



HYPOTHESIS



Self-motivation is crucial to making a business dream become a reality, but humans are prone to procrastination.

Investigate how product design can motivate future entrepreneurs to give flight to their business ideas.



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WHO STARTS BUSINESSES? WHY?

Social Entrepreneurs

- / Motivated by a desire to address social and economic problems of the world.
- / Profit is secondary to making a difference.



John Bird
Founder, The Big Issue



Serial Entrepreneurs

- / Motivated by the desire to start new businesses, regardless of business content.
- / Represented in the media as possessing a higher propensity for risk taking, innovation and achievement.



Richard Branson
Founder, Virgin



Lifestyle Entrepreneurs

- / Passion before profit
- / Combine interests and talent with the ability to earn a living.
- / Business usually centers around creating something.
- / Most common area of entrepreneurship with young people.



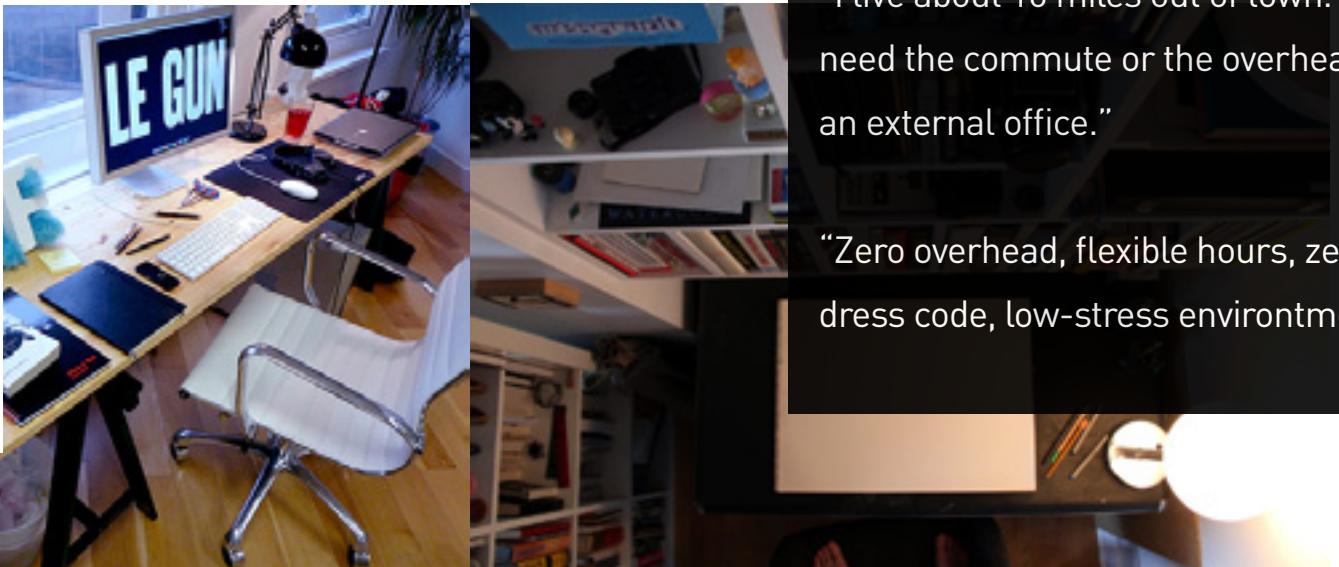
Mark Zuckerberg
Founder, Facebook

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WHERE DO PEOPLE START BUSINESSES?

In the Home

- / No overheads
- / Surrounded by resources and communication infrastructure needed
- / No commuting
- / Flexible working hours
- / Minimises financial risk



Collaborative Workspaces

- / Great for networking
- / Surrounded by resources and communication infrastructure needed
- / Home/work separation
- / Semi-flexible working hours
- / Purposeful environment



WHY START FROM HOME?

- Survey issued to graphic design/freelance forums

"I live about 10 miles out of town. I don't need the commute or the overhead of an external office."

"Zero overhead, flexible hours, zero dress code, low-stress environment."

WHY START FROM A COLLABORATIVE WORKSPACE?

- Interviews conducted at The Hub, Kings Cross

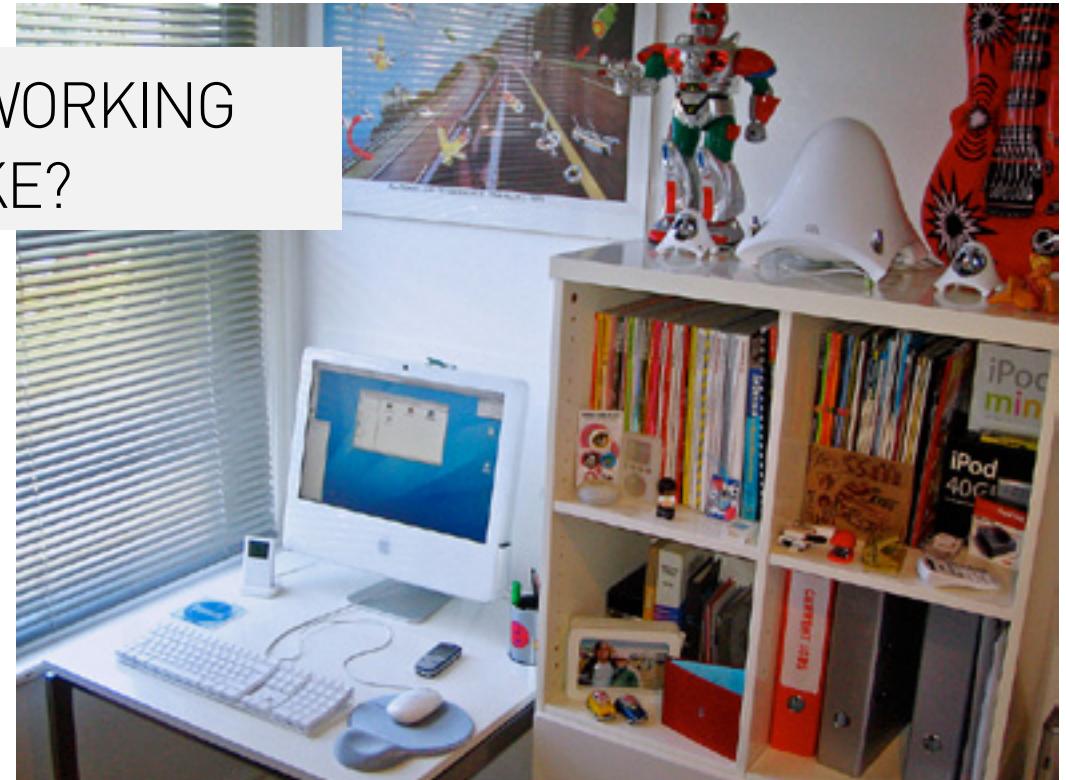
"I feel like I am here solely to work so I am more productive"

"I can't switch off if I work from home, I need the physical separation of space"

03

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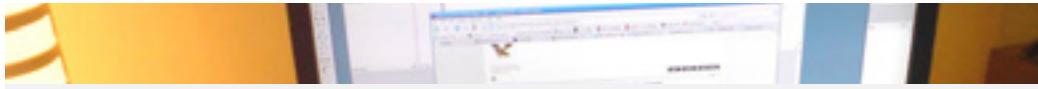
WHAT DOES THE HOME WORKING ENVIRONMENT LOOK LIKE?



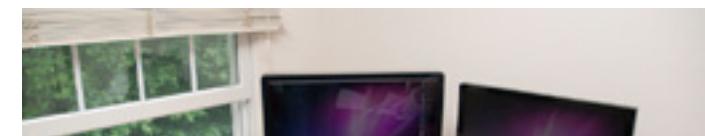
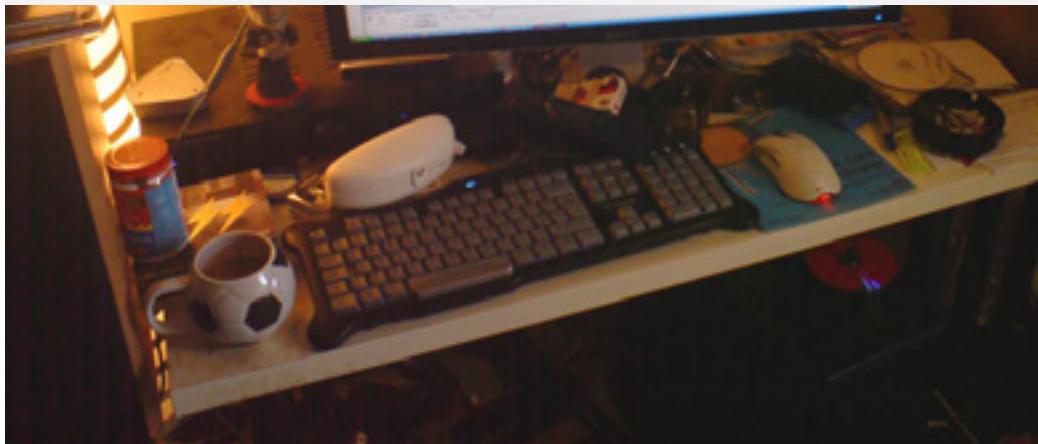
OBSERVATIONS

- / The computer takes center stage
- / Anthropomorphic figures on/around space
- / Colourful with neutral elements
- / Personal items mingle with work
- / Environment has a happy personality
- / Computer hardware is often themed in colour

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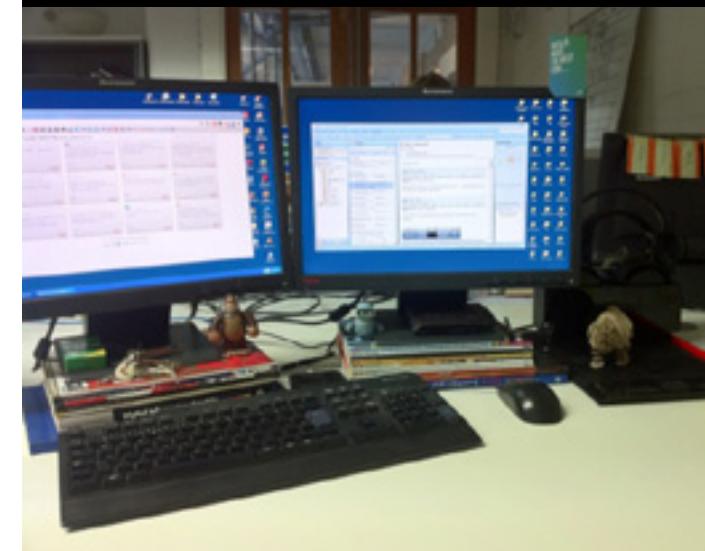


WHAT DOES THE HOME WORKING ENVIRONMENT LOOK LIKE?



OBSERVATIONS

/ Desk space is precious, and there can be many things competing for it.



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The screenshot shows a forum post titled "Working from home" with 296,811 posts and 11,012 threads. The post discusses various aspects of remote work, including loneliness, lack of motivation, and difficulty separating work and life. Other visible forum categories include "general forums", "general Q&A", "designing", "help", "advice", "issues", "tips & tricks", "general designs", and "social media".

Research method: Survey

Working with two online forums for graphic designers I asked what people disliked about working at home.

Issue 1: Solitude

Key Quotes:

"If you work alone it does get lonely. Sometimes you need that office banter. Facebook and skype fixes that for the most part."

WHAT ISSUES DO PEOPLE WORKING AT HOME FACE?

Research method: Conversations

Speaking with home working entrepreneurs and home workers in general allowed for some informal conversations about issues working from home, backing up my survey research.

Issue 2: Work / Life Balance

Key Quotes:

"Can sometimes get a little 'cabin fever' from both working and living in the same place all of the time."

"Sometimes I wish I could seperate work from home."

Issue 3: Distraction / Lack of Motivation

Key Quotes:

"There are sometimes more distractions, but at the same time there can also be less. It is easier to go into deep thought at home, but grinding out something obvious feels a lot more tedious."

SURVEY QUESTION / WHAT DISTRACTS YOU THE MOST AT HOME?

*THE
INTERNET*

Websites

Social media

*Random internet
surfing*

*the whole f**king
internet!*

*Doing the
dishes/laundry*

*Messyness - since it is
something 'good' to be
doing I feel like I am
working.*

Housework

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WHAT ISSUES DO PEOPLE WORKING AT HOME FACE?

Research method: Observation

After having a conversation about what work he had to do, and taking a copy of his to-do list, I surprised my subject at random intervals throughout a day by walking into his room and recording what he was doing.

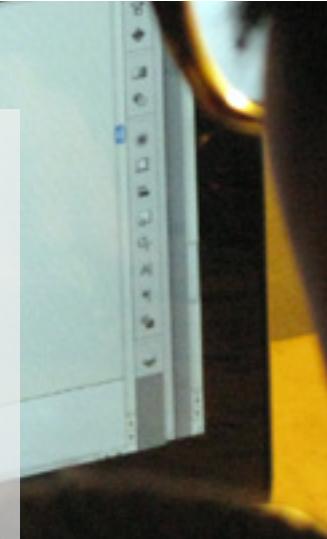
Over 10 separate visits I recorded the subject using Facebook and Youtube 5 times - 50% of the time!

Often, asking what he should be doing prompted a switch back from the digital procrastination to his work.

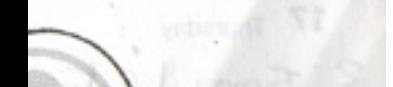


/ COULD A PRODUCT TELL SOMEONE IF THEY ARE PROCRASTINATING?

/ COULD SHOWING SOMEONE HOW MUCH THEY PROCRASTINATE SHOCK THEM INTO WORKING?



13 Sunday 十八日
Sort out a proper direction of UNIT 10 + 11.
Think about a specific theme
as well as a



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WORKING AT HOME GIVES PEOPLE THE
FREEDOM OF AUTONOMY - THEY CAN
BE AS EFFECTIVE OR AS DISTRACTED AS
THEY MAKE IT.

SELF-CONTROL IS KEY TO BEING
EFFICIENT.

WHAT DISTRACTS PEOPLE?

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Digital



DISTRACTION

When you work alone, the culture of 'work' just isn't in the air; it's easy to get distracted

- Patrick Laing, Designer



Housework

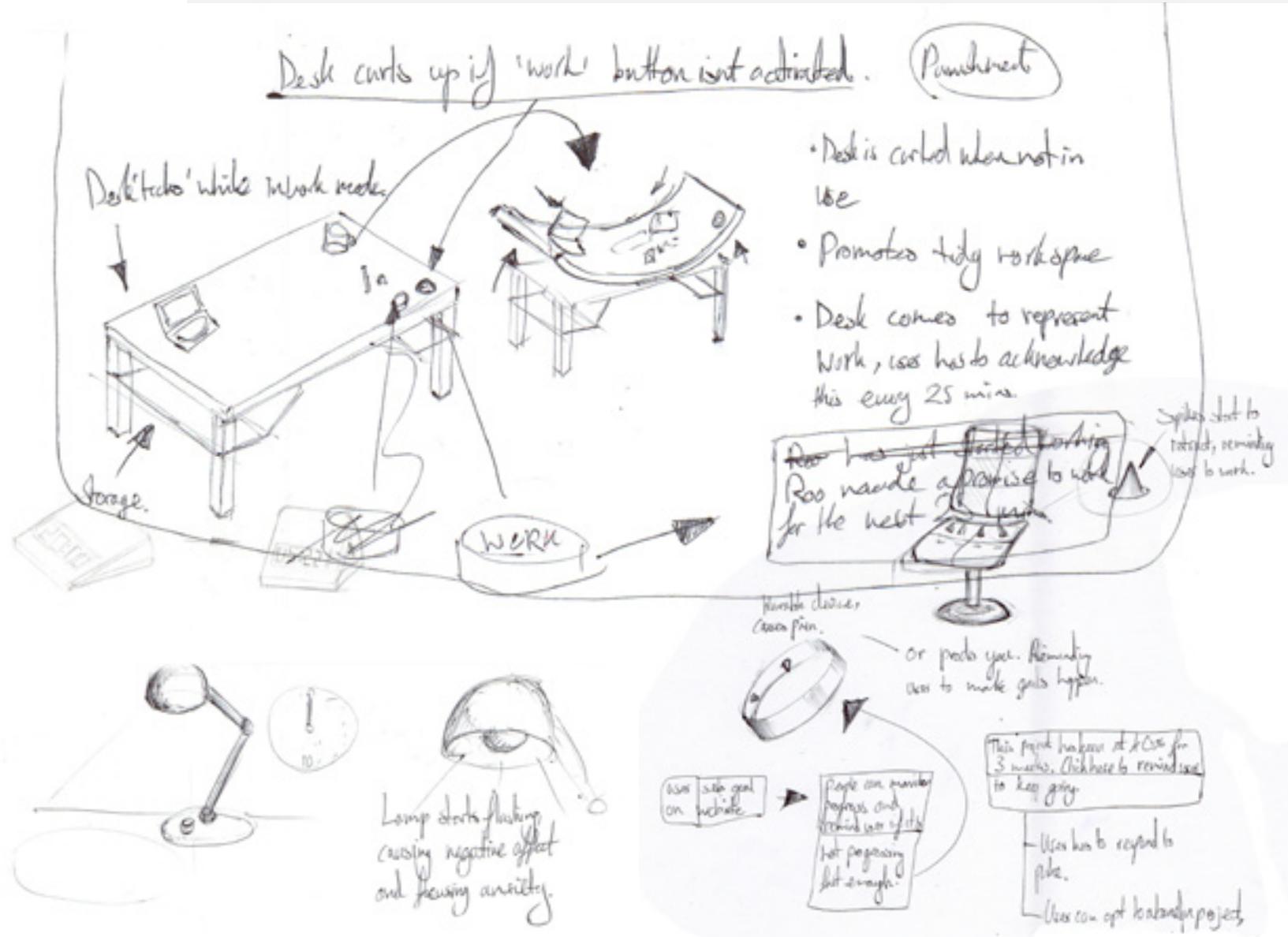


"Since it's something 'good' to be doing, I end up cleaning during the day."

- Lilli Keinaenen, Graphic Designer

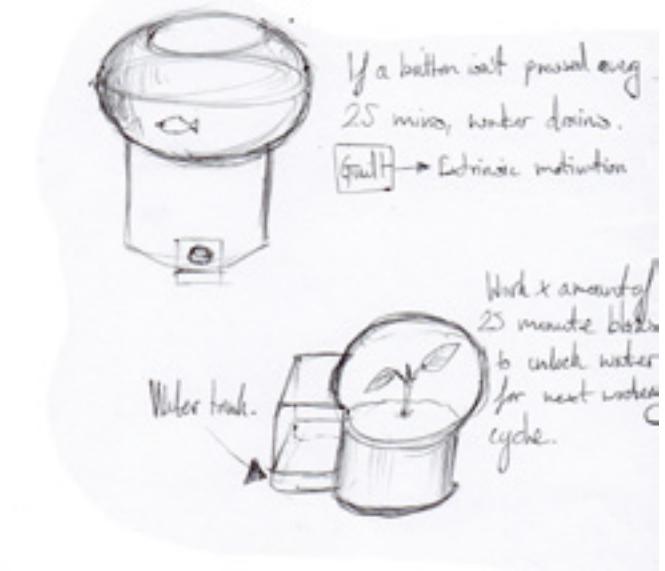
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IDEA GENERATION



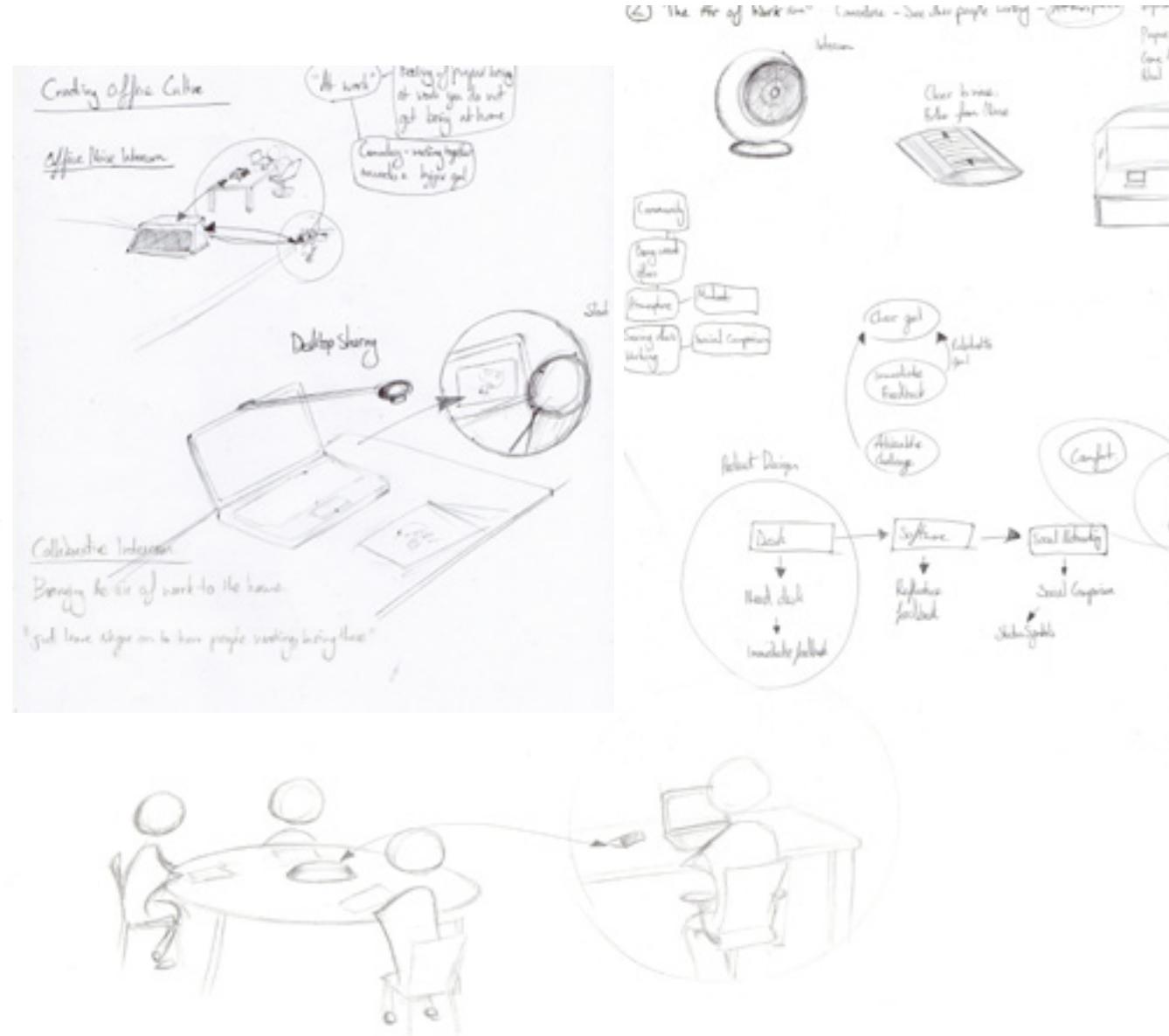
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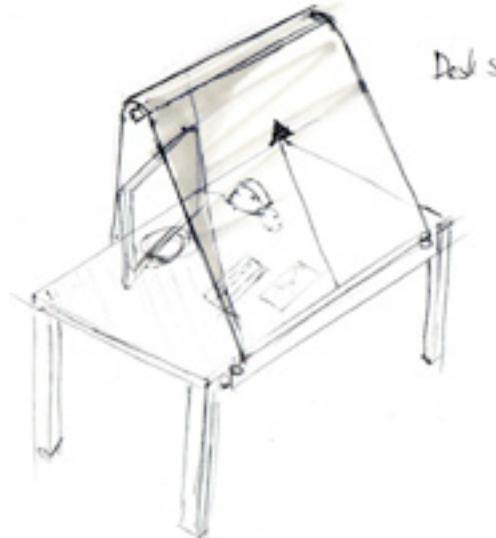
Roll around with time → Air of activity
Nothing makes in our environment.

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WORK/LIFE BALANCE



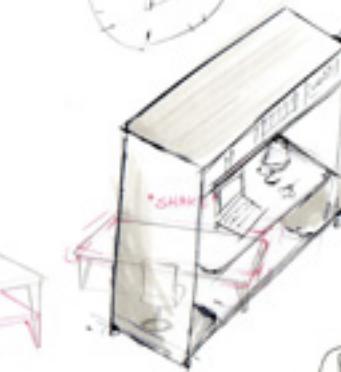
Life Siren



Monitors computer activity
Alerts user to leave
computer at the end of
a working day.



Automatically closed
at 6?

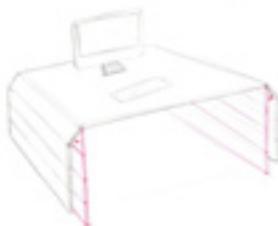
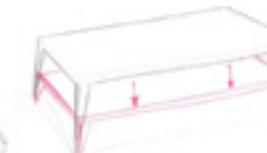
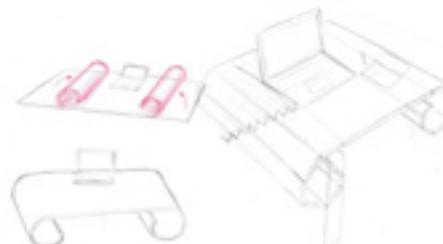


Control
What happens to the mechanism
after the user has become
proficient at working?

Finds potential
function of the
desk

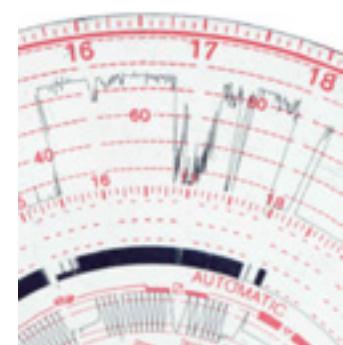
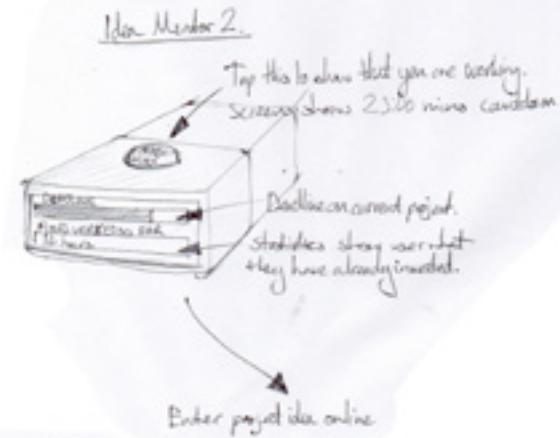
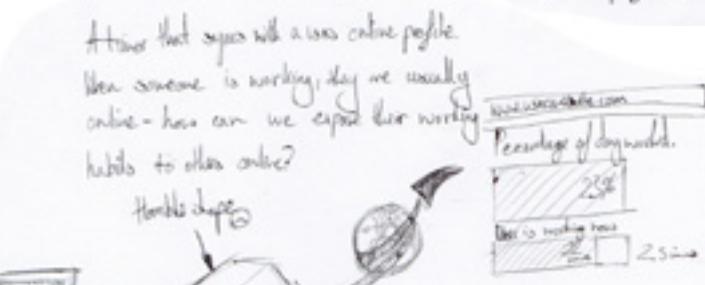
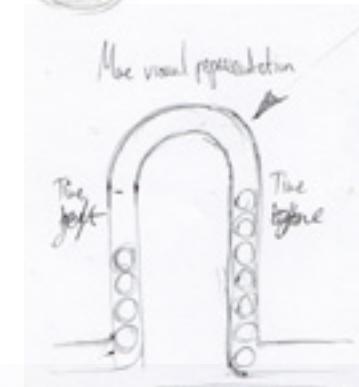
Reaches waters
Does the training bot
need to be the
whole desk?

Desk 'logger'



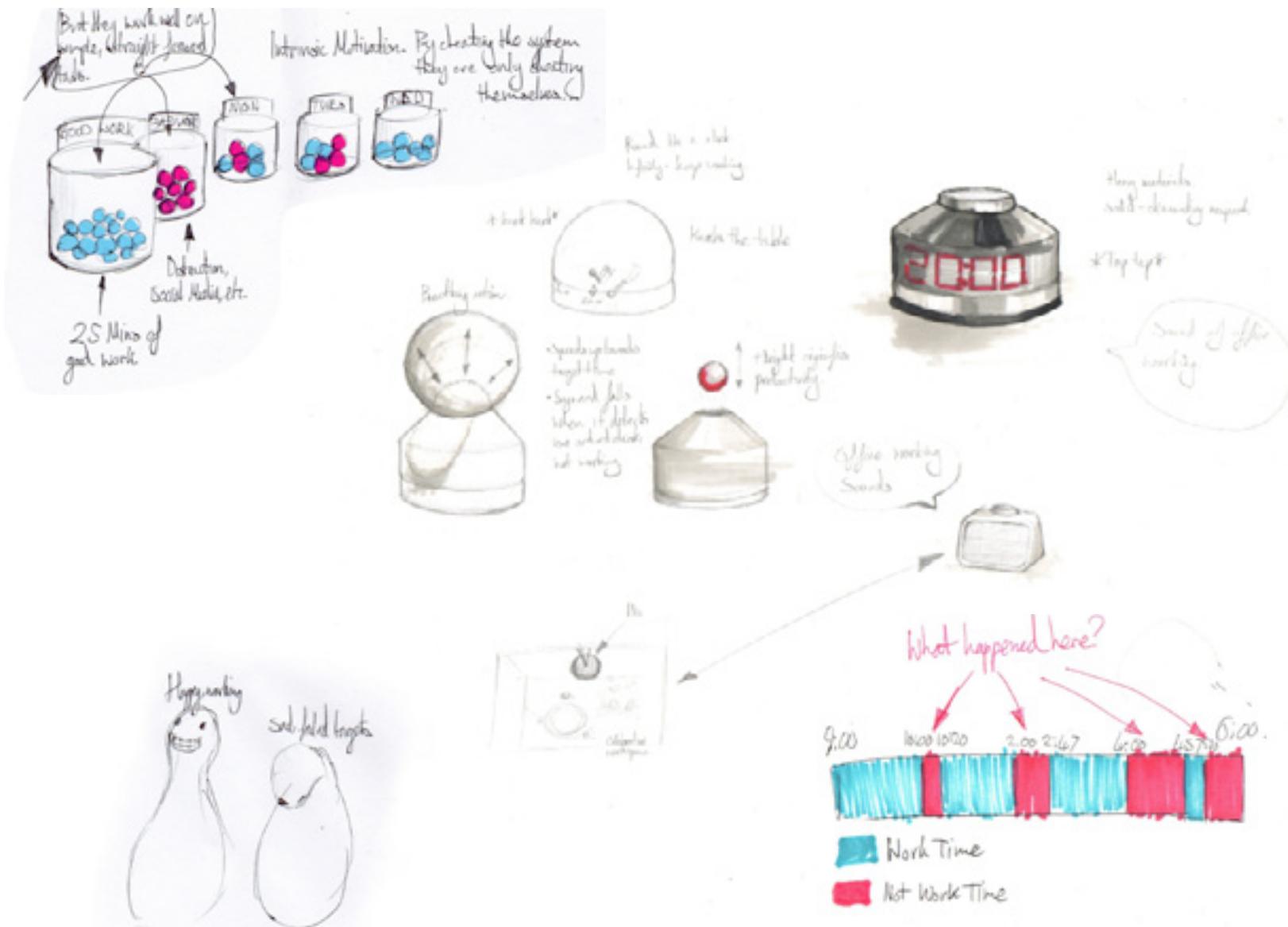
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GAMIFICATION / MOTIVATION / SELF-ANALYSIS



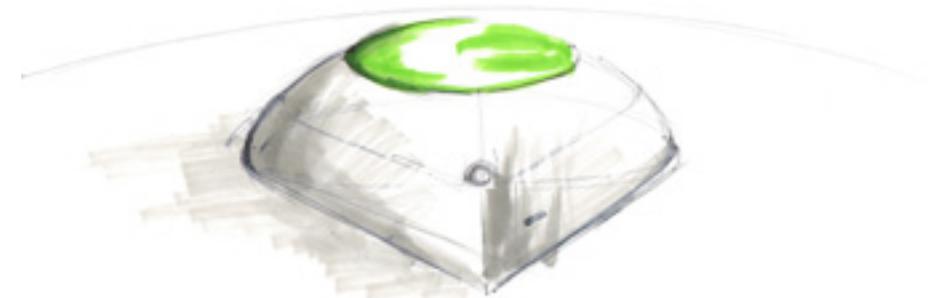
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GAMIFICATION / MOTIVATION / SELF-ANALYSIS



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CONCEPT 1 THE AIR OF WORK

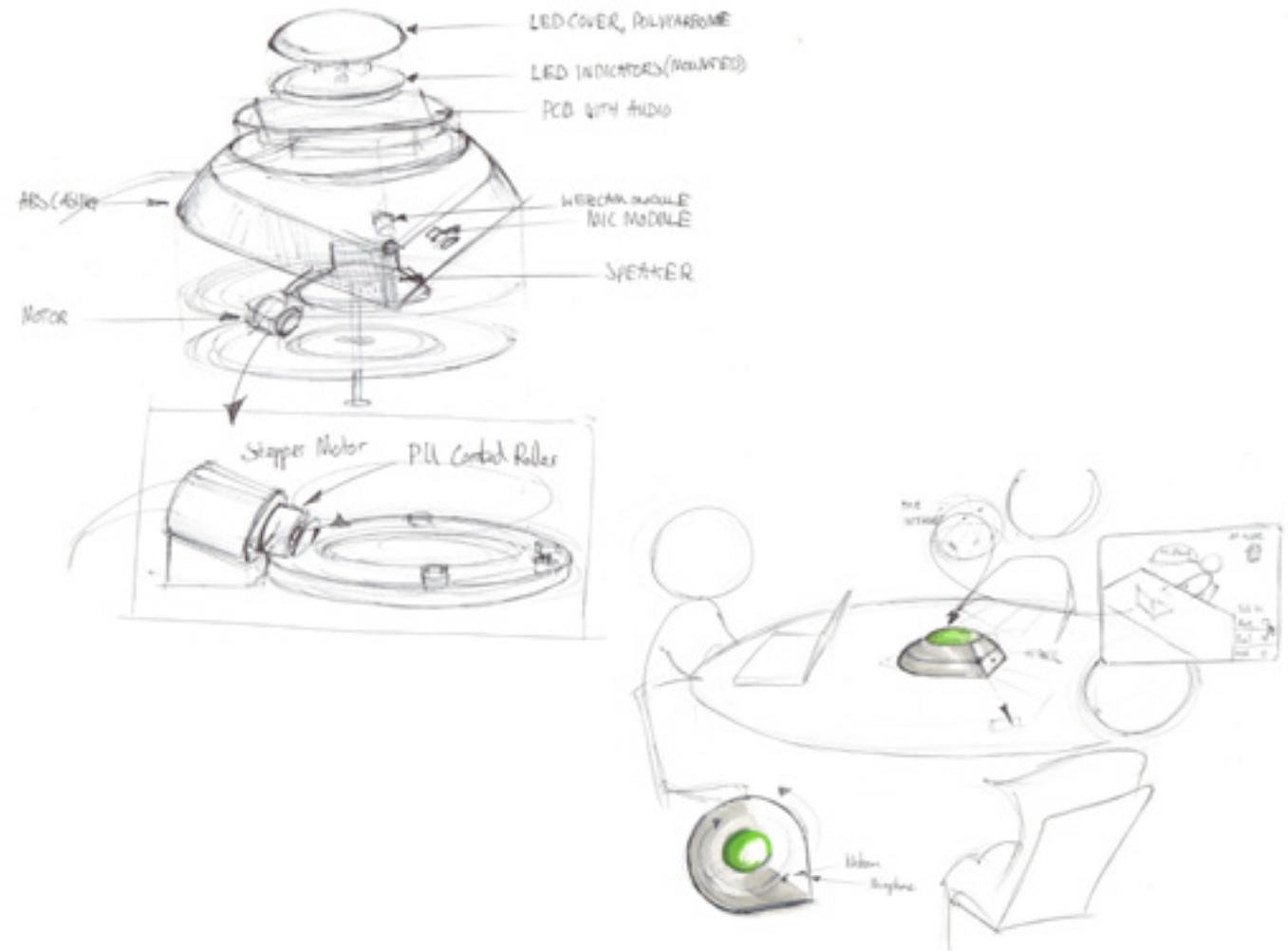


Insights

"When working from home I am constantly connected to my friend via Skype even if we aren't talking.

It is nice to hear the sounds of someone working."

"I listen to Radio 4 while I work so I hear others talking, live. It feels like company. The hourly news updates help me section my day."



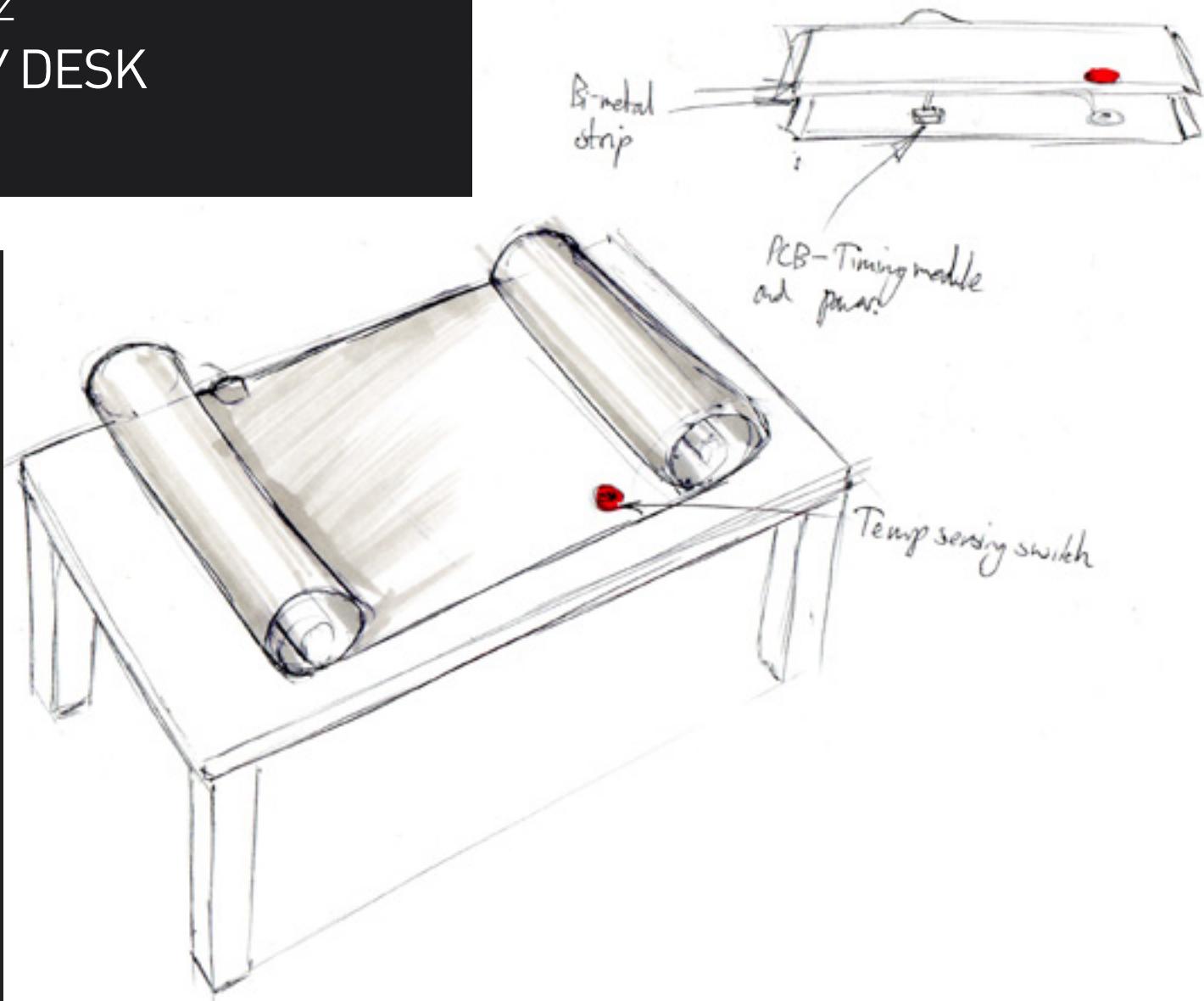
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CONCEPT 2 THE BOSSY DESK

Usage

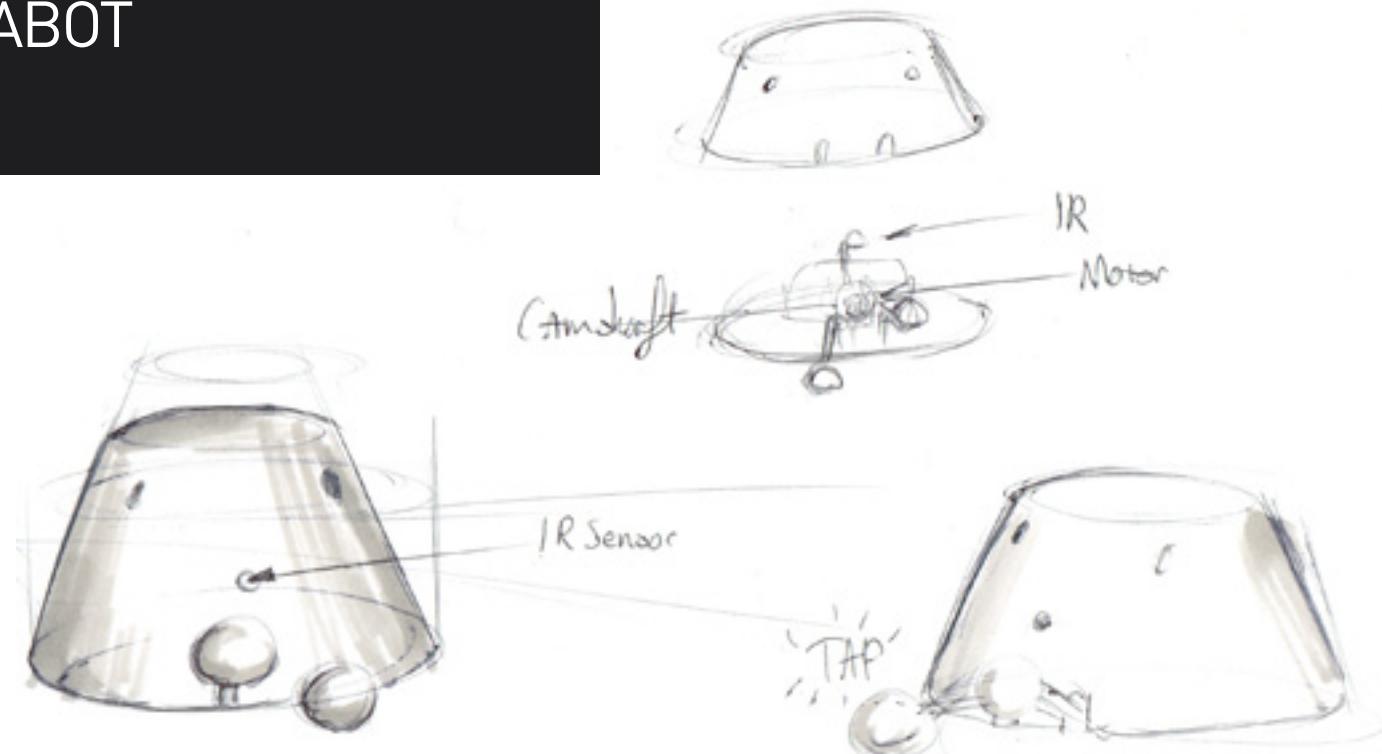
People sometimes only become aware of procrastinating when they are told.

This desk 'topper' rolls up after 30 mintes, indicating how much time has passed and forcing the user to evaluate what they are doing at the desk



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CONCEPT 3 SURVEILABOT



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TARGET USER

Creative Entrepreneur
**Someone that unlocks the wealth
that lies within themselves so that
they may build a business using
their intrinsic creativity.**

**Examples: Journalists, artists,
designers, jewellers**

SECONDARY RESEARCH: GAMIFICATION

"The more a job inherently resembles a game - with variety, appropriate and flexible challenges, clear goals and immediate feedback - the more enjoyable it will be regardless of the worker's level of development".

(Csikszentmihalyi - Flow, 2002)

COULD A PRODUCT USE
GAMIFICATION PRINCIPLES TO
INCREASE MOTIVATION?

Examples



Nike Fuel

Said to be "the ultimate measure of activity." Nike fuel uses a wristband with an accelerometer integrated to detect and record a user's daily activity. The statistics gained are uploaded to a computer and converted to infographics for the user. The system also helps the user set activity goals and rewards them with recognition for completing them.



Visual Studio

Aims to encourage users to learn a programming language by rewarding them with 'badges of honour' for using complex features.

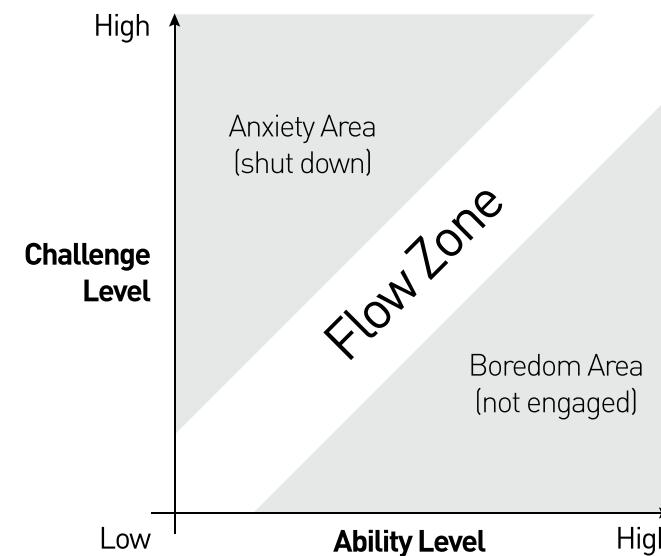


SECONDARY RESEARCH: FLOW STATE

THE OPTIMUM WORKING STATE

The flow state is an **optimal state of intrinsic motivation** to perform a task. The person becomes **fully immersed** in what he or she is doing.

Creative stonemasonry is an example of flow-enabling work, driven by intrinsic motivation. Among other benefits, it consistently **challenging**, demands a strong **vision** of the final outcome, and provides constant sensory **feedback** during the working process.



This diagram represents the challenge aspect of a task, and how it relates to flow state.

The user's goal must be just above their skillset, but not so much that the user feels it unreachable, nor too easy that the task becomes boring.

COULD A PRODUCT HELP CREATE THESE CONDITIONS?

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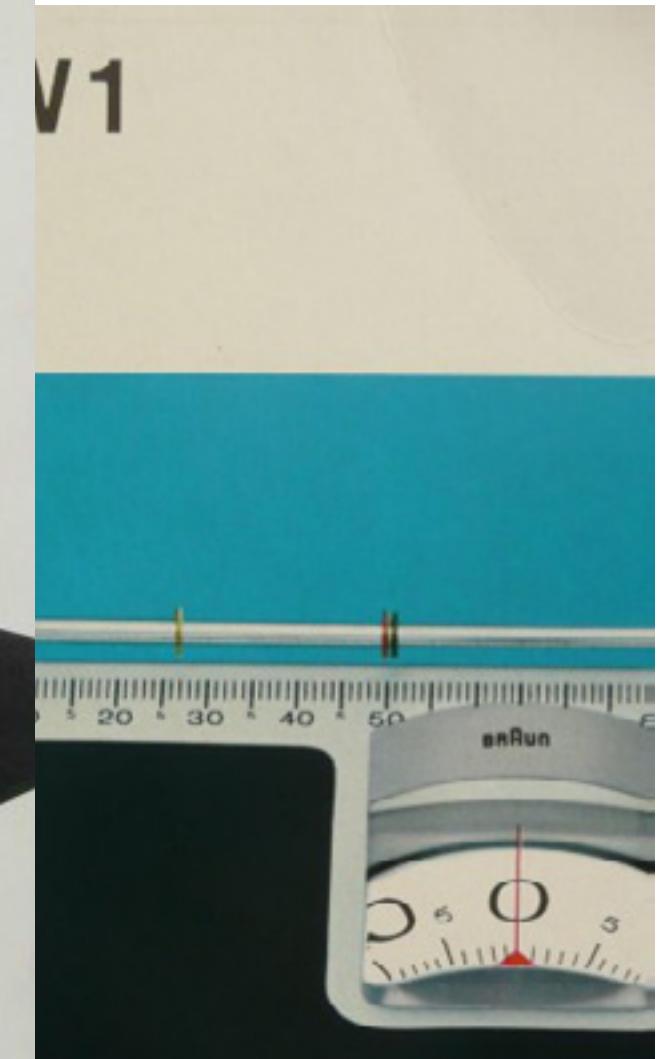
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DESIGN LANGUAGE RETRO / VINTAGE

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Braun+Design Tax



PRECISE, EFFICIENT,
SOLID, LOYAL

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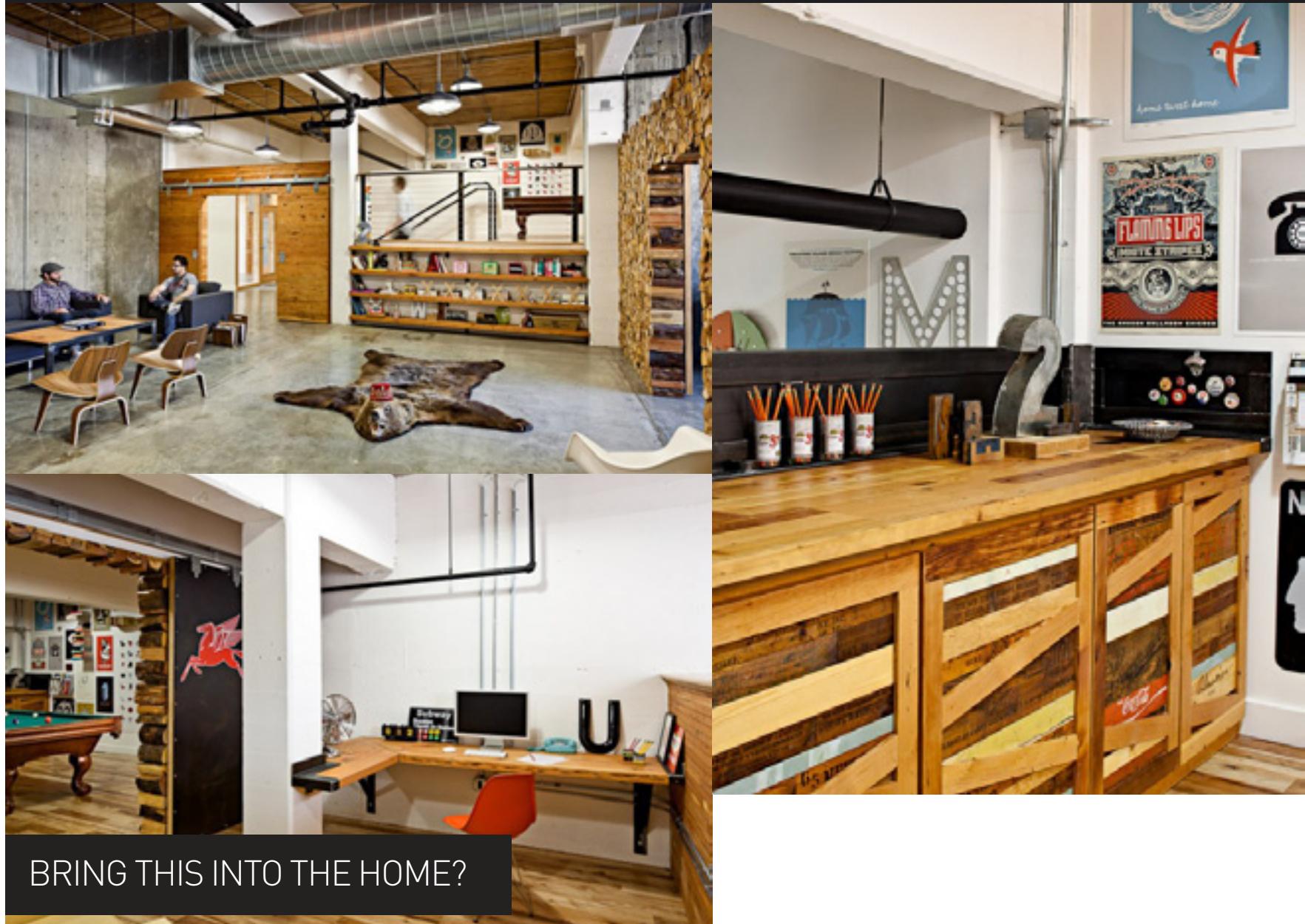
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STURDY, HONEST, SIMPLE DESIGN, TRUSTWORTHY

WORKSPACE DESIGN TREND RETRO / VINTAGE / KITSCH / TRUTH TO MATERIALS



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DESIGN LANGUAGE ANTHROPOMORPHISM

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TOO HUMAN AND PRODUCTS START TO
LOOK UNCOMFORTABLE - LESS IS MORE

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DESIGN AGENDA

- / Use gamification to enable users to be intrinsically motivated to work.
- / Help users develop good working patterns.
- / Keep work goals constantly challenging, grow as the user grows.
- / Design for optimum working experience - Flow.
- / Keep it interesting - long term goals are harder to each for someone with self-discipline issues, break it down.

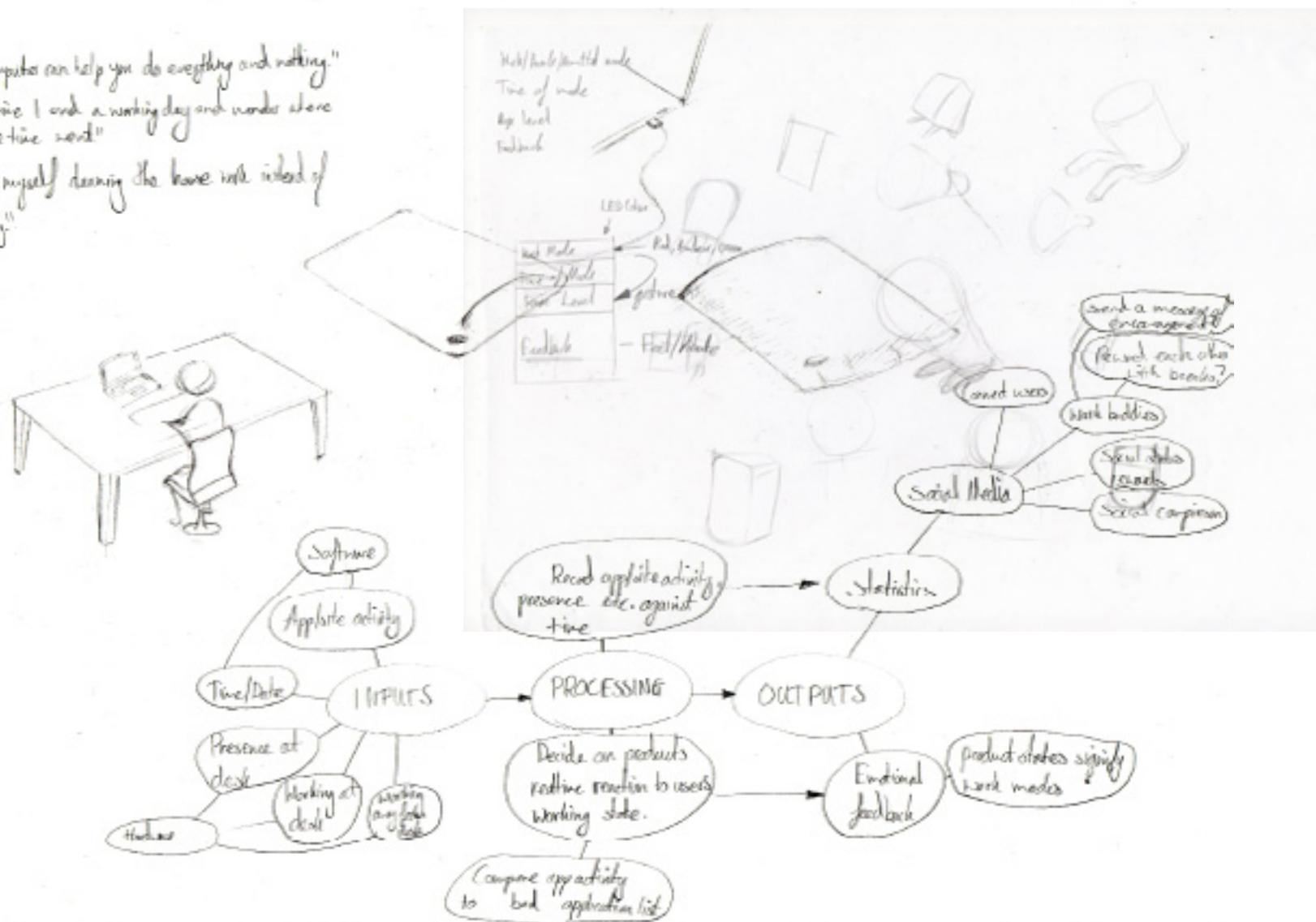
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"A computer can help you do everything and nothing."

"Sometime I end a working day and wonder where all the time went."

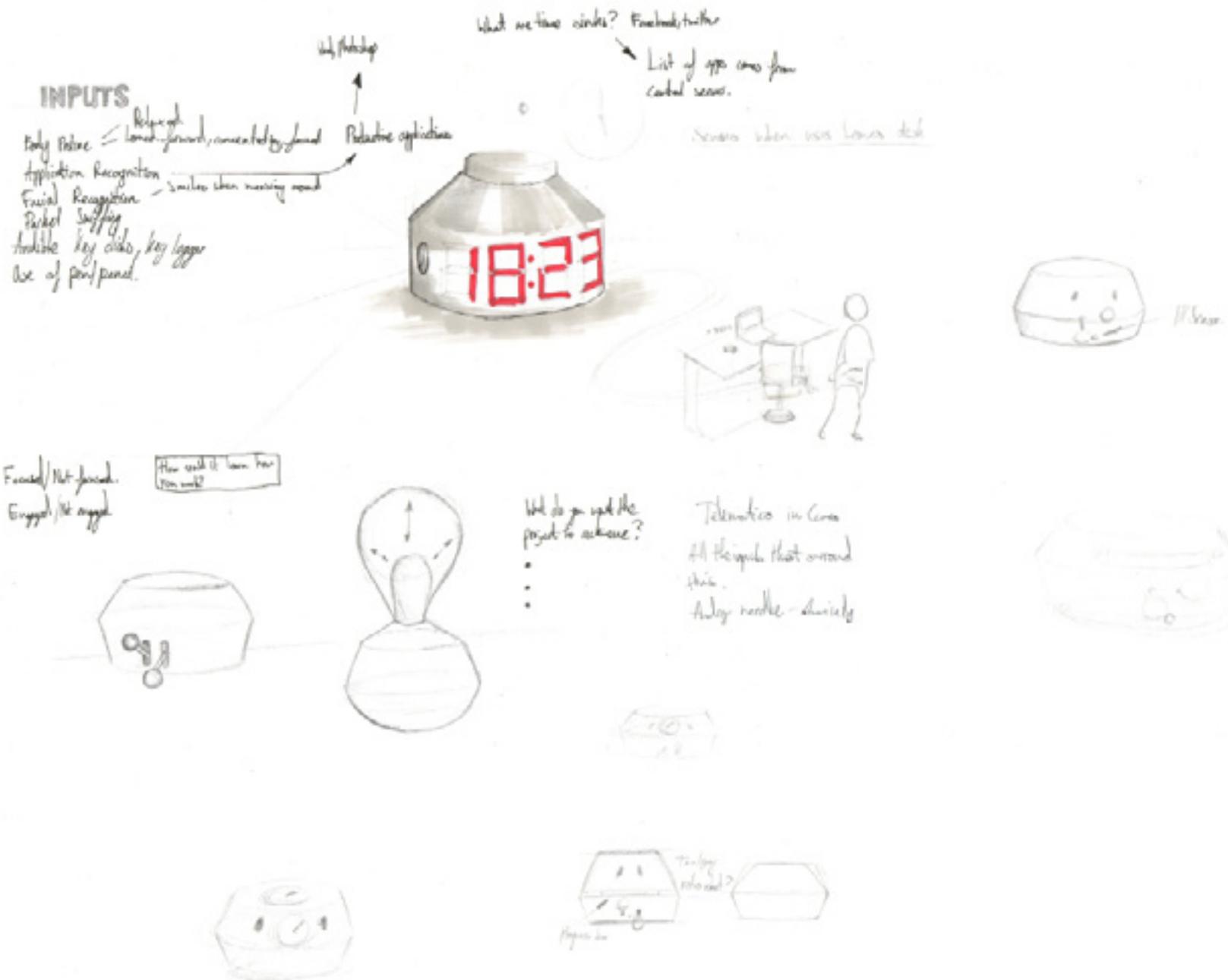
"I find myself cleaning the house instead of
working."



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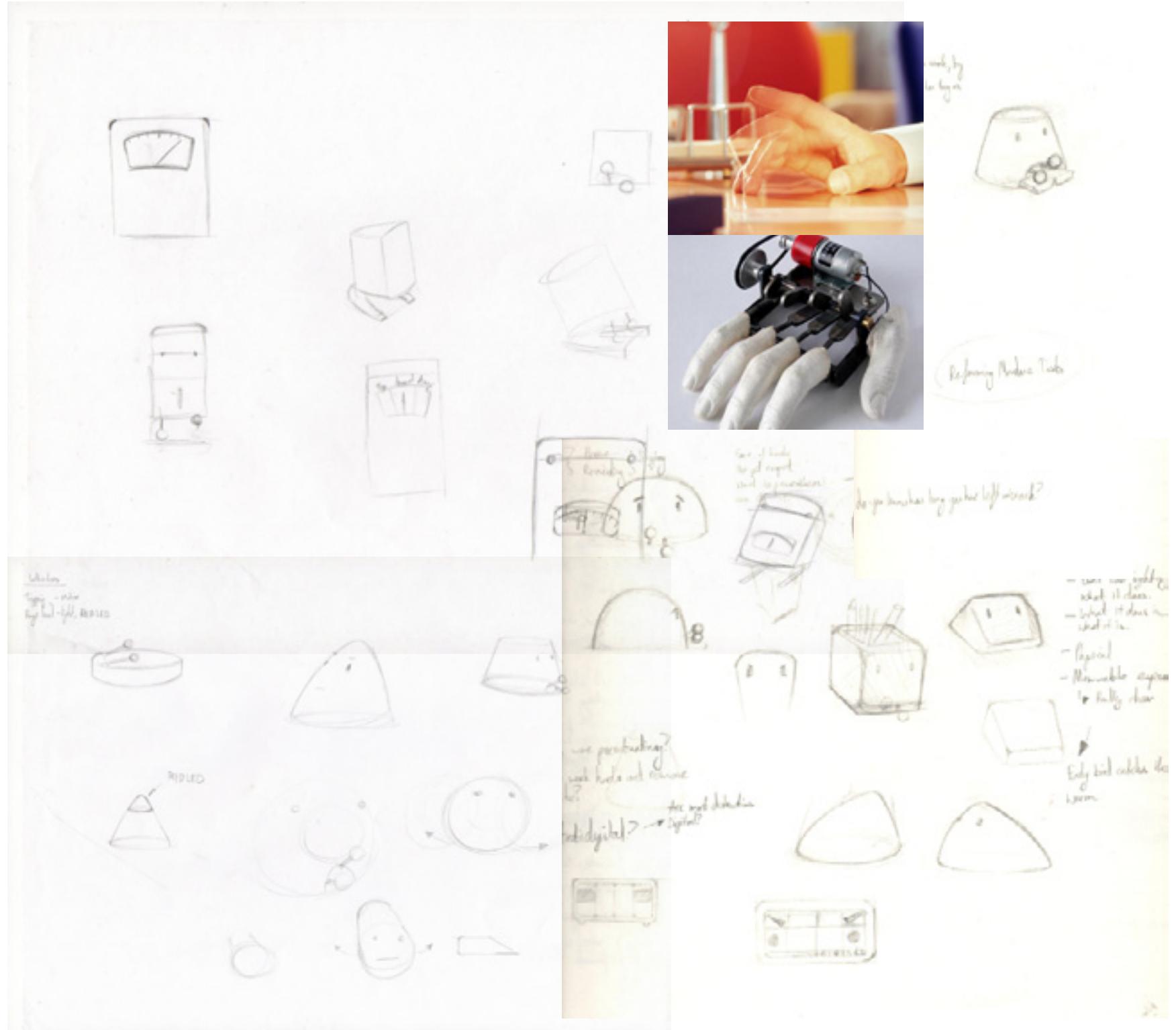
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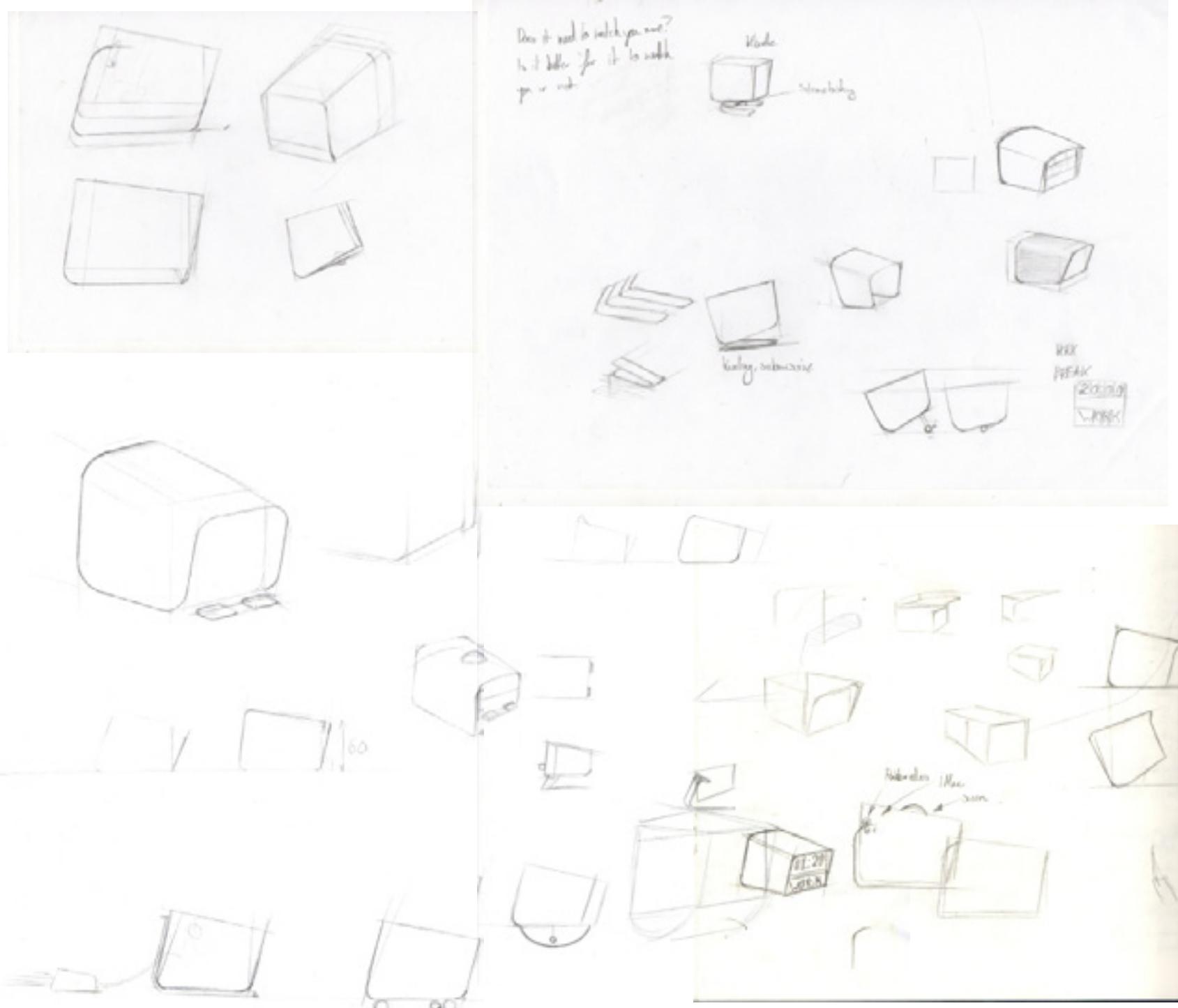
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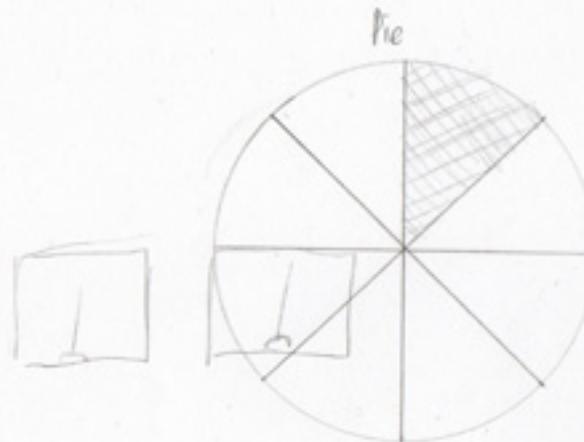


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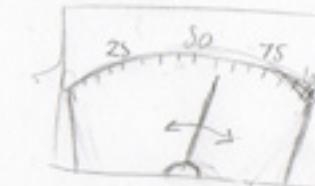
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Representing Time



Meter.



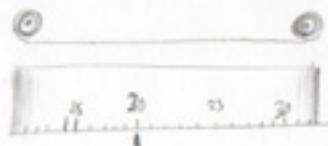
Progress Bar



Drum?/Tape



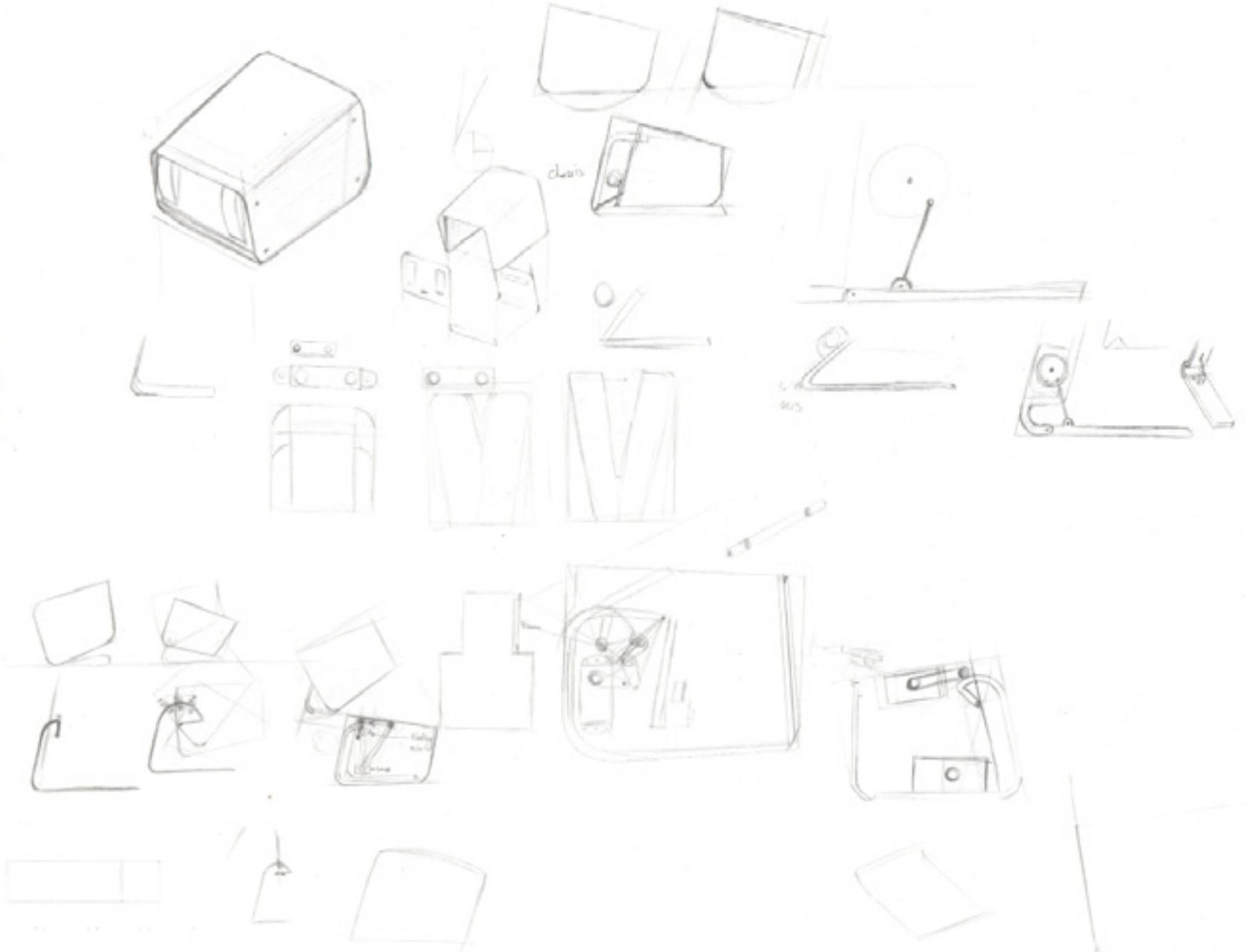
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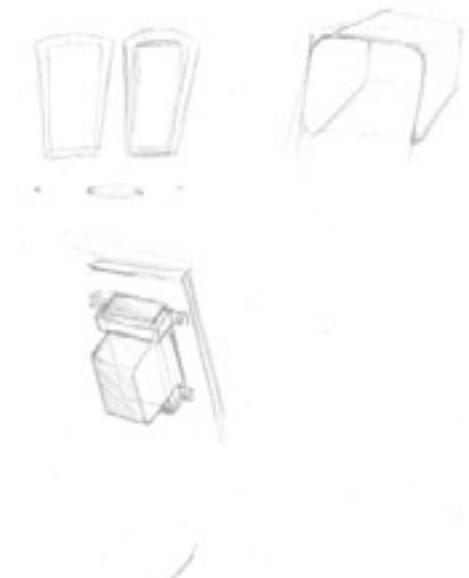
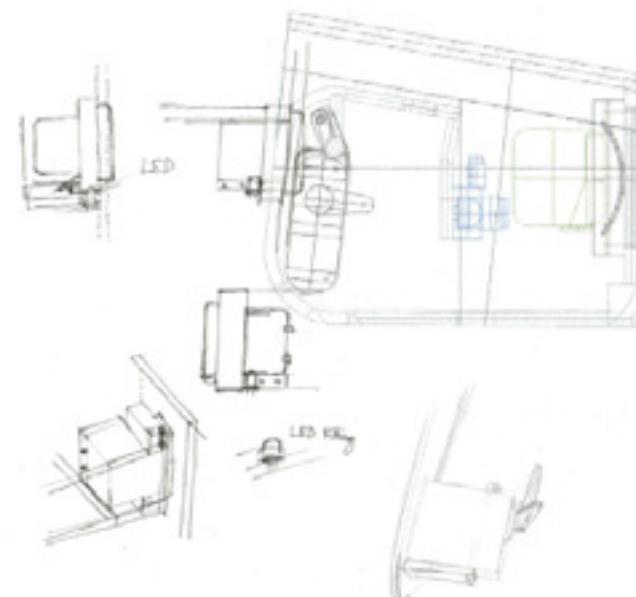
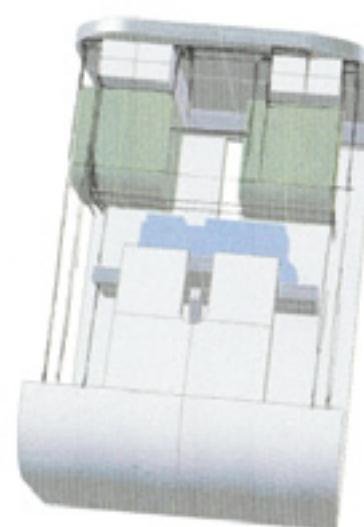
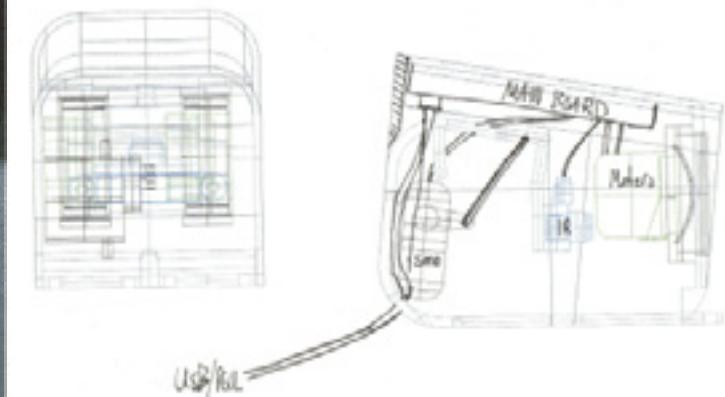
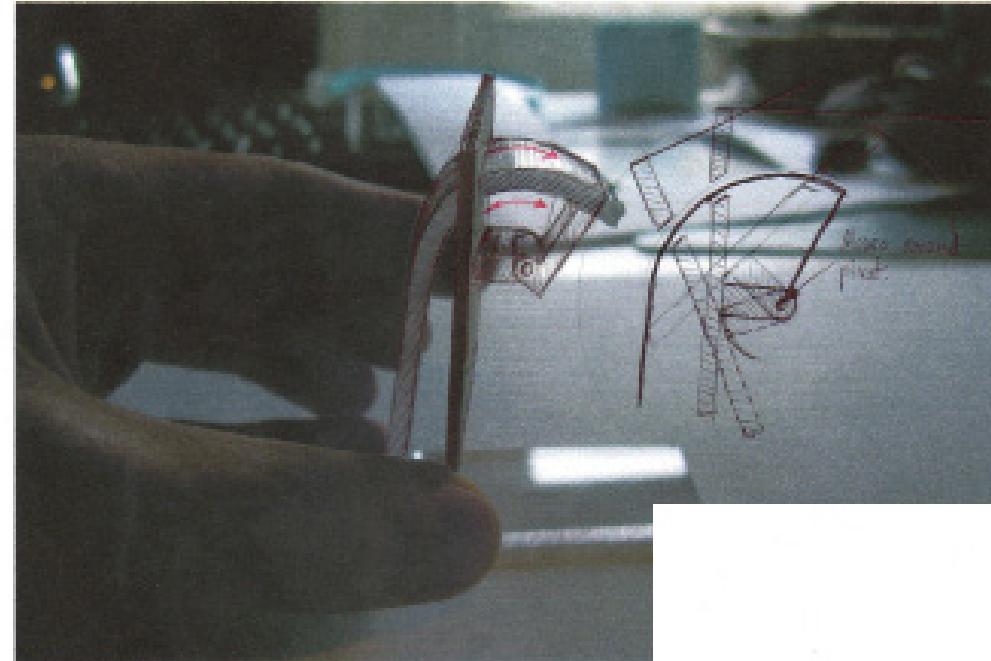
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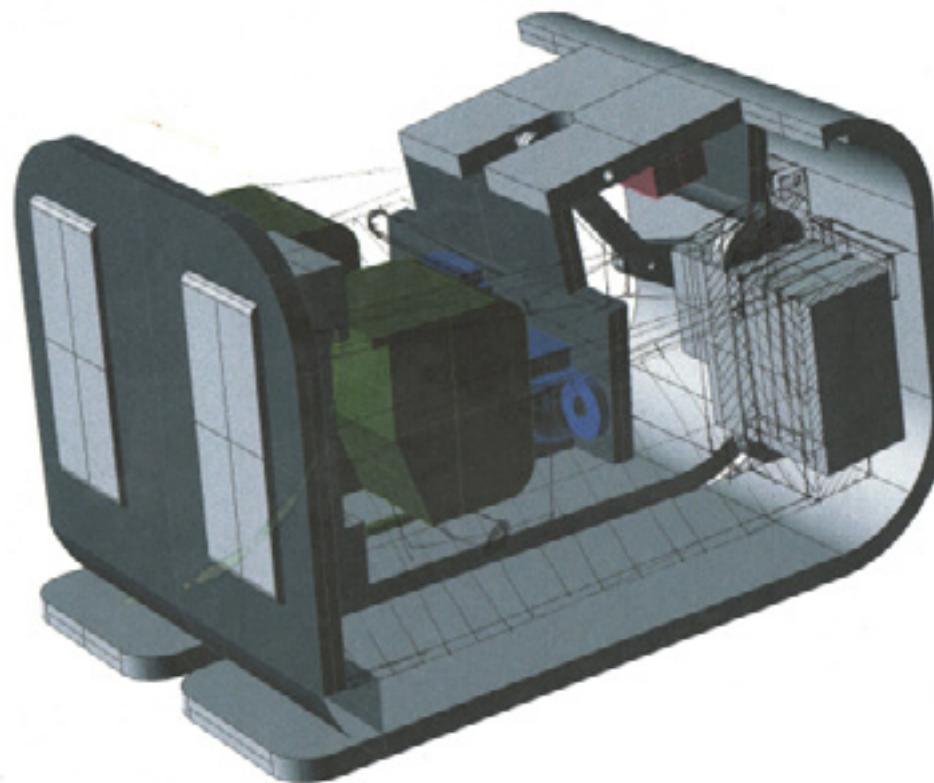
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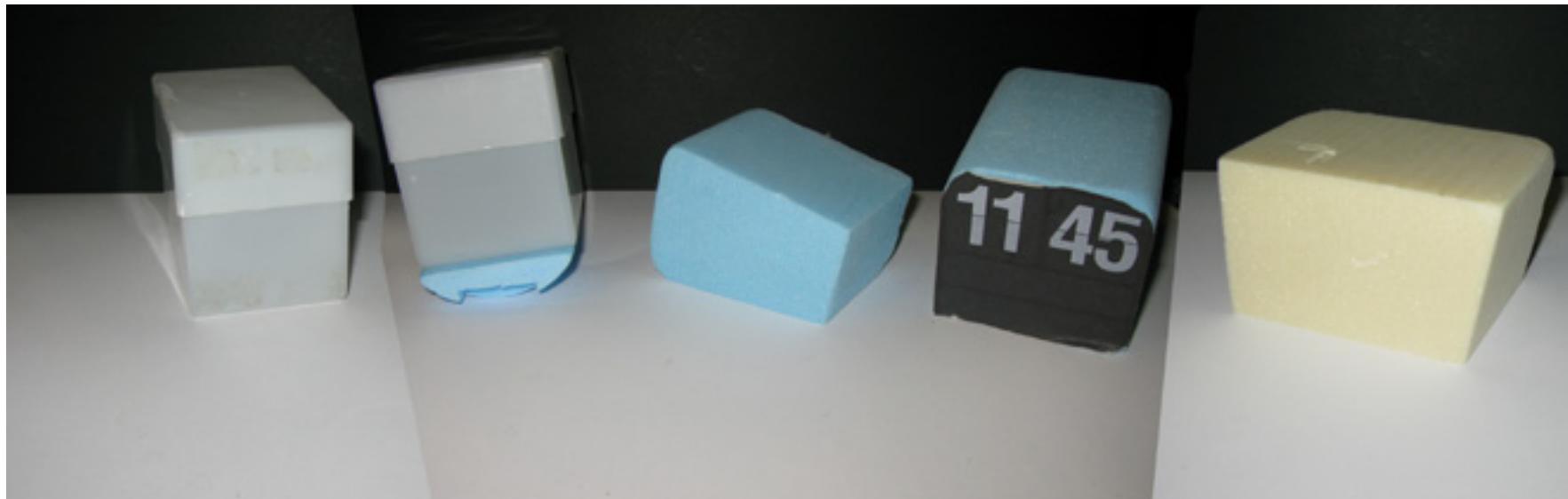


SKETCH MODELLING

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Exploring forms by quickly manipulating basic materials.



REFERENCES



Weeble



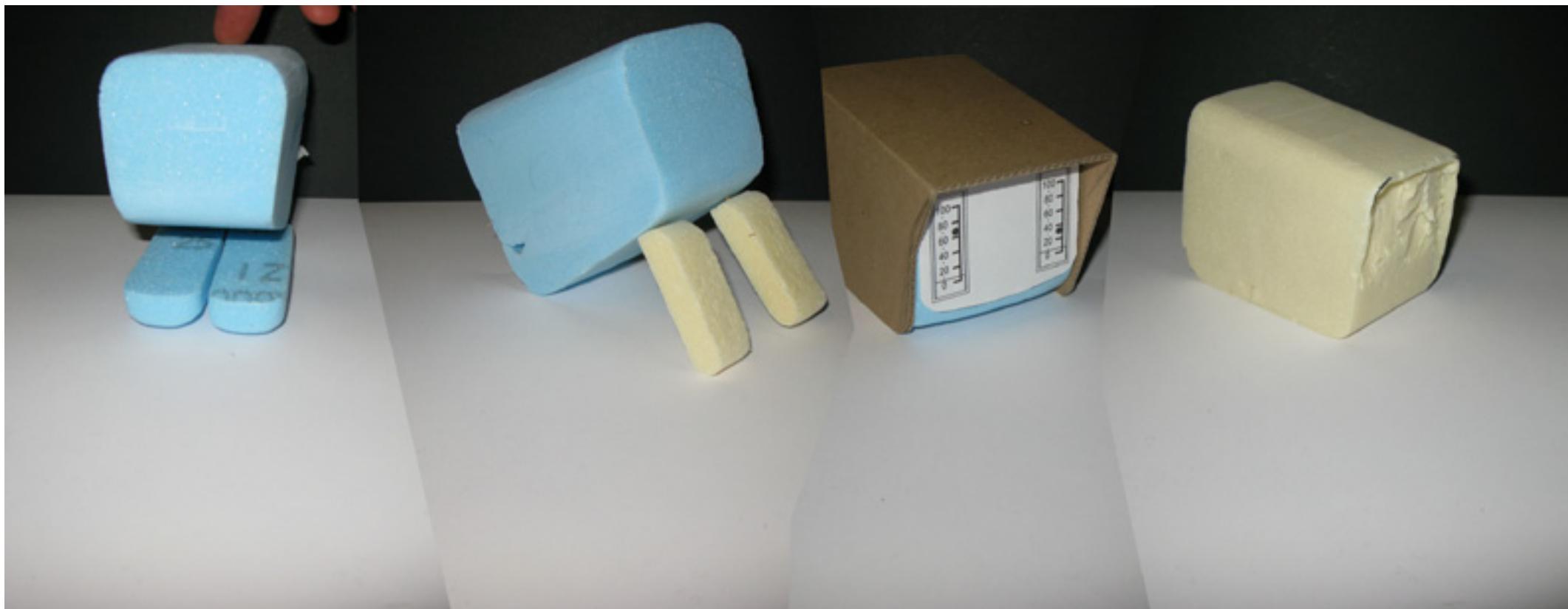
Timex Flip Clock



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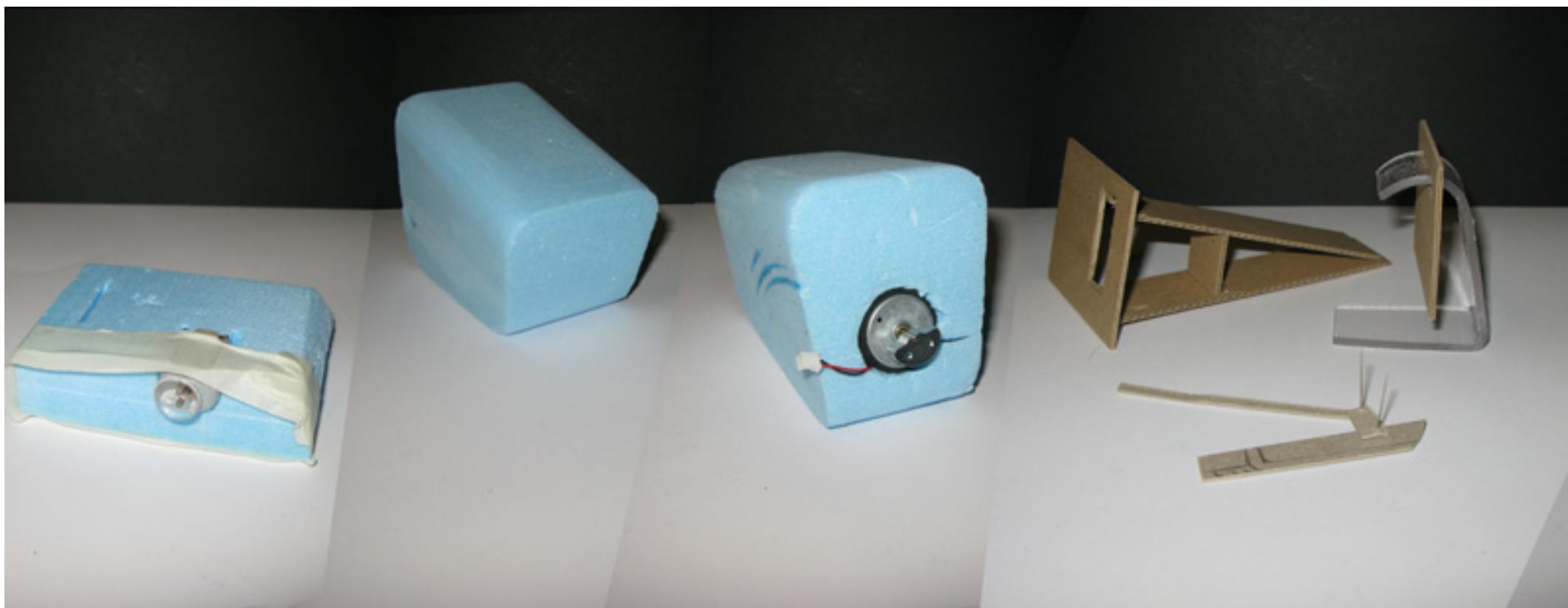


SKETCH MODELLING 4

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Vibration test rigs and mechanism tests



SKETCH MODELLING 3

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Designing a chassis around a hollow shell and exploring 'feet'

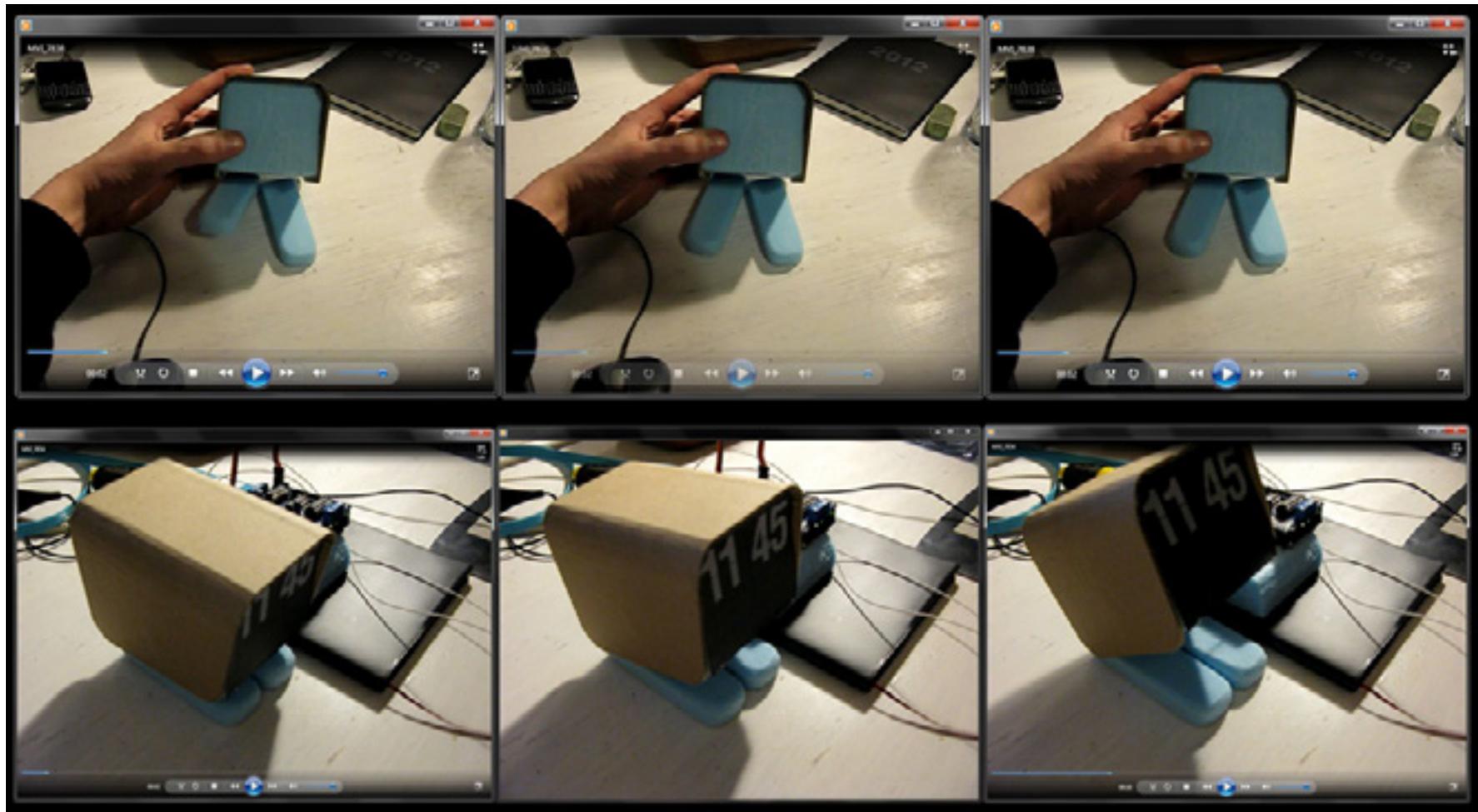


VIDEO PROTOTYPING

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By filming sketch models being crudely animated I was able to get a rudimentary impression of how a movement could communicate an emotion.

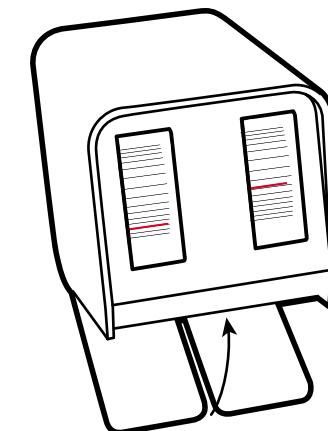
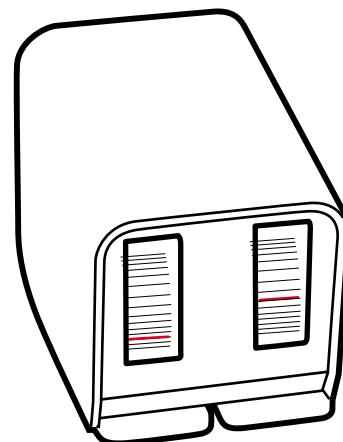
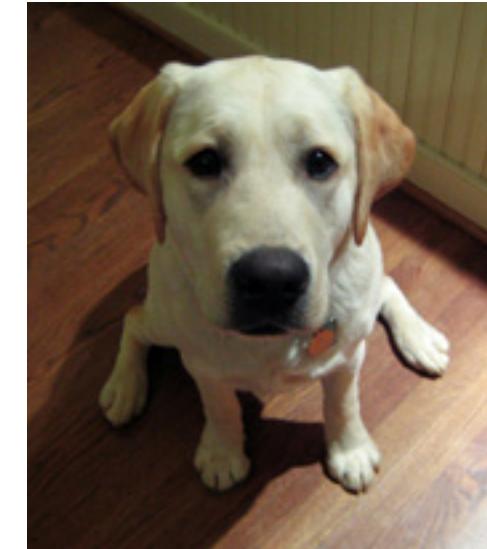


FINAL CONCEPT: TASKBOT

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A PARTNER, A COMPANION



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TASKBOT

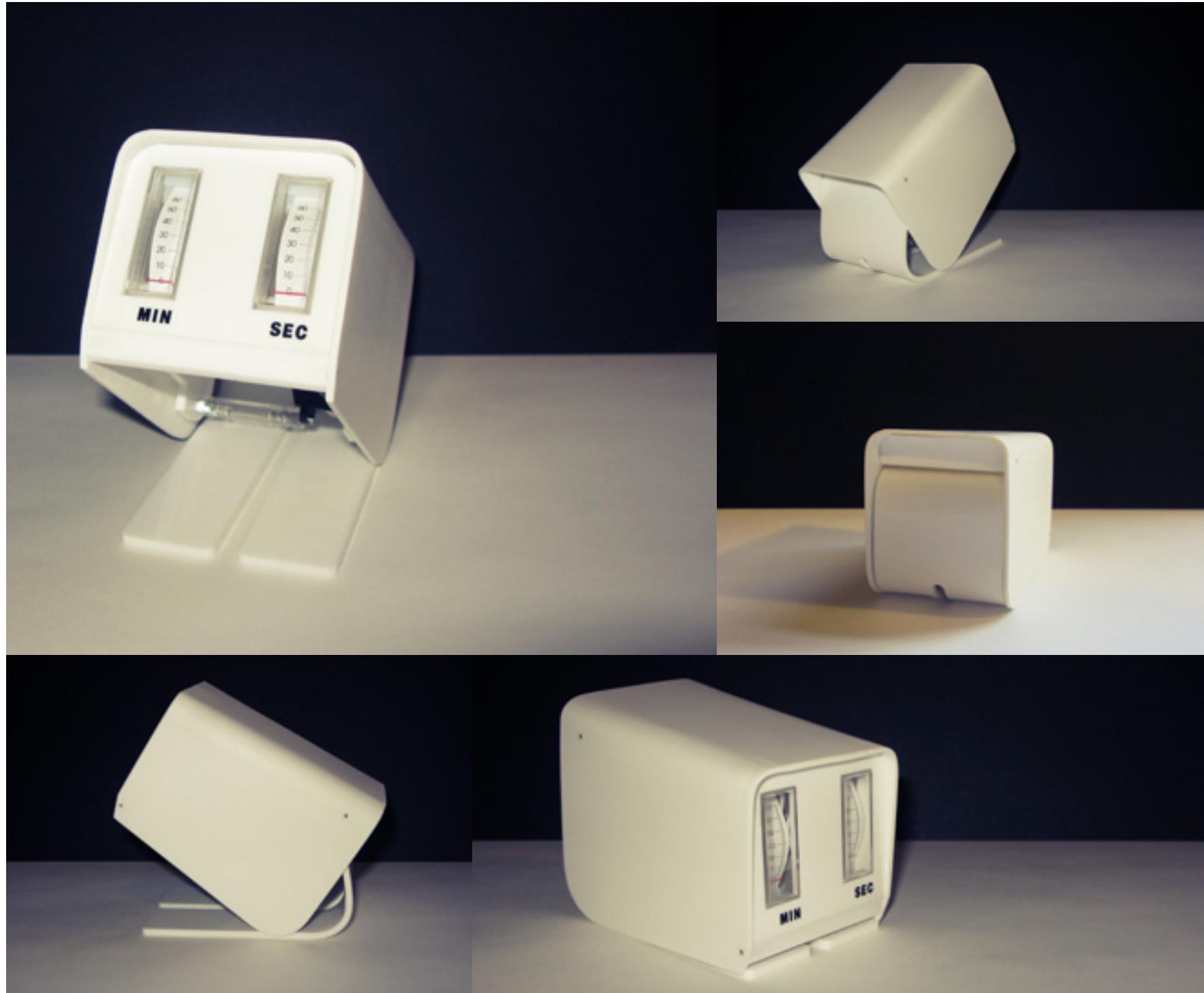


THE PRODUCTIVITY PARTNER

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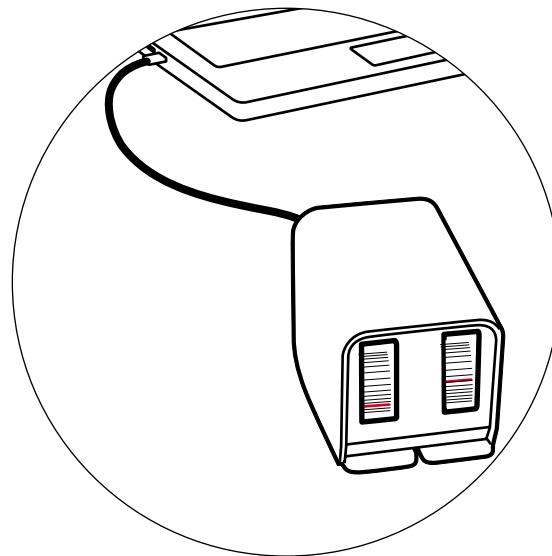
FINAL CONCEPT: TASKBOT

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Usage

1. Plug Taskbot into USB and install driver & software.



2. The software automatically downloads an updated list of websites and applications generally considered time-sinks.

3. Personalise the downloaded time-sinks.

Configuration: Time-sinks

Name	URL	Flagged	Needed for Work?
Facebook	http://www.facebook...	Yes	No
Twitter	http://www.twitter.co...	Yes	No
Designspiration	http://www.designsp...	Yes	Yes
Youtube	http://www.youtube....	Yes	Yes

Applications

Name	Process	Flagged	Needed for Work?
Skype	skype.exe	Yes	Yes
Angry Birds	angry32.exe	Yes	No

Save & Close

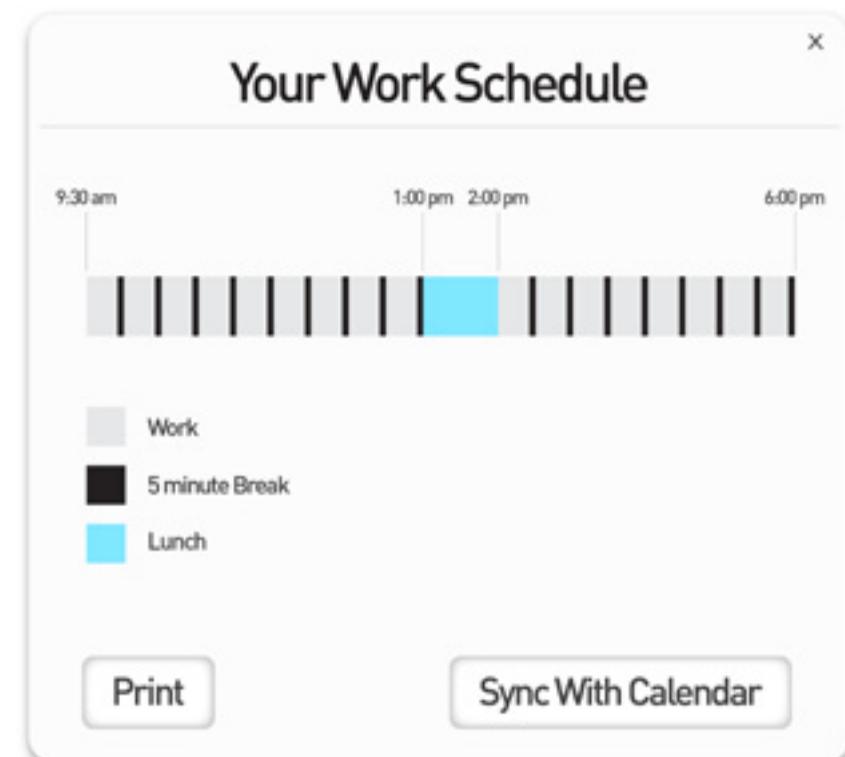
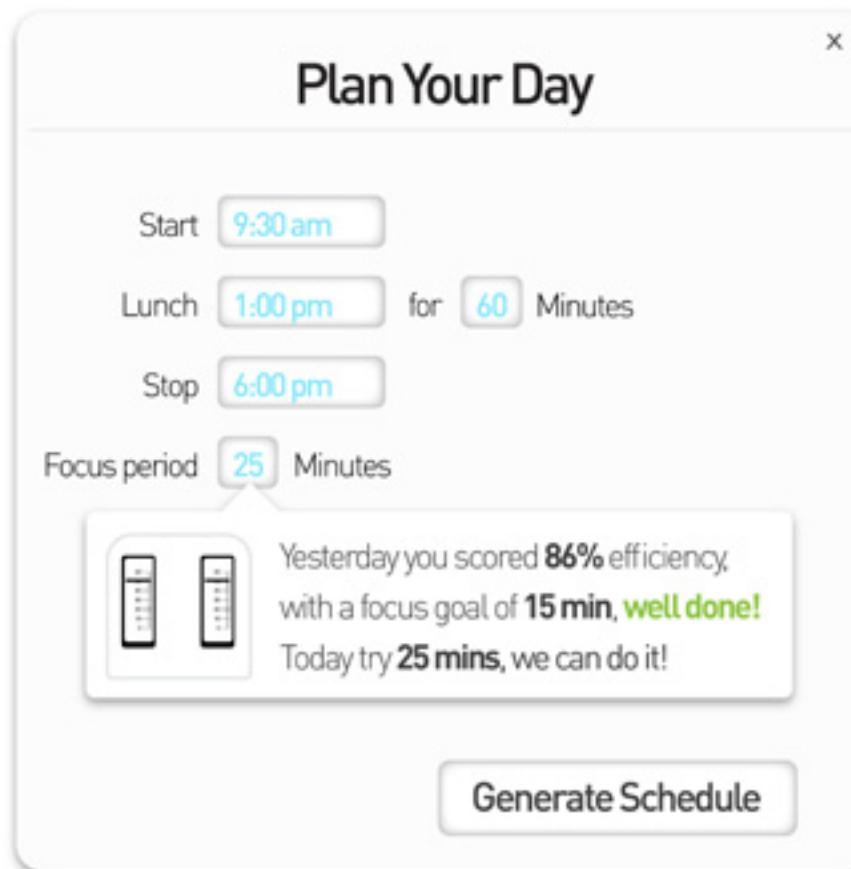
FINAL CONCEPT: TASKBOT

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3. Plan the day using the software.

4. The software generates a schedule.

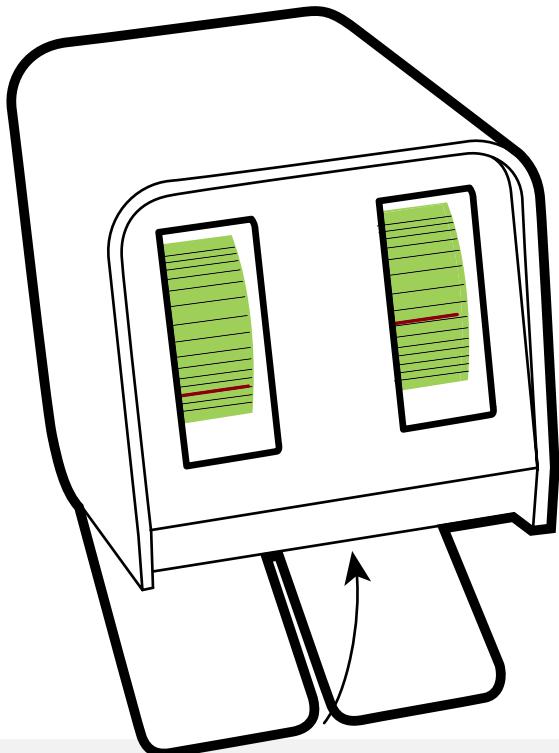


FINAL CONCEPT: TASKBOT

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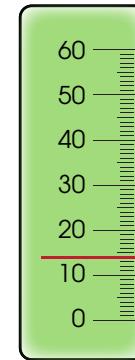
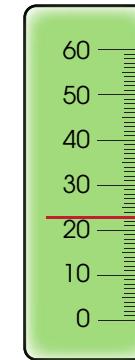
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5. When it is time to work, Taskbot raises his head.
Its 'eyes' turn green and begin pulse.

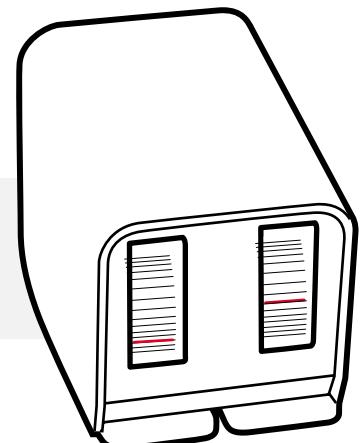


TASKBOT IN WORK MODE

6. The 'eyes' tick down, indicating how much time is left in the work period.



7. When the focus period ends a break begins, Taskbot lowers its head and waits. The user is then free to leave their desk or browse websites flagged as time-sinks.



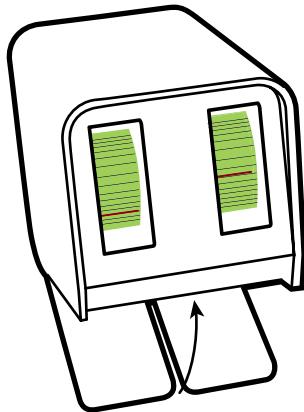
TASKBOT IN
BREAK MODE

FINAL CONCEPT: TASKBOT

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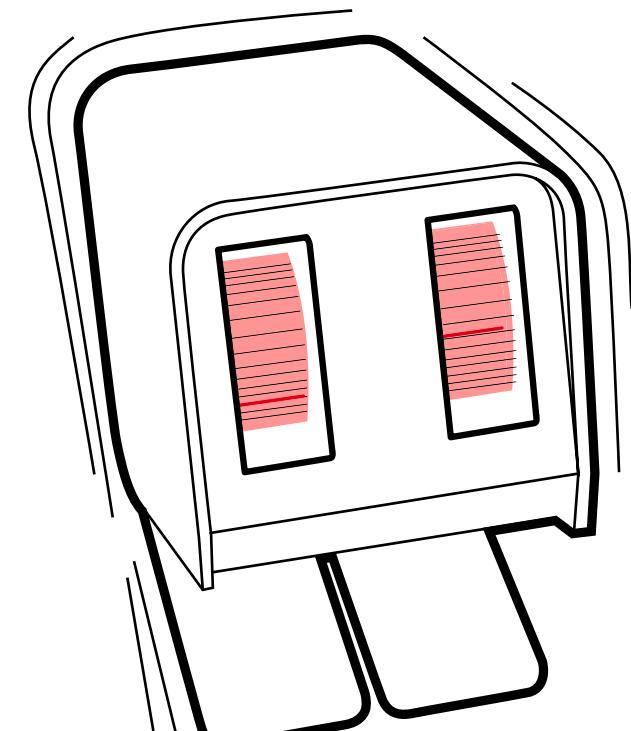
- 8.** At the end of the break, Taskbot raises his head to signify a new work period starting.



- 9.** If the user browses to a site considered a timesink or gets up from their desk during a work period, Taskbot considers them to be procrastinating, and starts its alert sequence.

Alert Sequence

Time	Level	Vibration	Meter Backlight	Movement
> 1 min	1	Slow pulse	Red pulse	None
1 - 2 min	2	Faster pulsing	Red flash	None
3 - 5 min	3	Constant, max	Red flash	Head nods



TASKBOT DETECTS
PROCRASTINATION

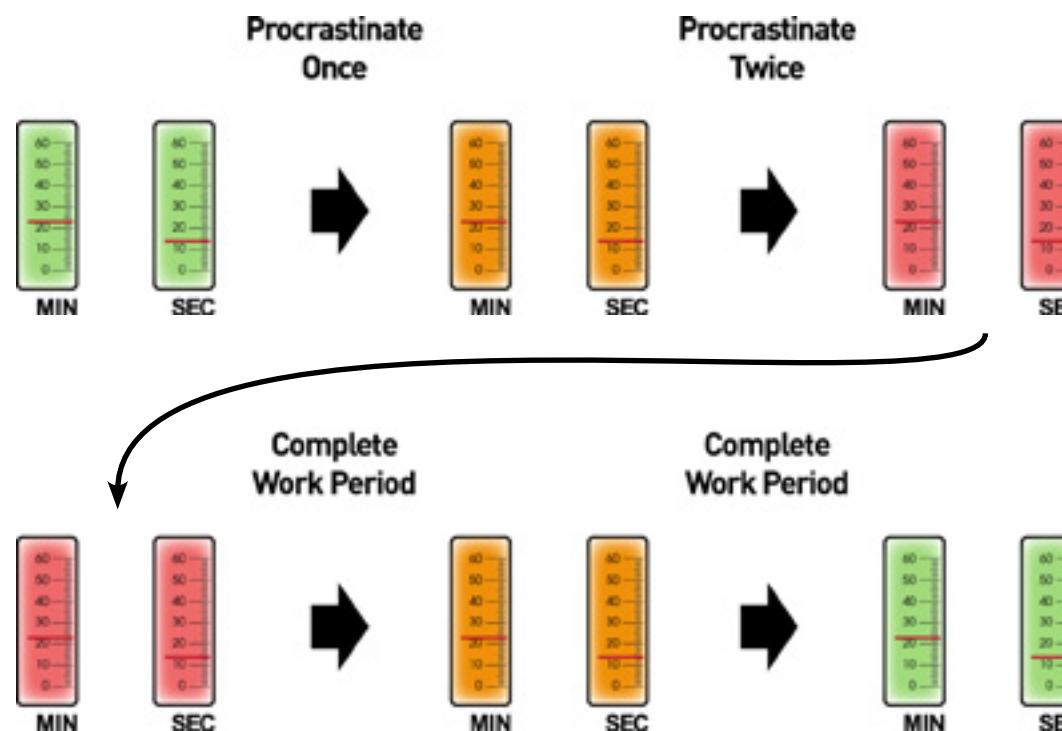
FINAL CONCEPT: TASKBOT

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7. The first time a user is caught procrastinating in a day, Taskbot's 'eyes' turn from green to amber. If they are caught a second time they turn to red.

To return Taskbot's eyes to green again the user must complete a focus period for each level of colour. To get from red to green the user must complete two procrastination-free focus periods.



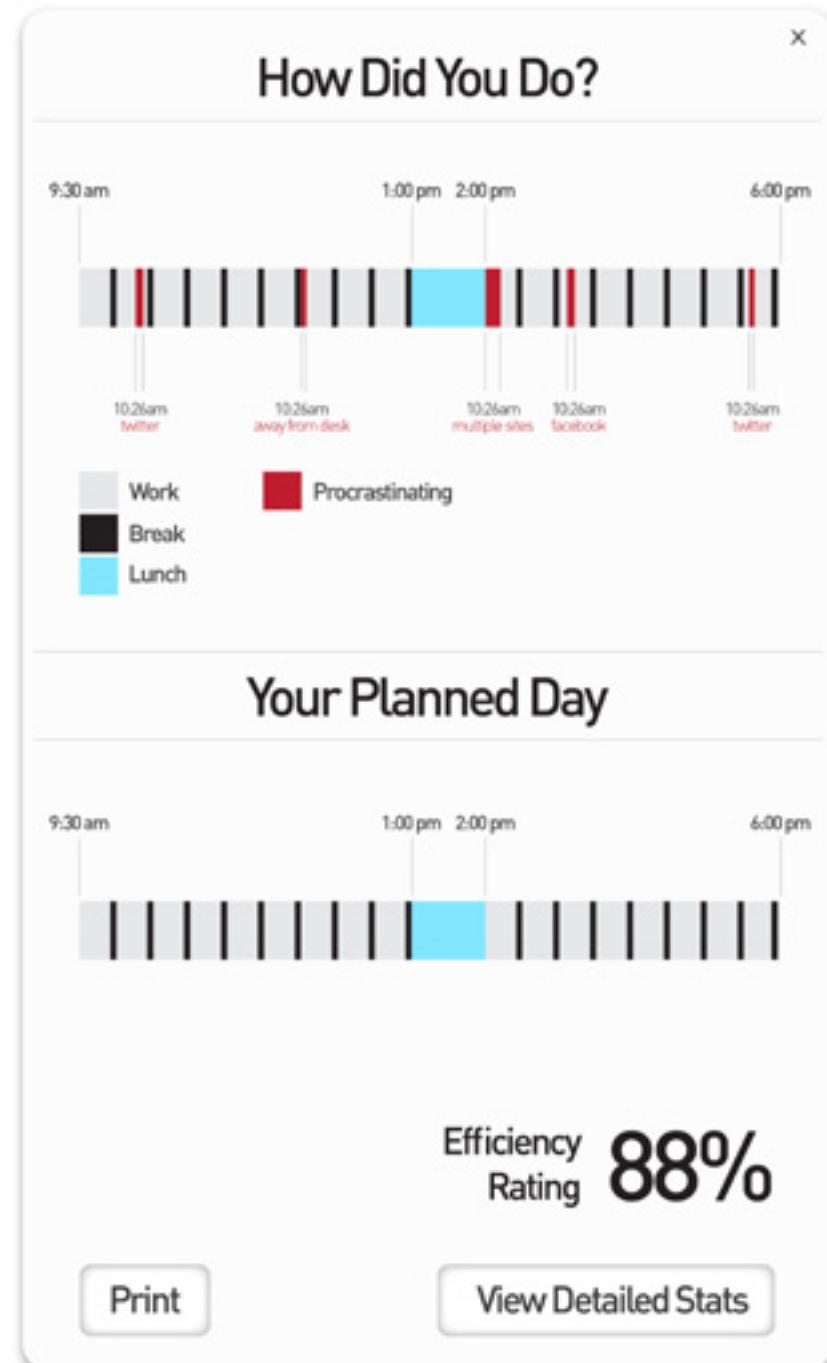
FINAL CONCEPT: TASKBOT

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8. At the end of the working schedule the user is shown their original schedule and how they actually worked.

9. An efficiency rating is generated giving the user a solid rating of how they use their time. This allows goals to be set for future work days.

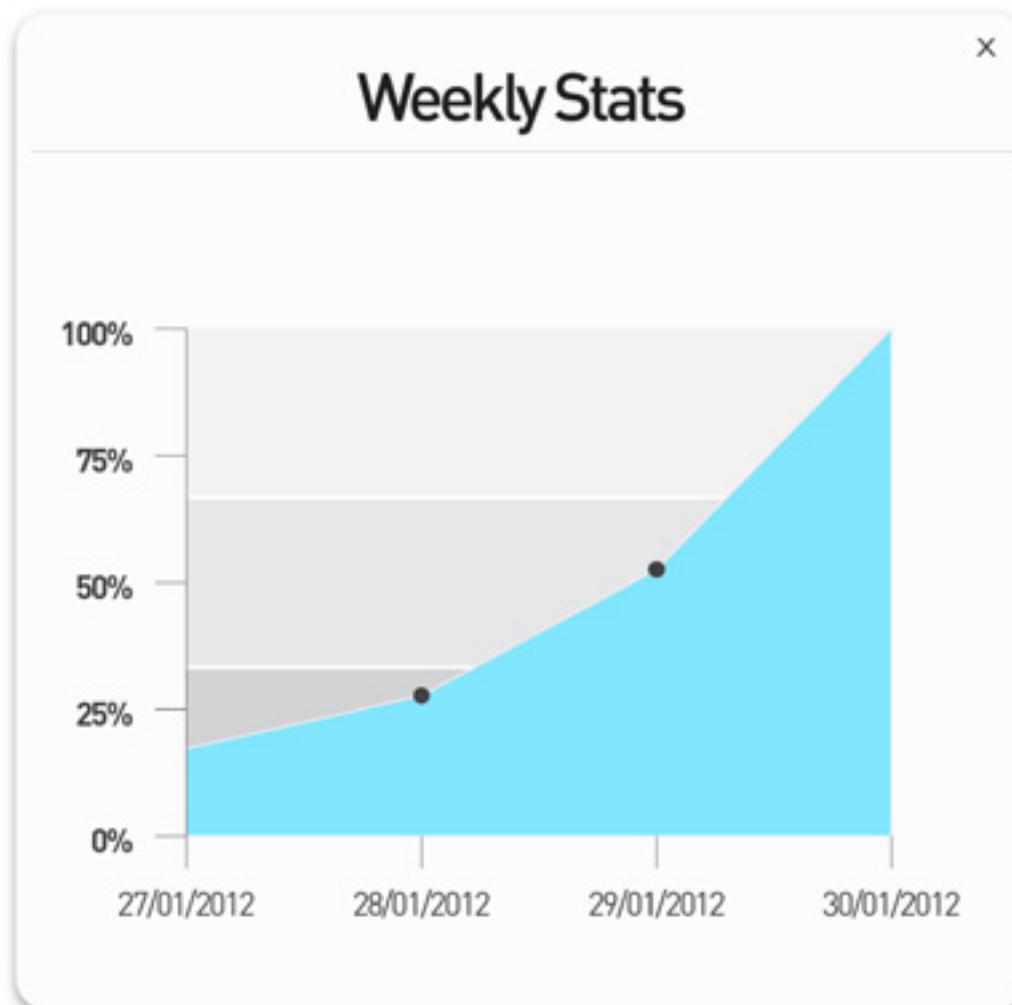


FINAL CONCEPT: TASKBOT

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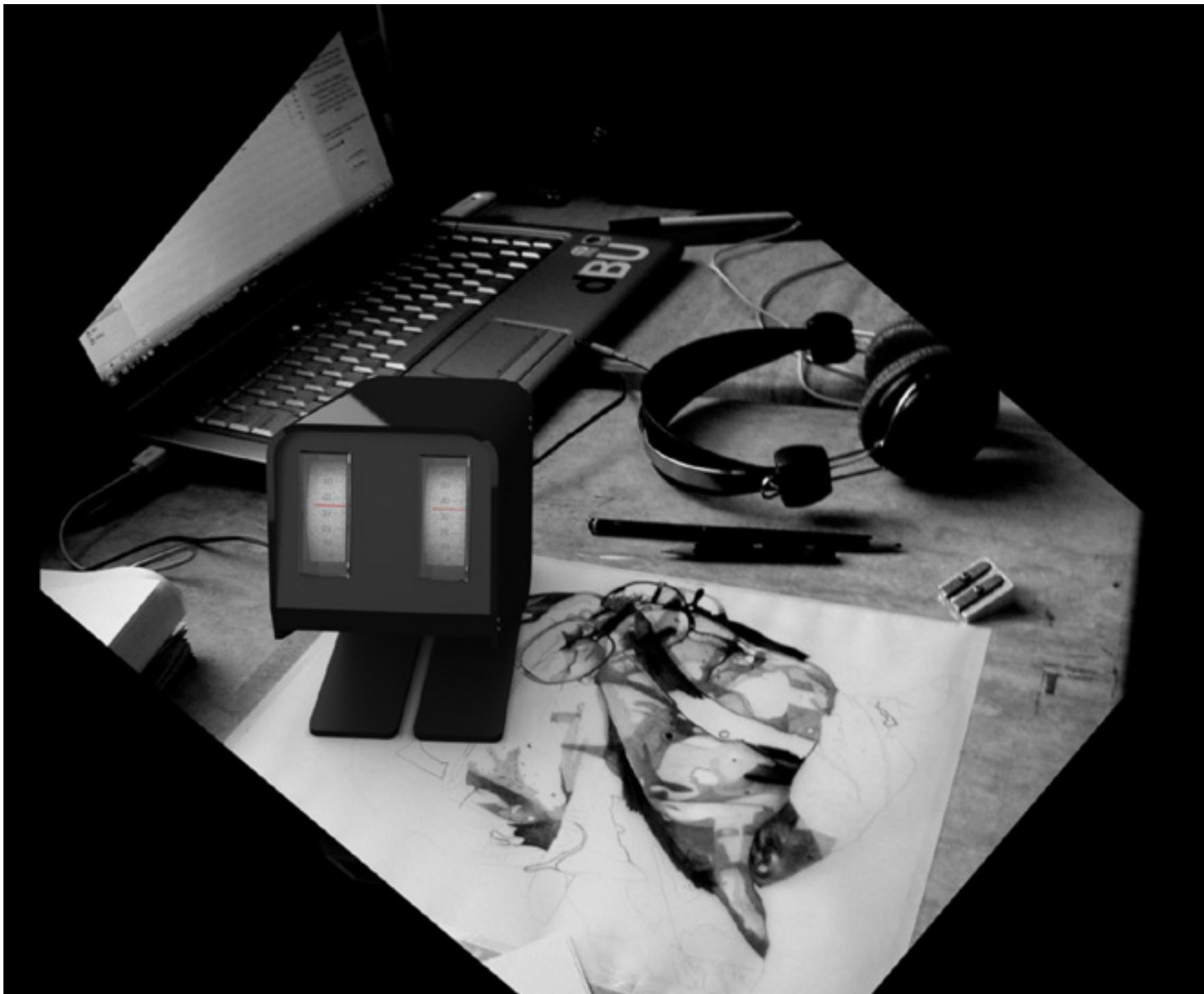
- 10.** The user is invited to see their weekly stats.
They may observe progressing, building motivation.



Taskbot

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Taskbot

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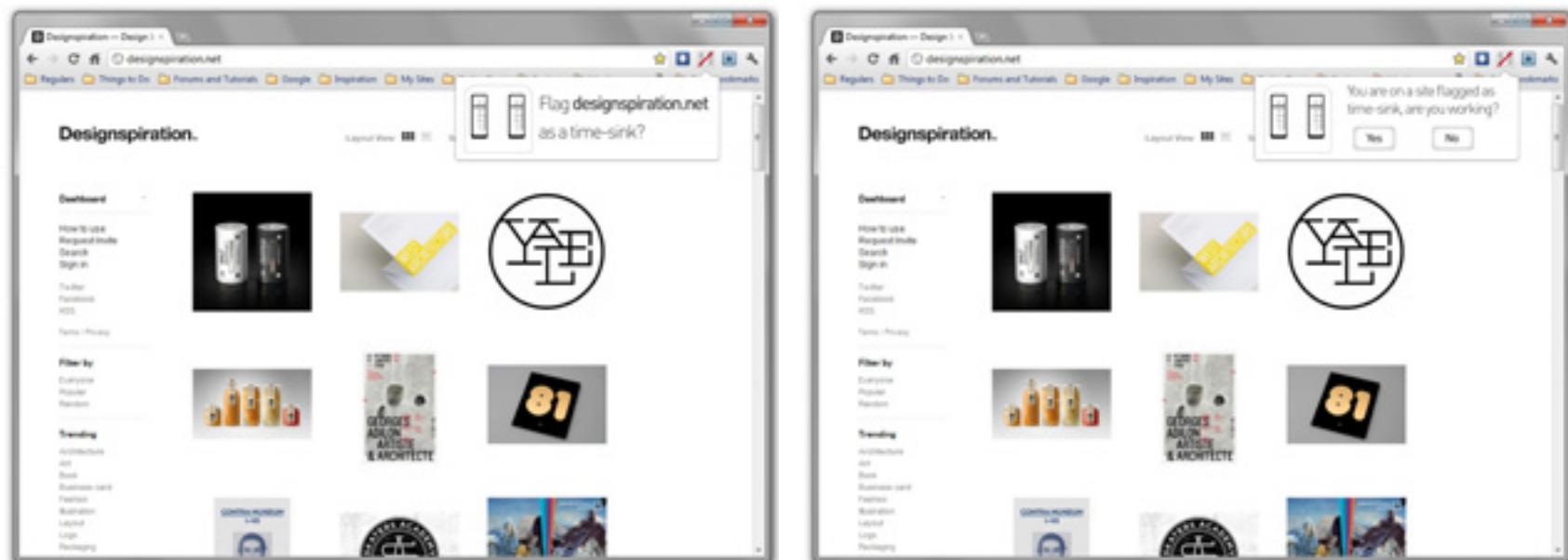
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FINAL CONCEPT: TASKBOT

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- 11.** The user may use a site of work and procrastination. In this case they can flag the site as one they might use for work in the software and it will ask them if they are using it for work or procrastination each time, causing them to evaluate their actions.

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DESIGN FOR MANUFACTURING MATERIALS AND PROCESSES

/ ABS (Acrylonitrile butadiene styrene)

'Poppins' by Barber Osgerby
2010
Injection moulded ABS



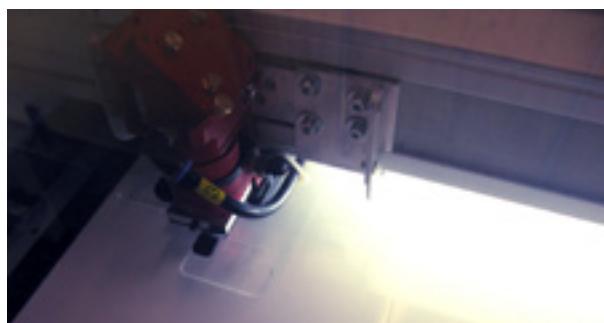
/ Powder-Coated Aluminium

'De La Warr Chair' by Barber Osgerby
2005
Die-cast aluminium and steel



/ Laser Cutting

Chassis cut by laser for runs up to 5000. Cycle time of 2 minutes 30 seconds per unit.



/ Plastic machine-bending

Automatic bending machine

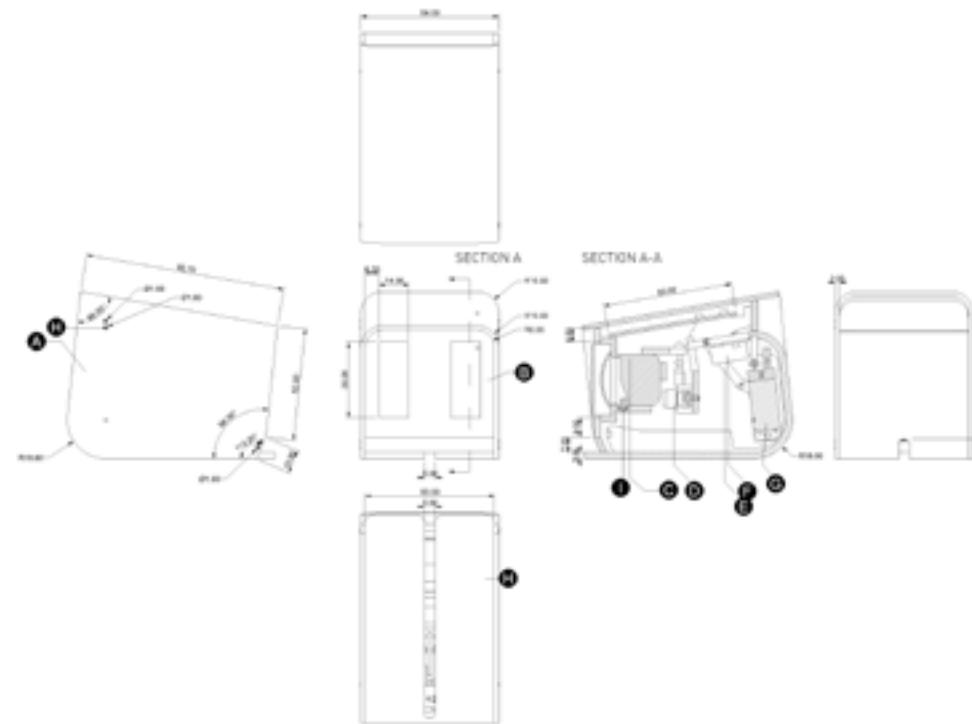


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DFM / GENERAL ARRANGEMENT

PARTS LIST		
ITEM	NAME	MATERIAL
A	SHELL	ABS
B	FACEPLATE	MATERIAL
C	METER	N/A
D	IR SENSOR	N/A
E	PIVOT ARM	ABS
F	VIBRATION MOTOR	N/A
G	MICRO SERVO	N/A
H	STAND	ALUMINIUM



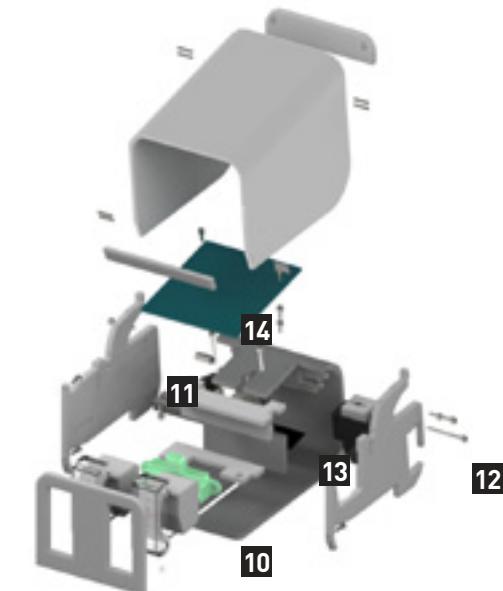
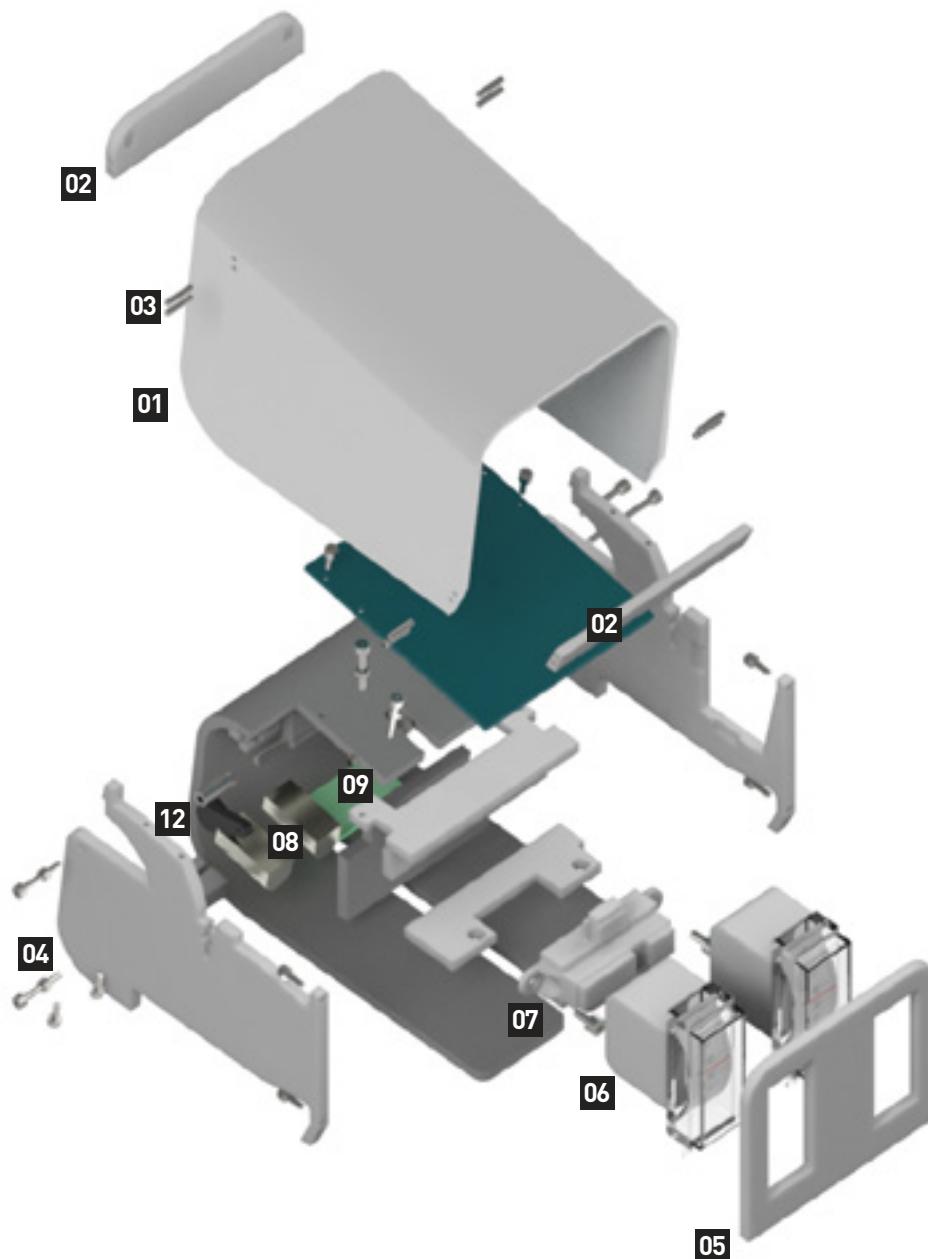
GA Drawing*

*Scaled down from A3 size

TOLERANCES +/- .25	ANDREW WILLIAMS
DIMENSIONS: MM	UNIT: IN:
THIRD ANGLE PROJECTION	DATE: 24.01.12
DRAWING NO. 1	SCALE 1:2

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DFM / EXPLODED VIEW



Part Name

- 01. Shell
- 02. Shell Struts
- 03. 1.4mm Grub Bolts
- 04. Chassis
- 05. Faceplate
- 06. Meters
- 07. IR Sensor
- 08. Vibration Motors
- 09. Vibration Motor Mount
- 10. Stand
- 11. Spacer
- 12. M1.4 Screws
- 13. Micro Servo
- 14. PCB

Material/Process

- 01. ABS - Laser cut and mechanically heated and bent around a former
- 02. ABS - Laser cut and jig sanded
- 03. Stainless Steel
- 04. ABS - Laser cut
- 05. ABS - Laser cut
- 06. N/A
- 07. N/A
- 08. N/A
- 09. ABS - Laser cut
- 10. Powder-coated 3mm Aluminium - Turret Punched
- 11. ABS - Extruded
- 12. Stainless Steel
- 13. N/A
- 14. N/A

High Volume Production

For volumes in excess of 5000 chassis could be injection moulded or punched in zinc and folded. The shell could be extruded and machine cut.

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POTENTIAL FOR FUTURE DEVELOPMENT

/ Social Networking Integration

Social comparison rewards
Buddying system - learn with another person, share
User justifies why they procrastinated by sharing and annotating their timelines.
Challenges

/ Statistics Generation

User's stats become a representation of aptitude.
Employers use aptitude database to search for talented employees

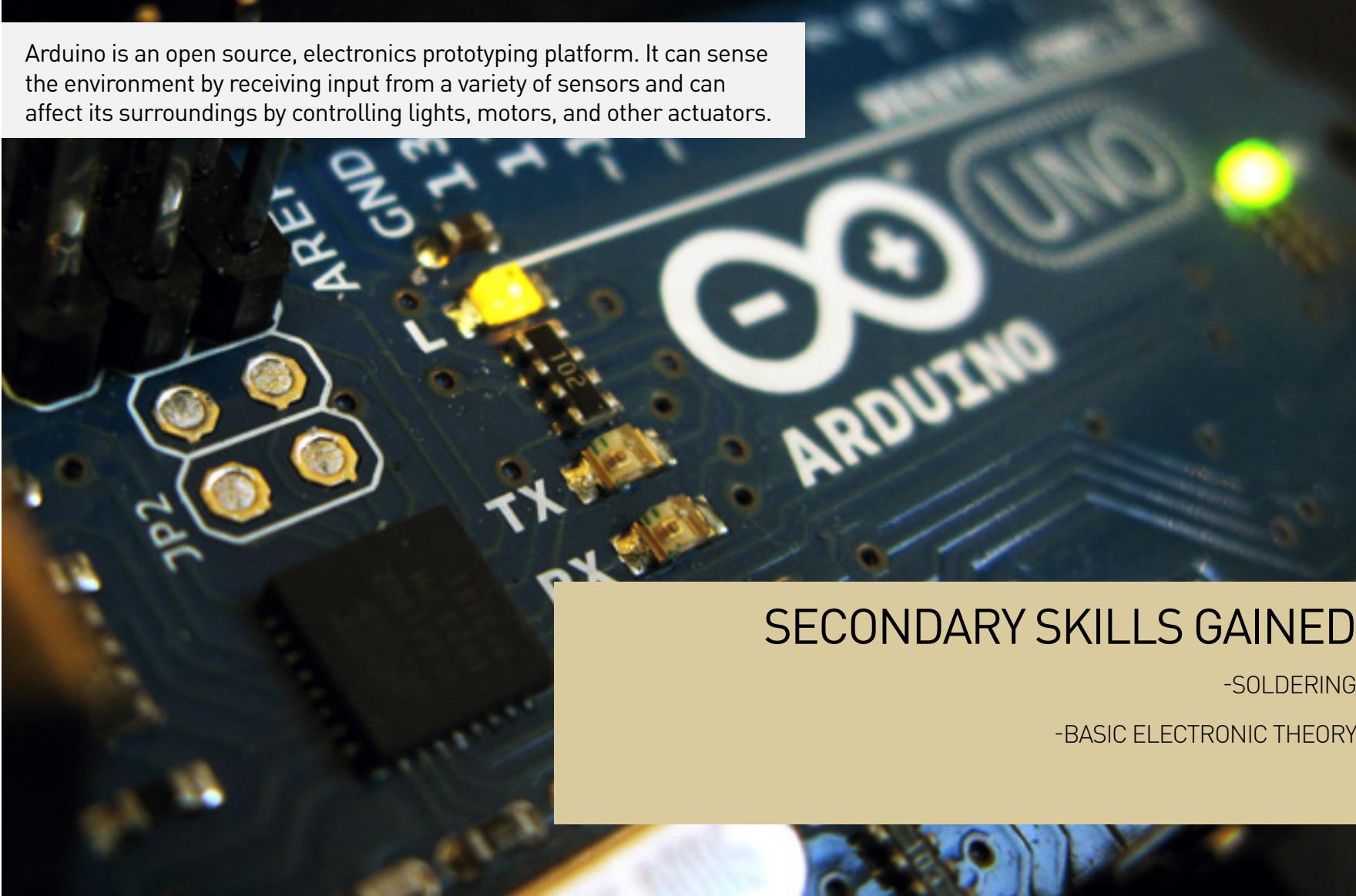
/ User Created Systems

An API that allows people to code their own time management systems using the inputs and outputs from the product.

TECHNICAL SKILLS

PROTOTYPING WITH ARDUINO

Arduino is an open source, electronics prototyping platform. It can sense the environment by receiving input from a variety of sensors and can affect its surroundings by controlling lights, motors, and other actuators.



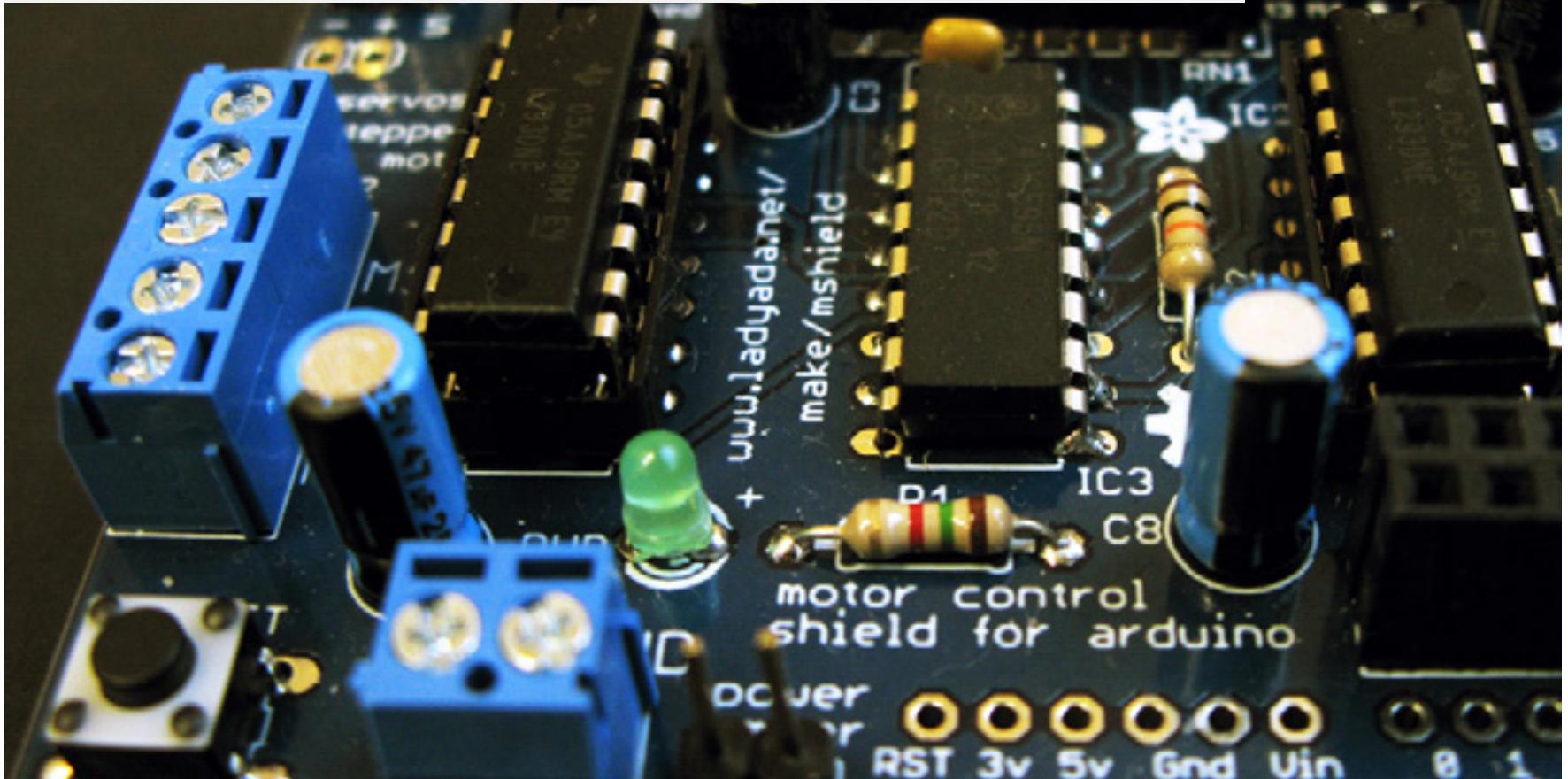
SECONDARY SKILLS GAINED

-SOLDERING

-BASIC ELECTRONIC THEORY

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TECHNICAL SKILLS SOLDERING



Before this project I had never engaged with electronics. Having to assemble the kit for this motor control board seemed daunting, but once I got the hang of soldering it was actually quite enjoyable. I now have all the confidence I need to experiment with electronics in my future projects.

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TECHNICAL SKILLS LASER CUTTING



/ FILE SET UP & OPTIMISATION OF CYCLE TIME
/ MACHINE OPERATION
/ STREAMLINING ASSEMBLY TECHNIQUES



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TECHNICAL SKILLS THERMOPLASTIC FORMING



/ CREATION OF FORMER
/ ACCURATE FORMING