blow air and convert them by squeezing and turning	Blow ans squeeze to change form	
	Origami		The sheet can be folded to make various shapes and forms	Fold in mltiple patterns depending on the need.	
	Clothes		Can be used to change colour and stiching patterns.	Conducting yarns made as patterns	
	Shape-Memory Polymer		Transparent plastic sheets, change in form according to temperature	Change in form depending on the temperature	
	Cotton Candy		It is spinned on a wheel and multiple layers can be squeezed to forms	Spin and squeeze	
	Leaf		Change in size and form happening due to ageing and weather	Change in colour depending on time and climate	

NEED	FUNCTIONAL ANALYSIS	IDEA SAMPLE	PRINCIPAL OF OPERATION	NEW IDEA	DESIGN
Changable Forms	Snakes		Can Change shape based on terrain and space	Rubber like material can be used to make differnt shapes of the strap	
	Block Toys		Small unit used to make different forms	The units can haxe different functionality	
	Clay		Easily mouldable	Shape of dial can be changes using clay like material and moulds	
	Chameleon		Colour changing / camouflage	Use some chemical property to change colour of parts	
	Paper Origami		Paper folding to make different shapes	Material can be folded into fifferent shapes to get various forms	
	Touch-me-not plant		Loses water (shrinks) on touching	The stratp of the wathc will inflate and shrink according to situation	

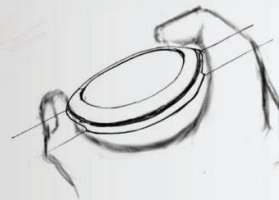
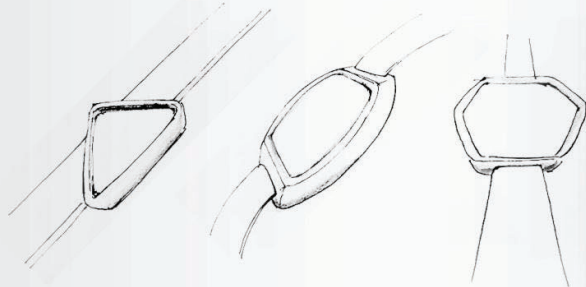
Ideation Sketches



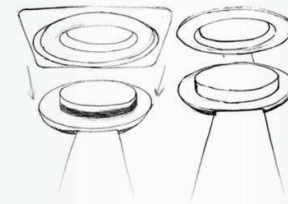
Interactions with a clickable face



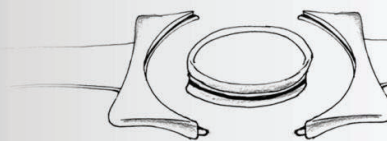
strap matching the outfit



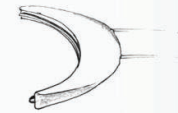
Interactions with a rotating rim



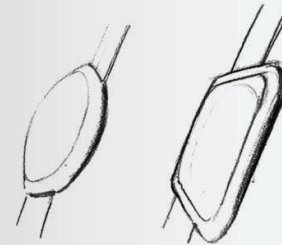
Changeable frames with a fixed



Changeable straps with different



oval shaped frame





KROMA

Imagine you can craft your watch according to your desire. Suppose you are going out today, wearing your favorite dress, or you come across a vibrant flower in a park, or you have to attend a meeting. What if you can match your watch to your dress, or that flower or choose an elegant form for the watch for your meeting. Kroma is an interactive wrist watch which can pick any color the user wishes from their immediate surrounding and can choose a preferable form for the frame of the watch.



Selection Switches

Highly sensitive micro switches to select/Change the color and Time

Attachable cover frame

Various forms of attachable frames to select from.

Digital Display

OLED based digital display.

Conductive Magnetic Strip

Neodmium based magnetic strips for holding the attachable cover frame to the base.

LED feedback ring

RGB based LED ring for feedback purpose

Color changing strap

Strap changes the color based on the sensor input. It is made of thermochromic ink dipped conductive yarn that changes the color based on the supplied heat.

Color Sensor

Sensor for detecting the cloth color



Sensing a new color



Long press both buttons to start color sensing



LED Feedback ring displays the existing color



Select the color using the **sensor**



LED Feedback ring displays the Sensed color



Press on the right side of the watch to **accept**

Selecting color from history



Single press both buttons to display history of colors



Press right or left to browse colors



Single press both buttons to accept

Changing the shape of the cover frame



Pull out the square frame



Replace with another frame and snap using magnet



