WOMEN + GIRLS IN TECH

ADA LOVELACE

1815 → 1852

DAUGHTER OF THE POET **LORD BYRON**



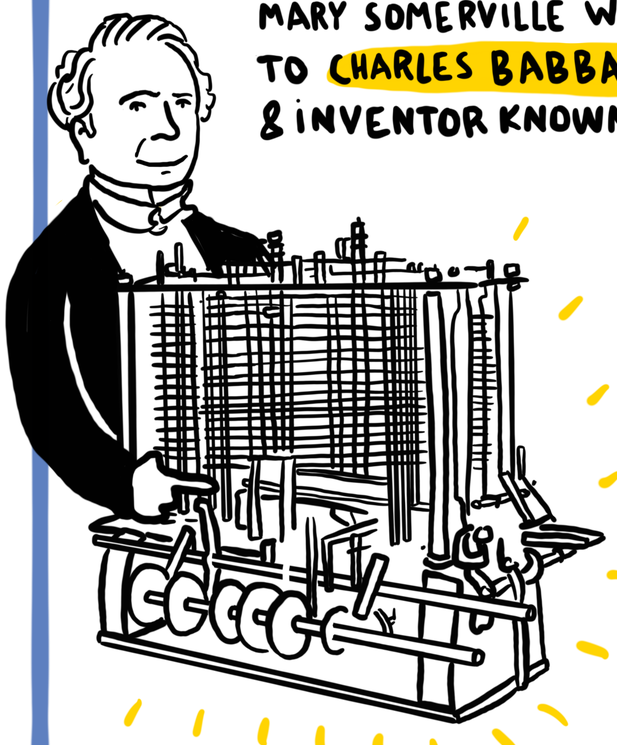
You are the princess of PARALLELOGRAMS

I am the 1st coder in the world



IN THE 1980'S, THE UNITED STATES DEPARTMENT OF DEFENSE GAVE THE NAME OF Ada TO A PROGRAMMING LANGUAGE IT'S STILL USED TODAY FOR ADVANCED TECHNOLOGIES: SPACE, AERONAUTIC, AUTOMOTIVE TECH

1832 MEETS PHYSICIAN & MATHEMATICIAN MARY SOMERVILLE WHO INTRODUCES HER TO **CHARLES BABBAGE**, A MATHEMATICIAN & INVENTOR KNOWN AS "THE FATHER OF COMPUTERS"



IT'S FOR BABBAGE'S ANALYTICAL ENGINE THAT ADA WROTE THE FIRST COMPUTER PROGRAM IN 1843

EACH YEAR IN OCTOBER THE ADA LOVELACE DAY CELEBRATES THE ACHIEVMENTS OF WOMEN IN SCIENCE, TECHNOLOGY, ENGINEERING & MATHS

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WOMEN + GIRLS IN TECH

I am a COMPUTATIONAL SCIENCE specialist

thanks to more WOMEN & DIVERSITY in tech, we can change the world



SLASHER

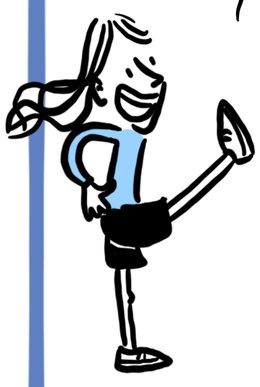
SCIENTIST · EDITORIALWRITER · ADVISOR · TEACHER · ENTREPRENEUR

MEDICINE · EDUCATION · HELP TO THE DEPENDENT PEOPLE · TRANSPORTATION · SECURITY · ECONOMICS · FINANCE

AURÉLIE JEAN

@Aurelie_JEAN @aureliejeanphd

HER FEMINIST GRANDFATHER ENCOURAGES HER TO DO WHAT SHE WANTS AND NOT TO WORRY ABOUT WHAT THE OTHER PEOPLE THINK



2009 **PhD** IN DIGITAL MECHANICS OF SOFT MATERIAL AT **MINES PARIS**

MOVED TO THE USA

2011 JOINS THE **MIT** TO WORK IN COMPUTATIONAL BIOMECHANICS

↳ TISSUE MODELLING FOR POST-HEART ATTACK REPAIR



2016 FOUND IN SILICO VERITAS A CONSULTING FIRM IN **ALGORITHMS & COMPUTER SIMULATIONS**

WHAT FOR?

PREDICTION, UNDERSTANDING OF PHENOMENA, PROBLEM SOLVING

I developed a MATHEMATICAL LAW to determine the RISKS of HEAD INJURY in case of HEAD IMPACT



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WOMEN + GIRLS IN TECH

making BIG DATA a FAIRTOOL will depend on what we do with it



CATHY O'NEIL

@mathbabedotorg



1999 PhD IN MATHEMATICS

RESEARCHER IN ALGEBRAIC GEOMETRY AT THE MIT & BARNARD COLLEGE



JUST BEFORE THE 2008 CRISIS SHE JOINED A COMPANY THAT ASSESSES RISK FOR THE HOLDINGS OF HEDGE FUNDS AND WALL STREET BANKS

2011 SHE JOINED A START-UP THAT BUILDS PREDICTIVE MODELS FOR RETAILERS

ALERT





IN 2011, SHE BECAME AN ACTIVIST FOR THE OCCUPY WALL STREET MOVEMENT

TODAY, SHE IS THE CEO OF ORCAA, SPECIALIZED IN AUDITING ALGORITMS

we need to CONTROL how the ALGORITHMS are DESIGNED

we must not ENTRUST DECISION-MAKING to ALGORITHMS

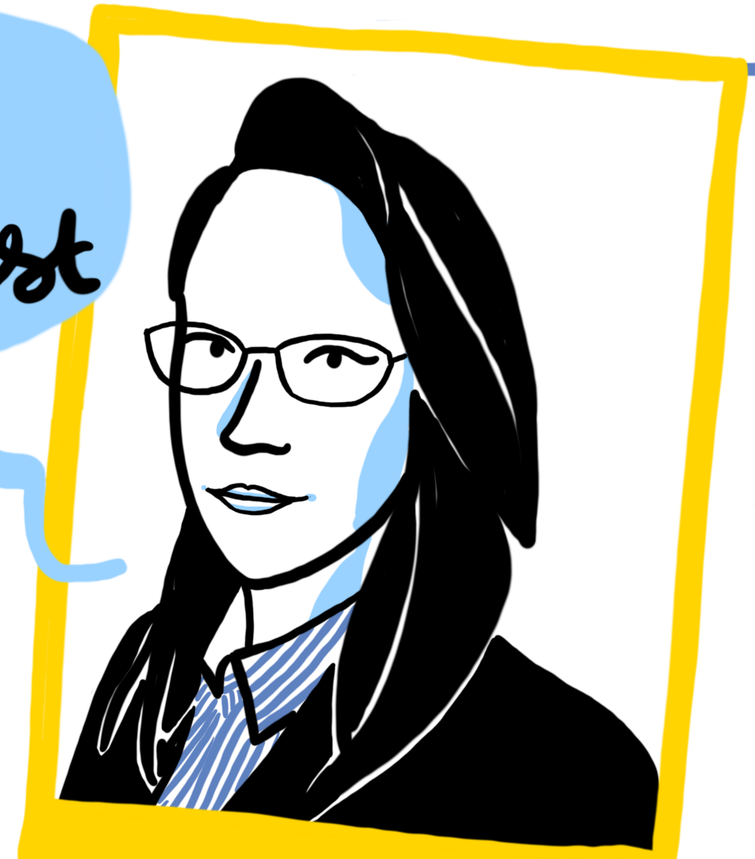
for INEQUALITIES, JUSTICE, HEALTHCARE, EDUCATION, SECURITY, EMPLOYMENT, POLITICS

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WOMEN + GIRLS IN TECH

I am data scientist

at BNP PARIBAS PERSONAL FINANCE DATALAB



CLAUDIA CAO

THE EUREKA MOMENT

DRAWN TO TECH AND VIDEO GAMES SINCE FOREVER, SHE'S BECOME PASSIONATE ABOUT CODE SINCE SHE FOLLOWED A COMPUTING CLASS, IN HER UPPER STUDIES

LOGICAL → EASY TO UNDERSTAND

PROBLEM → SOLUTION



A PIANO ENTHUSIAST SINCE SHE'S 9, TAPPING AWAY ON A KEYBOARD FOR HOURS IS *natural* FOR HER

IF YOU'RE INTERESTED IN A SPECIFIC FIELD, YOU CAN CODE FOR IT

PROGRAMMING IS A TOOL

ENGINEER SCHOOL

MISSIONS

* RESEARCH IN ARTIFICIAL INTELLIGENCE (AI)
* MODELLING CLIENT'S NEEDS

SHE IS WORKING ON JED-AI A WEB APP THAT'S TO POPULARIZE AI FOR ALL EMPLOYEES

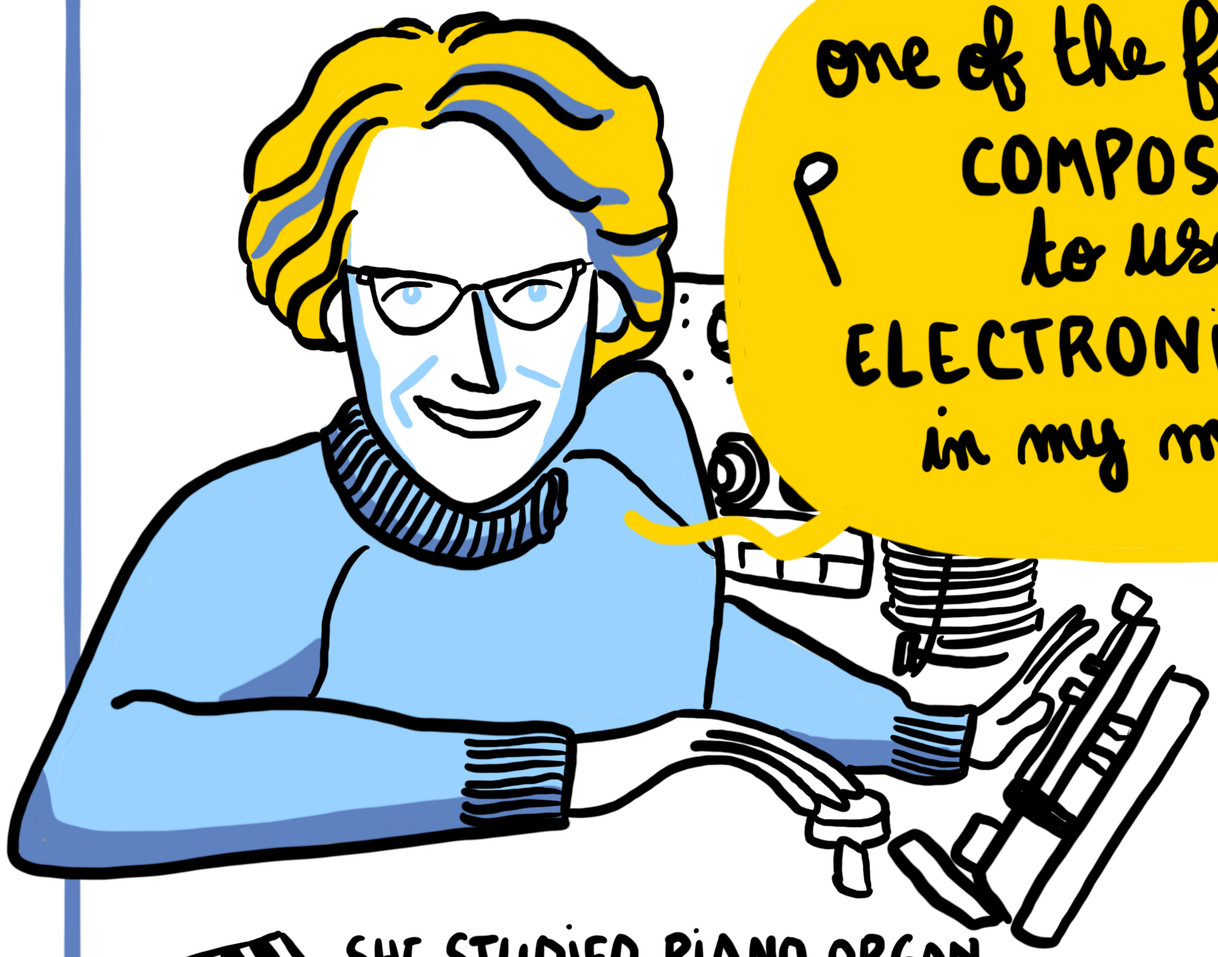
SHE TOOK PART IN THE DESIGN DE QABI, BNP PARIBAS PERSONAL FINANCE DATALAB FIRST CHATBOT

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WOMEN + GIRLS IN TECH

DAPHNE ORAM

1925 → 2003



I was one of the first COMPOSERS to use ELECTRONIC SOUNDS in my music

HER WORK MADE SYNTHETIC SOUNDS CREATION WAY EASIER AND PAVED THE WAY FOR FUTURE COMPOSERS AROUND THE GLOBE

A TECHNIC THAT PRODUCES SOUNDS BY DRAWING ON A GLASS STRIP

SHE DESIGNED

ORAMICS





SHE STUDIED PIANO, ORGAN AND COMPOSITION IN A SCHOOL FOR GIRLS

SHE REFUSED PURSUING STUDIES AT THE PRESTIGOUS ROYAL COLLEGE OF MUSIC TO WORK FOR BBC



WITH HER COLLEAGUE DESMOND BRISCOE SHE CREATES THE BBC RADIOPHONIC WORKSHOP, THE SOUND EFFECTS UNIT OF THE RADIO STATION

WOMEN + GIRLS IN TECH
@cibi1974 POUR

WOMEN + GIRLS IN TECH

SHE ALWAYS WANTED TO BE HISTORIAN



VS

there are more JOB OPPORTUNITIES



HER PARENTS PUSHED HER INTO TECH

MASTER'S DEGREE IN SCIENCE & TECH POLICIES
STUDIES HISTORY AND ETHICS OF TECH



TECH is advancing so FAST that only CONSTANT LEARNERS can cope with it

2016
EDITOR OPEN DATA ENTHUSIAST



to share my knowledge

& DATA & CONSULTING DATA & FINANCE

2017
BUILDING CLOUD BASED SYSTEM in banking

2007
DATA ARCHITECTURE

2002
IT ANALYST @BNP PARIBAS

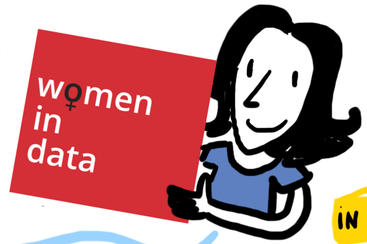
2009
CUSTOMER DATA STRATEGY

I use DATA



To provide BETTER RETAIL BANKING SERVICES

MENTOR FOR YOUNG WOMEN



AWARDED AS ONE OF 20 ROLE MODELS IN DATA AND TECHNOLOGY

INSPIRED BY OTHER WOMEN WHO MENTORED ME I DECIDED TO HELP OTHERS TOO

DİZEM ÖZALP SARİ

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WOMEN + GIRLS IN TECH

FATOUMATA KÉBÉ

@fatoumata_astro



from 2025 on every craft sent to space is to come across a debris according to NASA



AT 8, SHE GROWS FOND OF SPACE WHEN SHE DISCOVERS HER FATHER'S ASTRONOMY ENCYCLOPEDIA

EDUCATION

- ★ BACHELOR'S DEGREE IN MECHANICAL ENGINEERING
- ★ MASTER'S DEGREE IN FLUID MECHANICS
- ★ PHD IN ASTRONOMY AT THE INSTITUTE FOR CELESTIAL MECHANICS AND COMPUTATION OF EPHEMERIDES (IMCCE)

PHD ON SPACE JUNK





⚠ 130 MILLION ORBITING ARTIFICIAL DEBRIS

COLLIDE → GENERATE NEW DEBRIS

IF IT DOESN'T STOP, IT WILL BE IMPOSSIBLE TO SEND SATELLITES INTO SPACE WITHOUT RISKING COLLISION

WE HAVE TO CLEAN UP AND NOT TO KEEP ON POLLUTING

LAUNCHED CONNECTED ECO TO IMPROVE CROP IRRIGATION IN MALI



CREATES ÉPHÉMÉRIDES TO SHARE HER PASSION FOR astronomy WITH THE GENERAL PUBLIC, SCHOOLS, WORKING CLASS AREAS



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WOMEN + GIRLS IN TECH

GRACE HOPPER

1906 → 1992

"dare & DO
IT'S EASIER TO ASK FORGIVENESS THAN IT IS TO GET PERMISSION"



I had the idea of a PROGRAMMING LANGUAGE based on English to make CODING simpler

IF (WEATHER = ☀) THEN 🚲 ELSE Ⓜ

THE mother OF COBOL

(yet not the mother of the BUG)

PROFESSOR IN MATHEMATICS



1943 SHE ENLISTED IN THE US MARINES

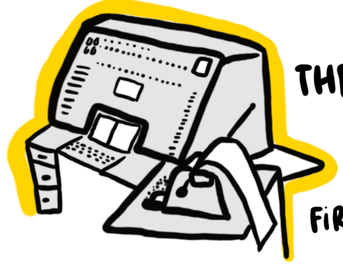
HER NAME WAS GIVEN TO A SHIP OF THE US NAVY

AMAZING grace

2016
PRESIDENTIAL MEDAL OF FREEDOM
(POSTHUMOUSLY)



SHE HELPED TO CREATE THE UNIVAC



UNIVERSAL AUTOMATIC COMPUTER
FIRST ALL-ELECTRONIC DIGITAL COMPUTER

ONCE RETIRED, THE NAVAL RESERVES CALLED HER BACK. SHE WORKED THERE UNTIL SHE WAS 80.

THE BUG Legend

1947
A MOTH STUCK INSIDE A COMPUTER CAUSES A CALCULATOR BREAKDOWN
THE ANECDOTE HELPED THE TERM COMPUTER BUG GAIN POPULARITY



First actual case of bug

MOTH TAPED UP INSIDE THE COMPUTER'S LOGBOOK

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WOMEN + GIRLS IN TECH

HEDY LAMARR

1914 → 2000

you can be a scientist & glamourous

ACTRESS

HEDY STARTED HER CAREER AS AN ACTRESS IN GERMANY AT 17

IN 1932 HER PERFORMANCE IN "ECTASY" BRINGS HER IN THE SPOTLIGHTS OF **HOLLYWOOD**

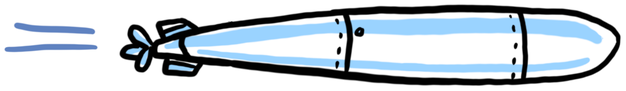
SHE BECOMES ONE OF THE MOST POPULAR ACTRESS OF HER TIME

THE MOST BEAUTIFUL WOMEN IN FILMS



DURING WORLD WAR II, SHE AND HER FRIEND, THE PIANIST **GEORGE ANTHEIL** IMAGINE **A TRANSMISSION CODE SYSTEM** THAT HELPS DECEIVE THE ENEMY WHEN SENDING GUIDED TORPEDOS





INVENTOR

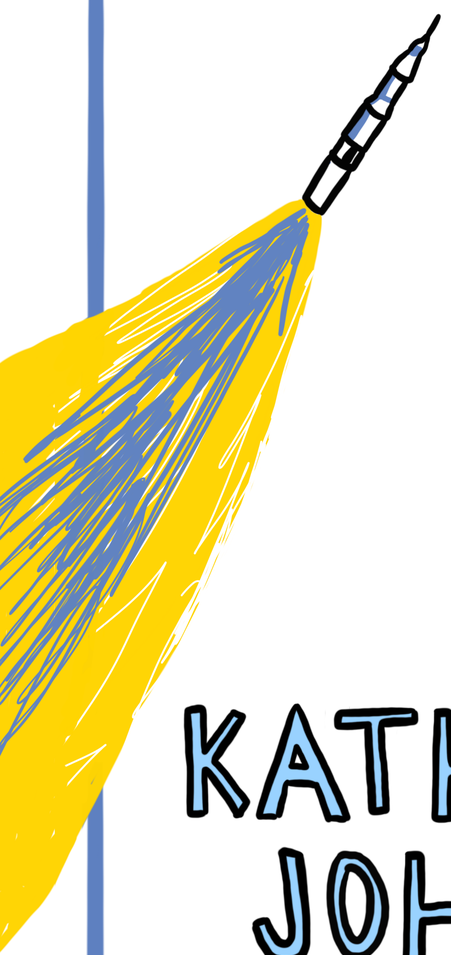
THESE WORKS ARE AT THE ROOF OF

- WIFI
- GEOLOCALISATION
- MOBILE TELEPHONY
- BLUETOOTH

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WOMEN + GIRLS IN TECH

we helped man walk on the moon!





THEIR STORY'S TOLD IN THE NOVEL

Hidden figures

BY MARGOT LEE SHETTERLY

ADAPTED AS A FILM

KATHERINE JOHNSON

1918 → 2020

SHE CALCULATED THE **APPOLLO** MISSION TRAJECTORY

DOROTHY VAUGHAN

1910 → 2008

ACTING **SUPERVISOR** OF THE WEST AREA COMPUTERS

MARY JACKSON

1921 → 2005

FIRST AFRICAN-AMERICAN WOMAN **ENGINEER** AT NASA

WOMEN + GIRLS IN TECH

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WOMEN + GIRLS IN TECH

I love TECH yet, I'm not a TECHNICIAN



THE EUREKA MOMENT

2001 → SHE JOINS L'ATELIER BNP PARIBAS START-UPS SHOW HER THAT TECH CAN BE A MAGICAL TOOL TO CHANGE THE WORLD AND PEOPLE'S LIVES



→ CHIEF DIGITAL & ACCELERATION OFFICER @ BNP PARIBAS CARDIF



A HOPE TO ERADICATE SEVERE CONDITIONS OR PUT AN END TO MORTAL ROAD ACCIDENTS

PROJECTS FOR NEW CARDIF LAB'

NATHALIE DORÉ

CAREER JOURNEY

EVENT MARKETING → BUSINESS DEVELOPMENT → INTERNATIONAL DEVELOPMENT → DIGITAL MARKETING → SILICON VALLEY

IN 35 COUNTRIES



MISSION

ACCELERATE BNP PARIBAS CARDIF TRANSFORMATION & DEVELOPPEMENT WHILE HAVING A POSITIVE IMPACT THANKS TO TECH AND INNOVATION

2 MAJOR ACHIEVEMENTS

#WOMENINTECH 2017 SILICON VALLEY DELEGATION → WOMEN'S FORUM

UP-SKILL & RE-SKILL

TO TRAIN EMPLOYEES FOR THE JOBS OF TOMORROW

UX DATA DESIGN

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WOMEN + GIRLS IN TECH

I ♥ the association of HUMAN and TECHNICAL questions



→ CAREER JOURNEY

→ SCIENTIFIC STUDIES → POLYTECHNIQUE

→ MINES PARIS → ENGINEER

→ REGIONAL BOARD
INDUSTRY, RESEARCH & ENVIRONMENT →  FRENCH FINANCIAL MARKETS AUTHORITY

→ MANAGEMENT CONTROL
BNP PARIBAS CARDIF → ACTUARIAL WORK → TECHNICAL & OPERATIONS EFFICIENCY

THE EUREKA MOMENT

I've always found COMPLEX TOPICS FUN
AMUSE



I ♥ LEARNING

PRIDE



MANAGED TO CONNECT THE WHOLE COMPANY
98%
EMPLOYEES COULD WORK REMOTELY IN FEW DAYS

it's IMPORTANT to UNDERSTAND the FINAL USER



MISSION

RESPONSIBLE FOR THE INDUSTRIAL STRATEGY

- OPTIMIZES THE OPERATING PERFORMANCE
- ANTICIPATES, INNOVATES

PAULINE LECLERC-GLORIEUX

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WOMEN + GIRLS IN TECH

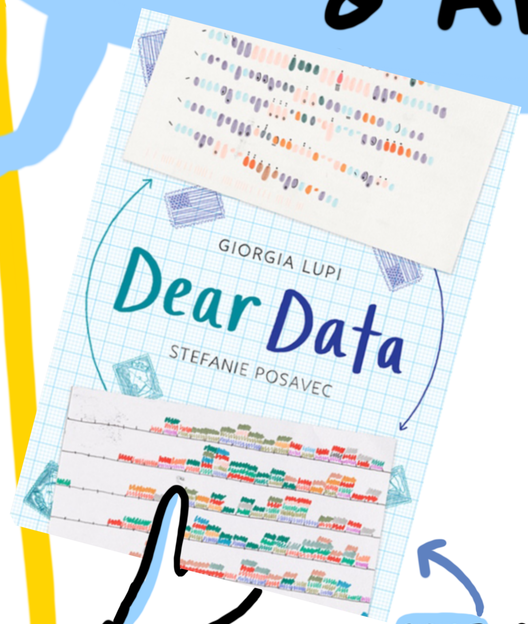
I am an INFORMATION DESIGNER & ARTIST

I ♥ creating with DATA

DATA ♥ IS AT THE OF HER CREATIONS



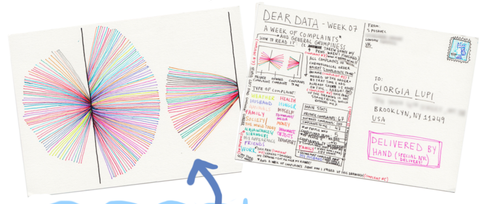
NECKLACE THAT GIVES TANGIBLE FORM TO AIR QUALITY DATA



BACHELOR OF FINE ARTS GRAPHIC DESIGN
COLORADO STATE UNIVERSITY

STUDIES

MASTER OF ARTS COMMUNICATION DESIGN
CENTRAL SAINT MARTINS



DATA VISUALISATION



BROOKLYN LONDON



2015 SHE STARTS Dear Data, A ONE-YEAR CORRESPONDENCE WITH Georgia Lupi
104 POSTCARDS WITH FREEHAND INFOGRAPHICS
TO GET TO KNOW EACHOTHER THROUGH DATA

STEFANIE POSAVEC

@stefpos

2013 SHE CREATES Relationship Dance Steps THAT SHOWS COUPLE EARLY STAGES OF INTERACTION ON



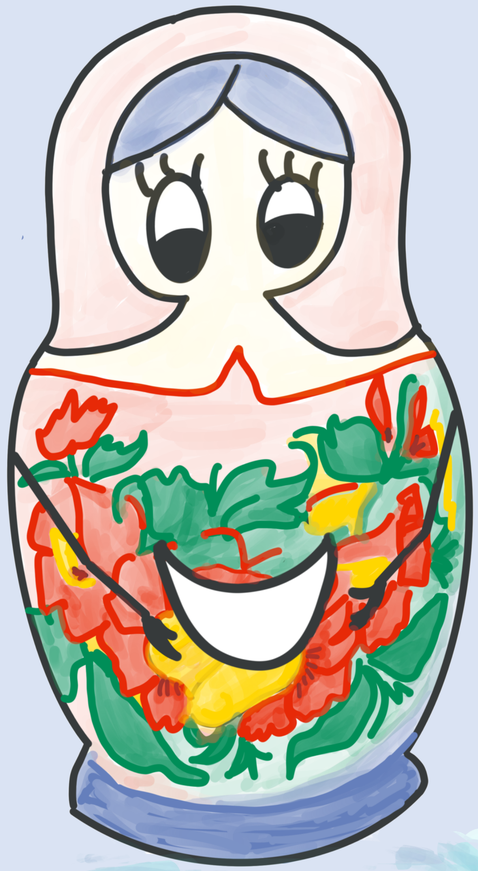
2016 Dear Data IS ACQUIRED BY **MoMA** (MUSEUM OF MODERN ART) AS PART OF THEIR PERMANENT COLLECTIONS

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WOMEN + GIRLS IN TECH

An attempt of definition

DIGITAL



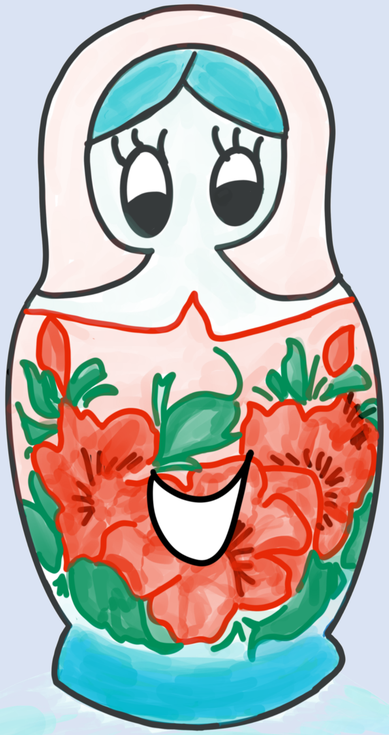
In the broad sense

TECH / Computer Science and Content

Digital Marketing
Web Content Writer
Social Media ...

TECH

Computer Science and Data Scientist, 3D Modeler ...



COMPUTER SCIENCE



Design
Developement
Softwares, Networks,
Apps, Web sites, Games
...

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WOMEN + GIRLS IN TECH

CLOUD Architect

The CLOUD is presented as COMPUTING in the CLOUDS



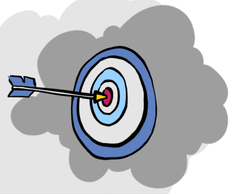
ANALYSIS

Study the EXISTING DATA STORAGE and SHARING SYSTEM & DETERMINE the REQUIREMENTS



DESIGN

Defines the GENERAL CONFIGURATION of the CLOUD to meet the REQUIREMENTS



SUPERVISE

ASSIST, ADVISE and even DIRECT the IMPLEMENTATION of the CLOUD in collaboration with the PROJECT MANAGER





The CLOUD ARCHITECT must DEFINE TECHNICAL SOLUTIONS & ORGANISE the TRANSITION to servers OUTSIDE the Company

→ Having a STRATEGIC & FUNCTIONNAL VISION while MASTERING technical SECURITY, and PRIVACY aspects





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WOMEN + GIRLS IN TECH

WEB Project Manager

Notes the users' NEEDS

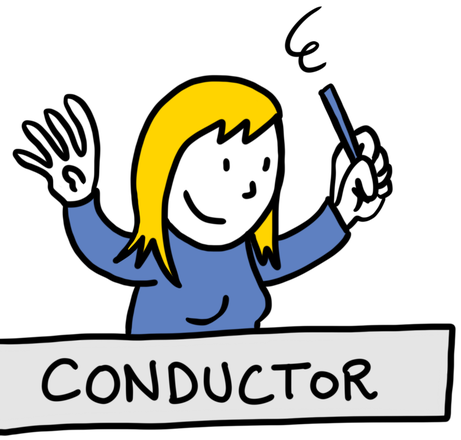
Assesses the Technical FEASIBILITY

Writes the Technical SPECIFICATIONS

Draws up the PLANNING & the BUDGET

Coordinates the TEAMS

Performs the TESTS



The WEB PROJECT MANAGER is IN CHARGE of CREATING, IMPLEMENTING & MANAGING WeB Projects.

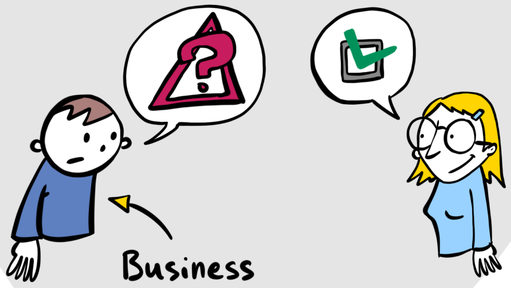
- Technical Knowledge
- Organisation
- Team Spirit
- Supervision
- Communication

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WOMEN + GIRLS IN TECH

Data Scientist

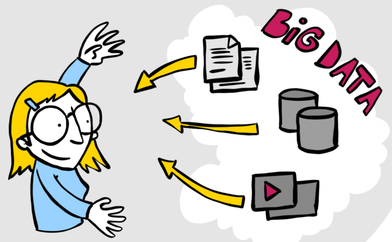
1. Understands the PROBLEM



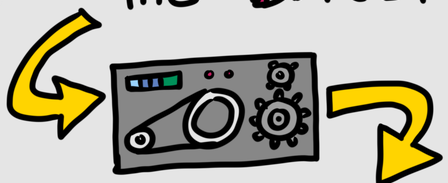
2. Finds a STATISTICAL MODELLING



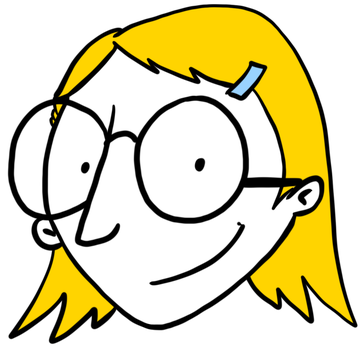
3. Identifies & Gathers the Relevant DATA



4. ANALYSES the DATA

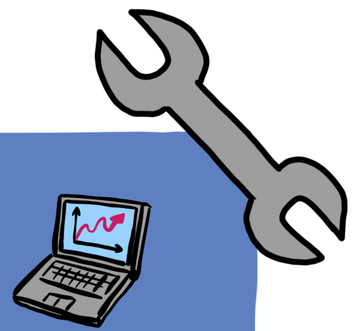


COMMUNICATES the RESULTS



The Data Scientist ANALYSES, EXPLOITS & MAKES SENSE out of Significant volumes of DATA from diverse sources (BiG DATA)

- ★ Expert in STATISTICS & COMPUTING
- ★ Customer- & BUSINESS-oriented
- ★ Good MARKETING Knowledge



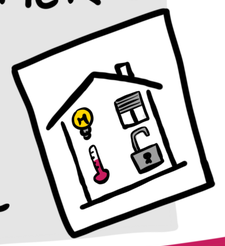
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Pour @tewoz

WOMEN + GIRLS IN TECH

Home Automation Engineer

1

Collects the CUSTOMER's NEEDS & DESIGNS the Requested System

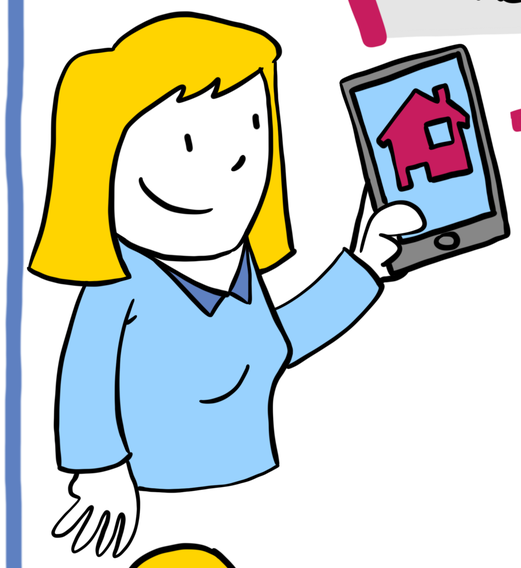


2

Installs the equipment or Supervises the Installation

- For PRIVATE INDIVIDUALS (Security Alarm, heating, Lightening Watering, Fire Alarm ...
- For COMPANIES (Security, Communication...)





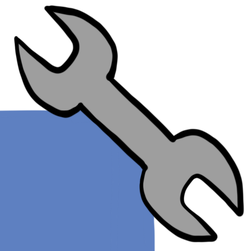
3

Takes care of Customers' TRAINING & AFTER-SALE SERVICE



The Home Automation Engineer's WORK consists in MAKING HOMES SMARTER thanks to available COMPUTER & ELECTRONIC Solutions

- ★ Electricity
- ★ Electronics
- ★ Information Technology
- ★ Heating / Air Conditioning
- ★ Telecommunication ...

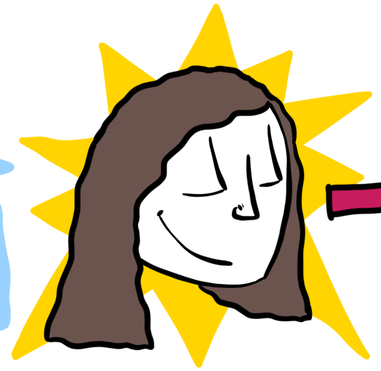


GIRLS IN TECH
@tewoz pour ■ WOMEN + GIRLS IN TECH

WOMEN + GIRLS IN TECH

ERGONOMIST

The ERGONOMIST plays the role of an ADVISOR



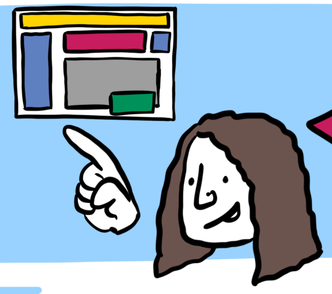
ANALYSES the USERS' BEHAVIOURS



DRAFTS FUNCTIONAL SPECIFICATIONS



DEFINES the basic ERGONOMICS



TESTS the RESULTS of her OPTIMISATIONS



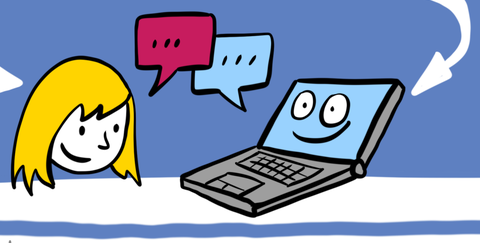
HELPS the USER GET to GRIP with the CHANGES







The GOAL of the ERGONOMIST is to IMPROVE the HUMAN - MACHINE DIALOGUE



- ★ Good knowledge of the WEB & in IT
- ★ ANALYTICAL skills
- ★ Good LISTENING qualities & EMPATHY

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WOMEN + GIRLS IN TECH pour @tewoz

WOMEN + GIRLS IN TECH

GROWTH-HACKER

MAIN GOAL

↳ Acquiring new CUSTOMERS thanks to MARKETING CAMPAIGNS

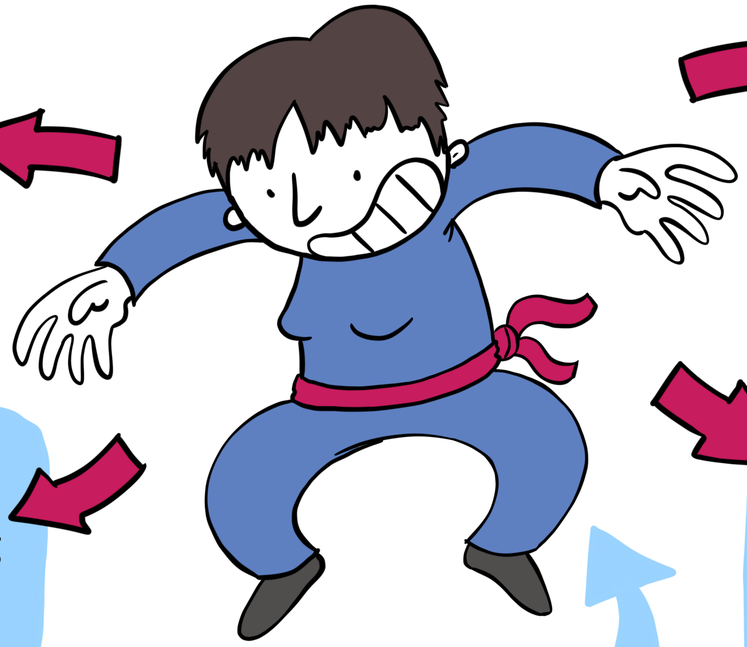
...

ANALYZES

the current CAMPAIGNS

→ INCREASES the BUDGET dedicated to successful campaigns

→ CUTS the BUDGET to those that aren't working



OPTIMIZES her DATA

AUTOMATES her PROCESSES

FINDS new

TESTS new CAMPAIGNS

STUDIES the customers' behaviors

↳ ADAPTS the CAMPAIGNS & APPROACHS accordingly

MARKETING "NINJA"

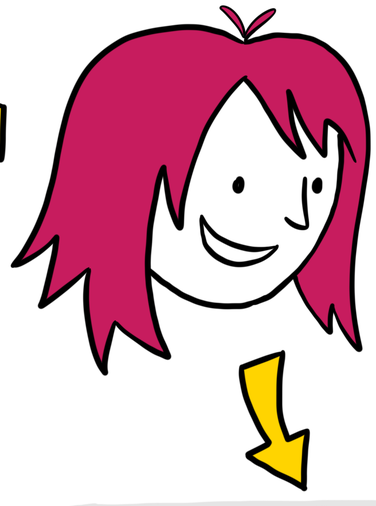
The GROWTH-HACKER is putting her SKILLS to use to MAXIMIZE the ↗ GROWTH of a COMPANY while using as little RESSOURCES as possible.

- ★ Versatility
- ★ WEB, SEO & Social MEDIA skills
- ★ Good MARKETING knowledge

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LOW TECH Engineer



The SOLUTIONS I'm implementing have to BE ...

USEFUL

They meet ESSENTIAL needs

- Power
- Food
- Water
- Waste Management
- Accommodation
- Transportation
- Health ...

SUSTAINABLE

From PRODUCTION to DISTRIBUTION & END-of-LIFE, they're designed to BE

- SOLID
- REPAIRABLE
- RECYCLABLE

ACCESSIBLE



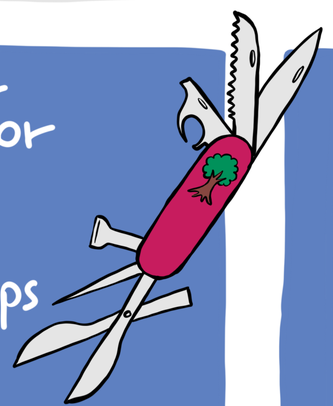
Little PRICEY & EASY to USE

⇩

Accessible to MOST PEOPLE

Real ALL-Rounder for ENERGY TRANSITION,

The LOW TECH ENGINEER helps to PRODUCE & CREATE in a SUSTAINABLE & EASY manner.



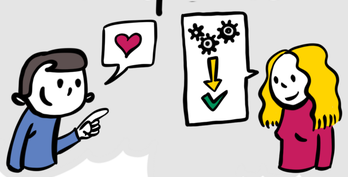
- ★ Good knowledge of the Environmental Issues
- ★ Creativity
- ★ Inventiveness
- ★ Open - Mindedness

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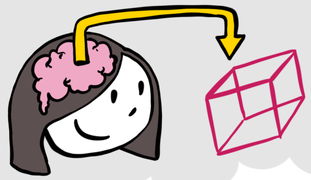
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Virtual Reality Engineer

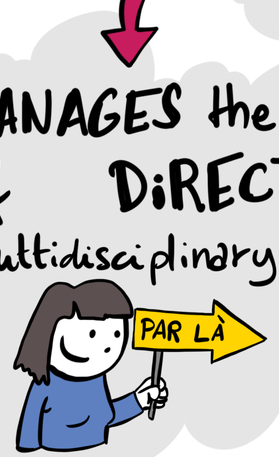
ANALYSES requests



CONCEPTUALIZES the Project of 3D Universe Creation



MANAGES the Project & DIRECTS a Multidisciplinary team



Steady IMPROVEMENT



Field of Application

Aeronautics



Automobile Industry



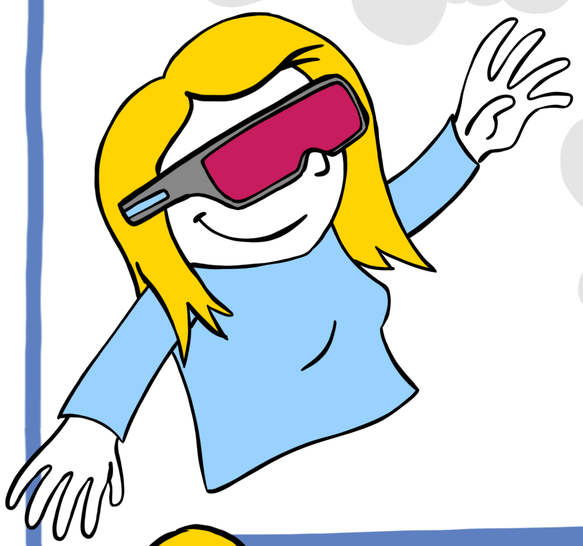
Medical Sector



Video Games



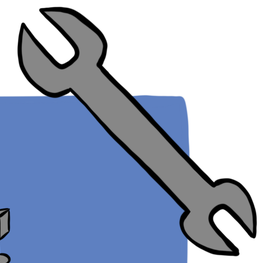
etc...





In charge of Creating VIRTUAL UNIVERSES in 3 Dimensions





- ★ Masters Virtual Technology
  - ↳ SOFTWARE & HARDWARE

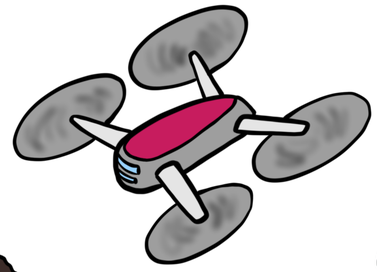


- ★ Rigour and Organization
- ★ Creativity

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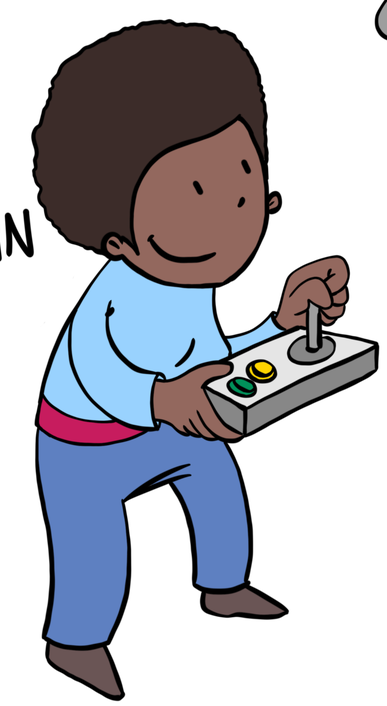
WOMEN + GIRLS IN TECH

DRONE PILOT



BEFORE the FLIGHT

- Studies the FILE & Prepare the FLIGHT PLAN
- Prepares the EQUIPMENT
- Enquires about the WEATHER CONDITIONS
- Relay the FLIGHT PLAN to the AIR TRAFFIC CONTROL CENTRES



DURING the FLIGHT

- Has a Good COMMAND of the DRONE
- Abides the SAFETY RULES
- Takes EXPLOITABLE SHOTS

AFTER the FLIGHT

- Writes a MISSION REPORT
- Maintains her DRONE

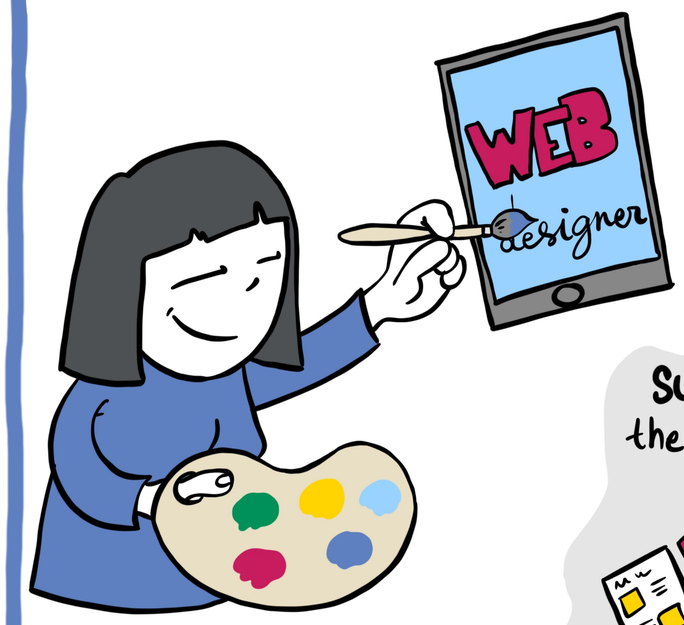
In the CIVIL Life or the ARMY, the DRONE PILOT controls DRONE MOVEMENTS according to the ASSIGNED MISSIONS.

- ★ Excellent sens of DIRECTION
- ★ Rigour
- ★ Self-reliance
- ★ Proactivity

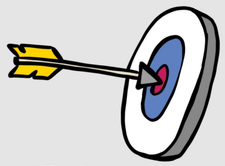
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WEB Designer



TARGET the NEEDS

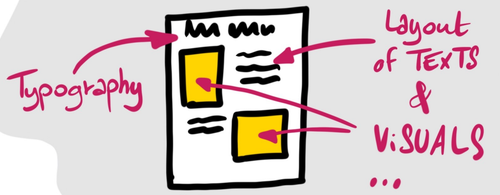


Technical → Constraints
Financial →

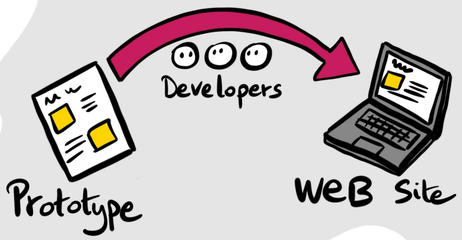
DEVELOPING the GRAPHIC Design & VISUAL identity



Creating a PROTOTYPE



SUPERVISE the INTEGRATION



Ensure post-DELIVERY follow-up



→ Make MODIFICATIONS

Optimize SEARCH ENGINE OPTIMIZATION



DESIGN TRAINING MATERIALS



Both an ARTIST & a COMPUTER SCIENTIST, the WEB DESIGNER specializes in CREATING ERGONOMIC Web INTERFACES

- ★ GRAPHIC SOFTWARES SKILLS (Photoshop, Illustrator...)
- ★ Understanding of WEB CONSTRAINTS
  - → ERGONOMICS
  - → SEARCH ENGINE OPTIMIZATION...

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