



# Thinking and working visually for software testers

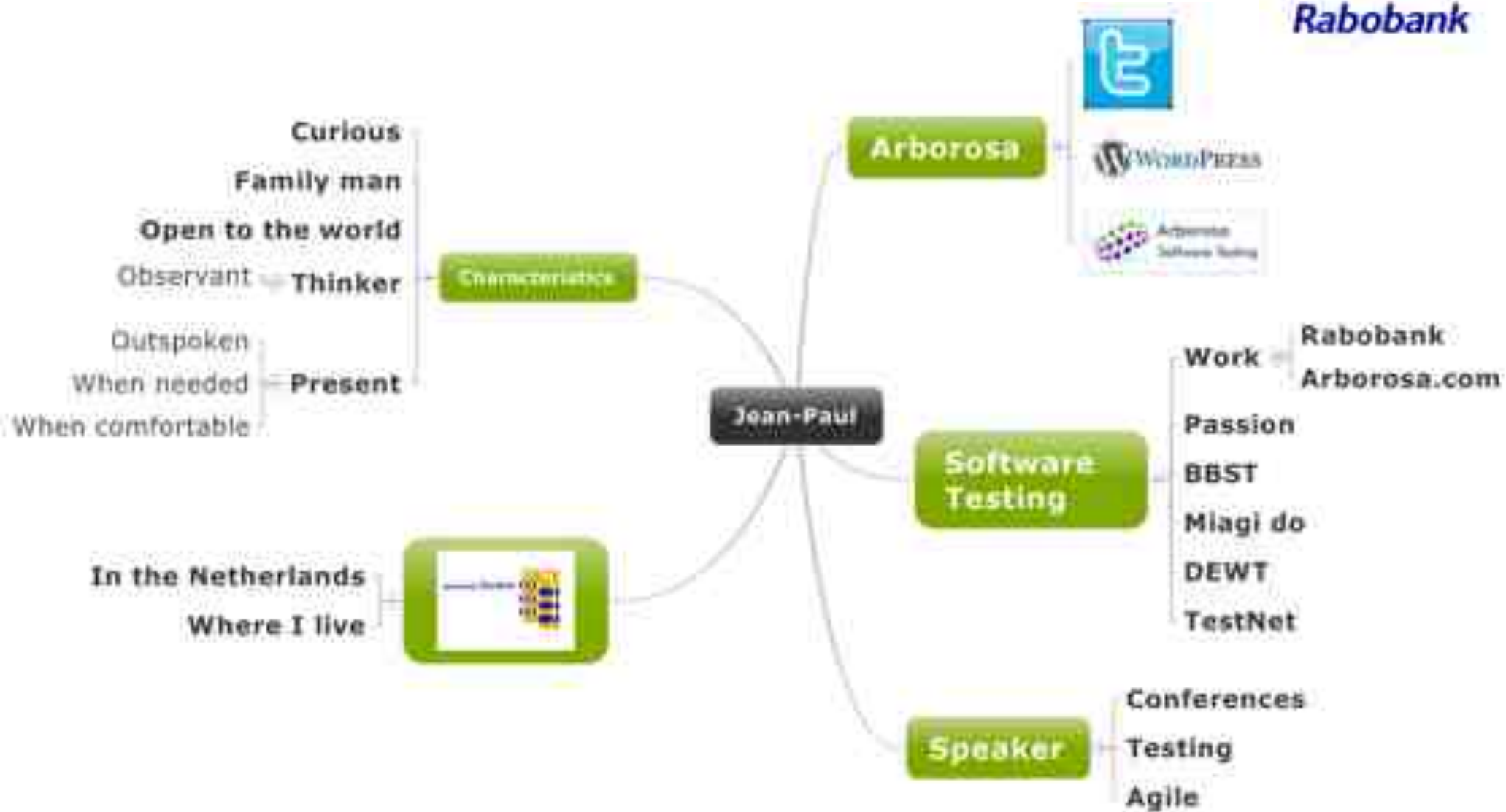
**Jean-Paul Varwijk & Huib Schoots**

**Let's Test 2013**

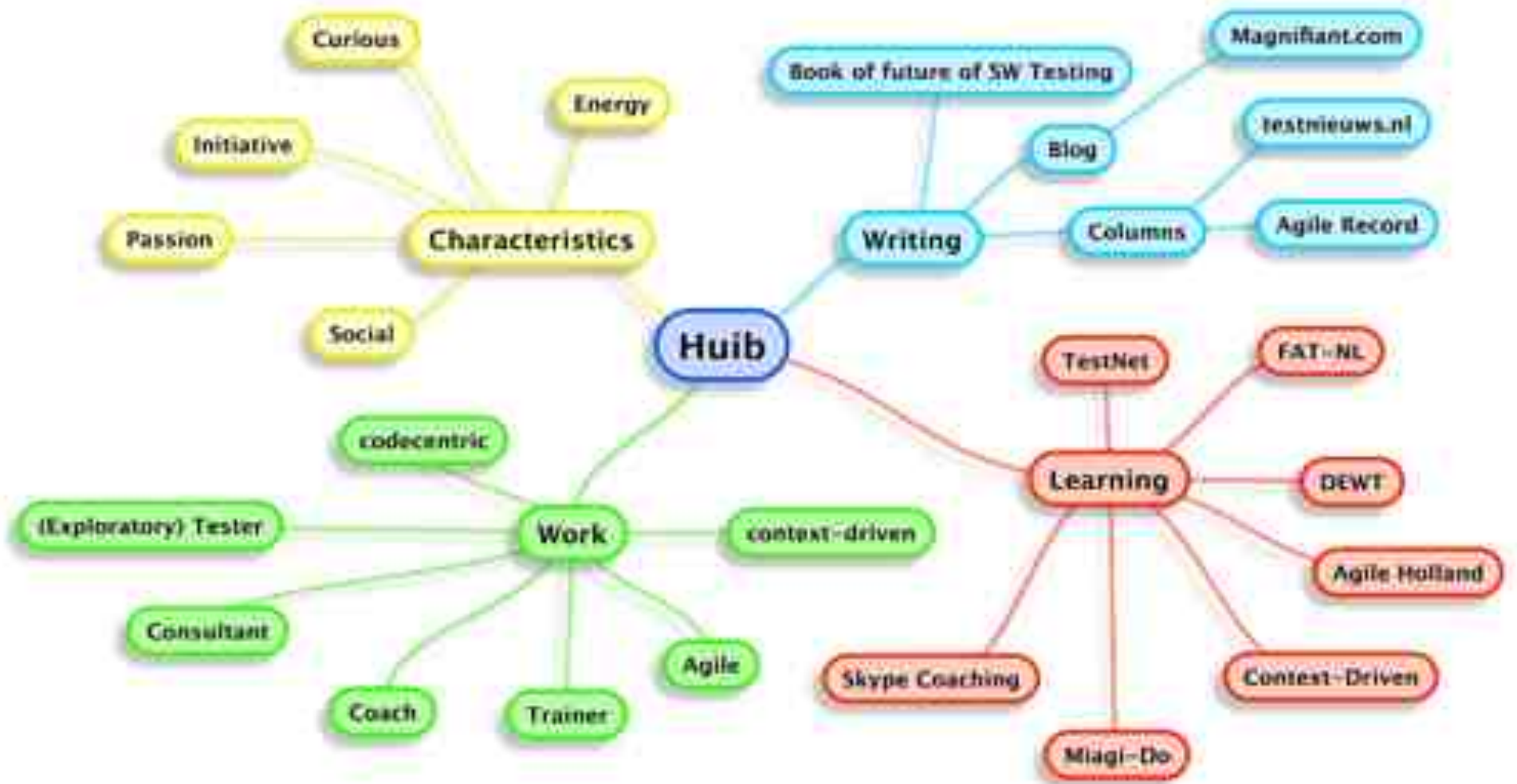
# About us: Jean-Paul



Rabobank



# About us: Huib



# Exercise: your house

Take 1 minute to describe your house



# Goals for today

Experience and learn about visual thinking

Experience you do not have to be an artist to think & work visual





# Your tools for today

**Let's Test Notebook**

**Gray marker for shading**

**Marker for drawing**

**Colour marker to  
give your drawings  
some nice colour...**



# Feedback



Fast Feedback & Fun



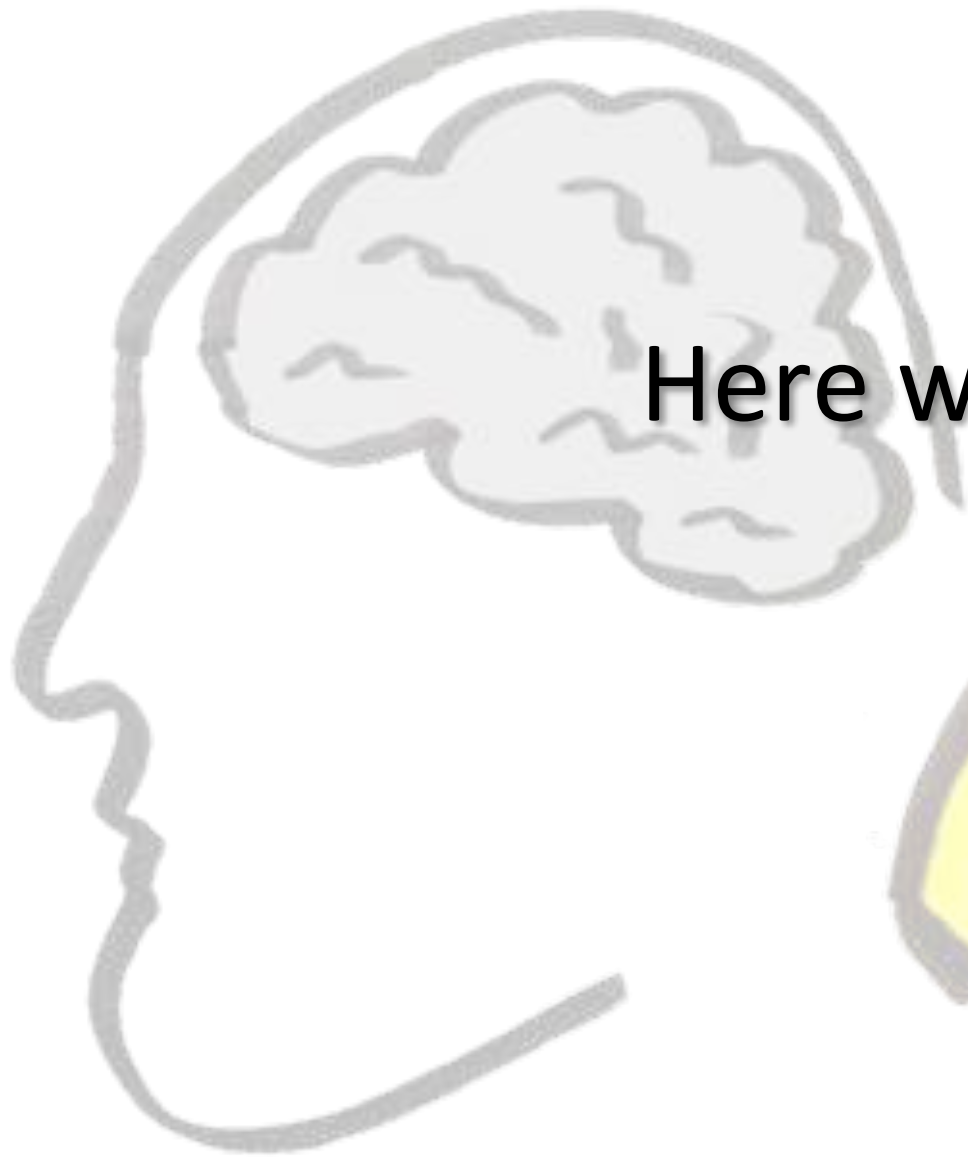
@arborosa

@huibschoots

#letstest

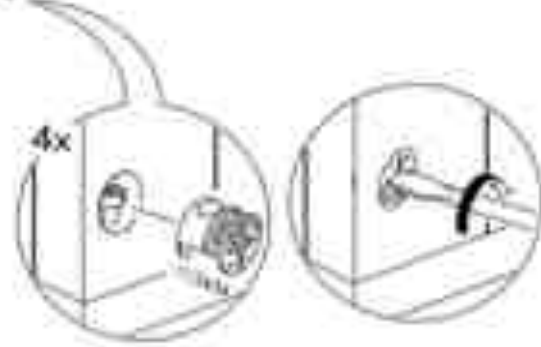
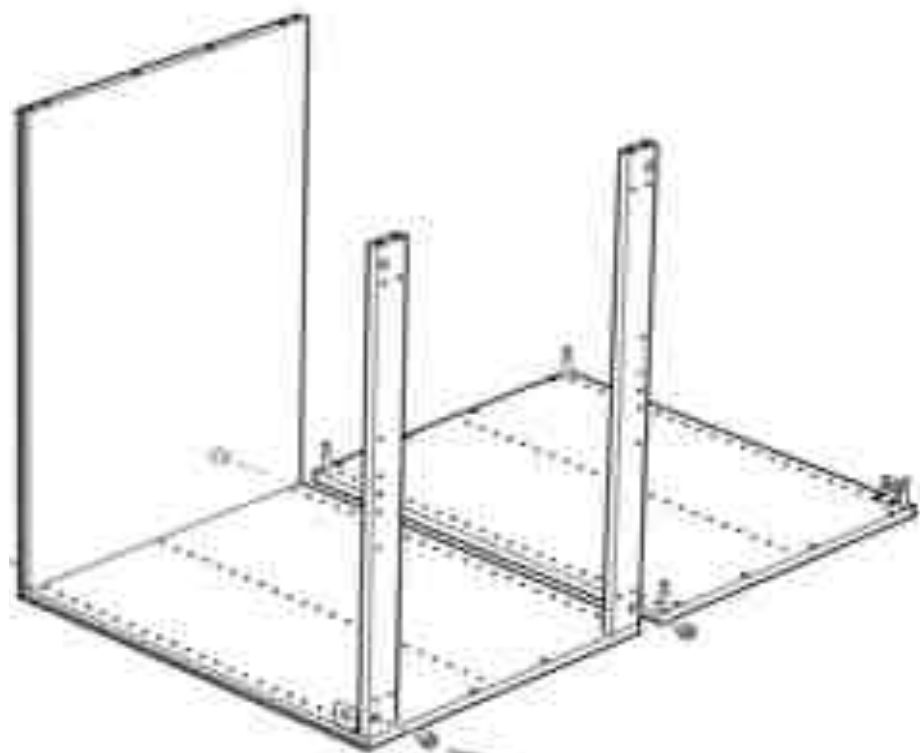
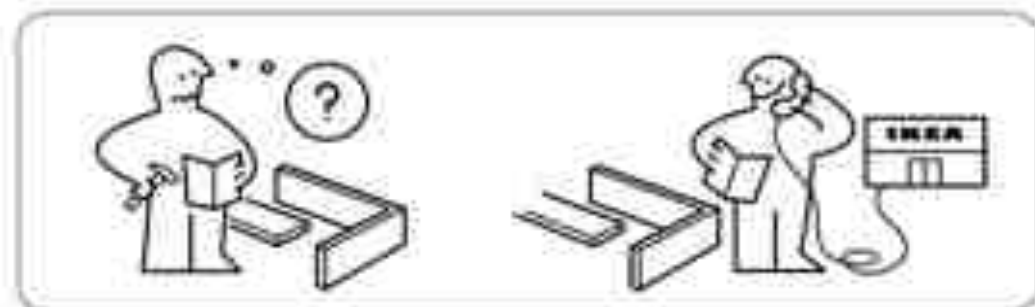
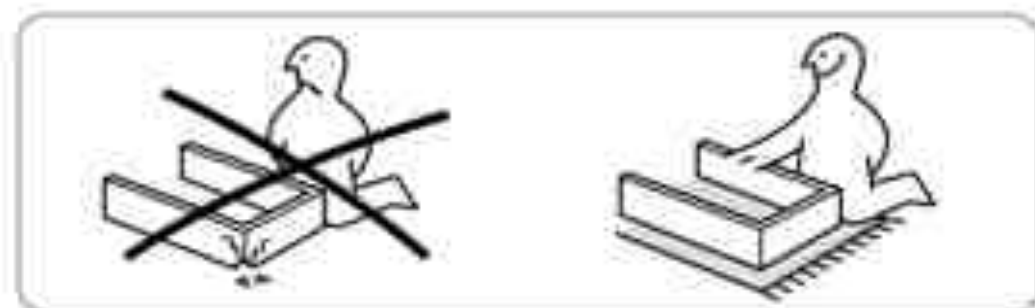
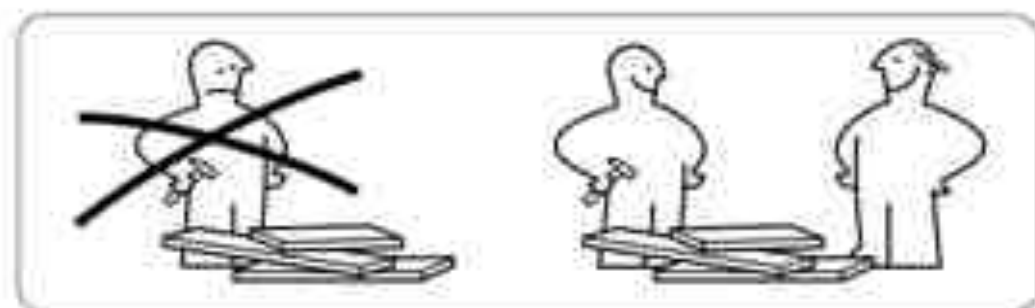






Here we go...







# Your brain

Logic

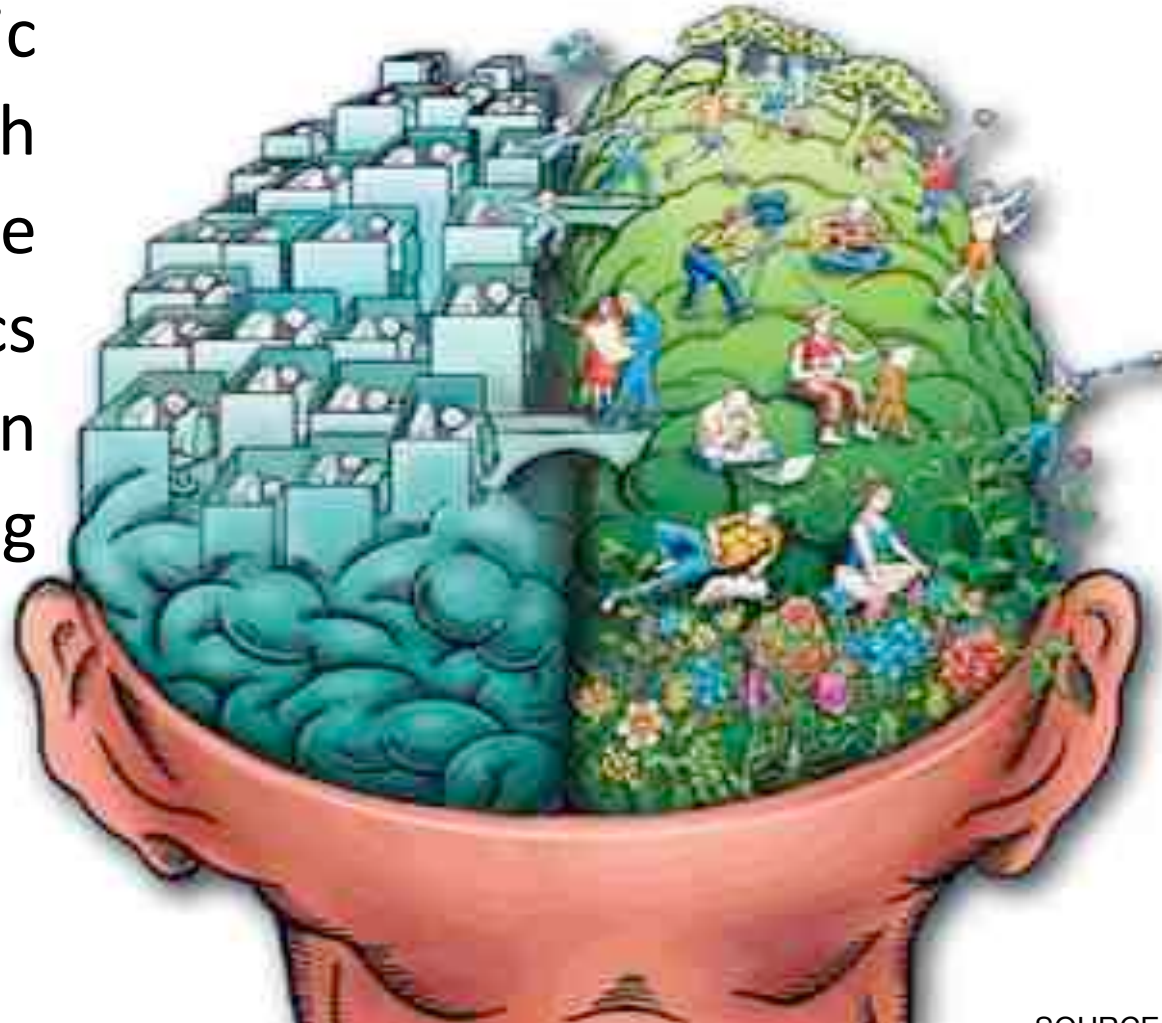
Speech

Language

Analytics

Calculation

Abstract thinking



Color

Phantasy

Music

Images

Feeling

Rythm

Creativity



# Creativity

- Adults: on average 3 to 6 alternatives
- Children: often 60 or more alternatives

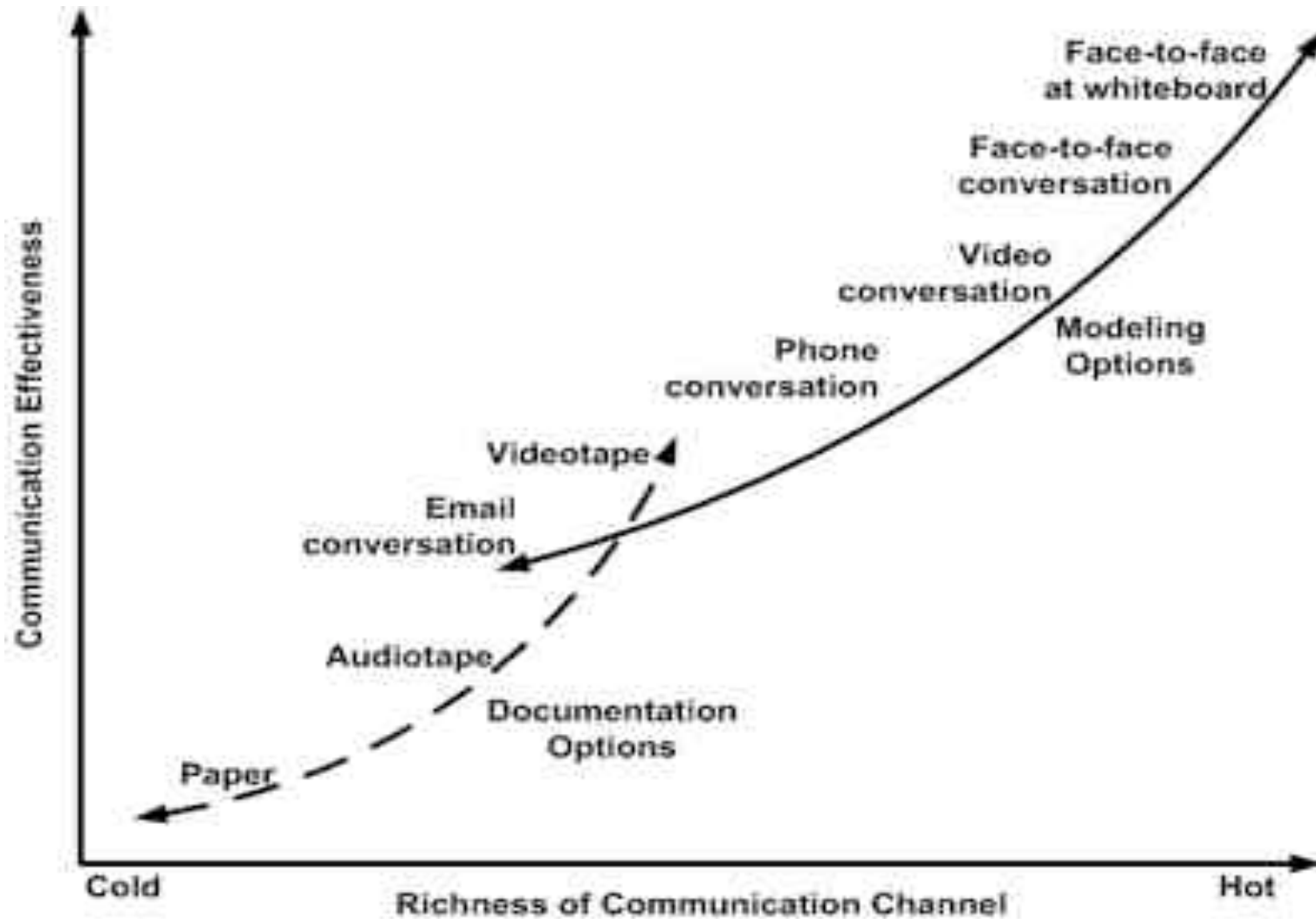
Numbered by ...

- Education
- Norms & values
- Inhibiting curiosity
- Coloring within the lines





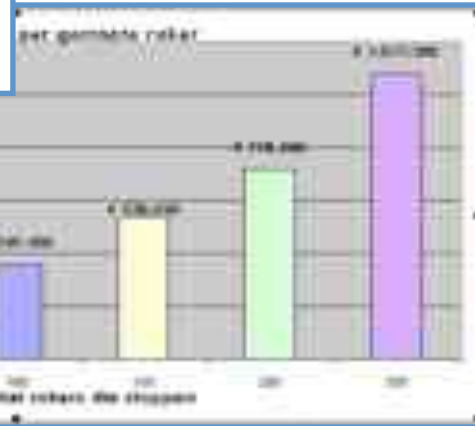
# Communication



# Visualisation

Best known forms:

- Traffic signs
- Diagrams
- Graphics
- Tables
- Maps
- Photos

A table with multiple columns and rows. The right side of the table features a series of colored bars (red, blue, yellow, green, purple) corresponding to the data in the table. The table contains various numerical and text entries.

# Exercise: bean counting



Rules of the game:

1. We show you 4 sets of beans
2. Every set will be on the screen for 1.5 seconds only
3. Count the beans!

**Are you ready?**



# Exercise: bean counting - 1

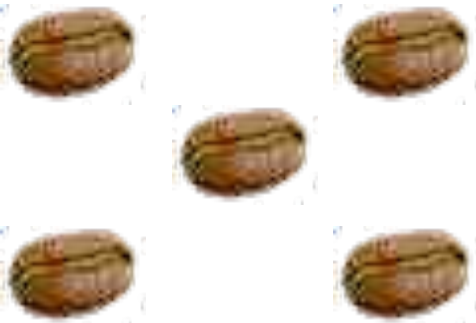
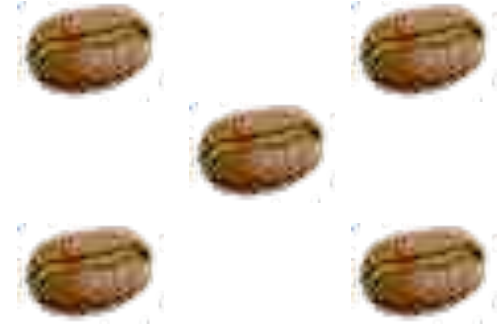
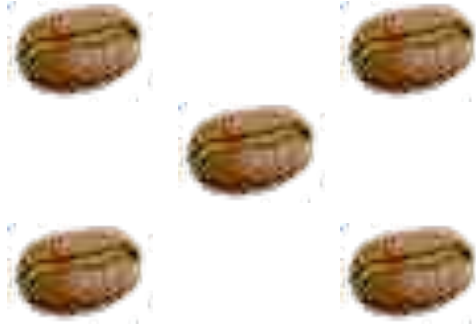
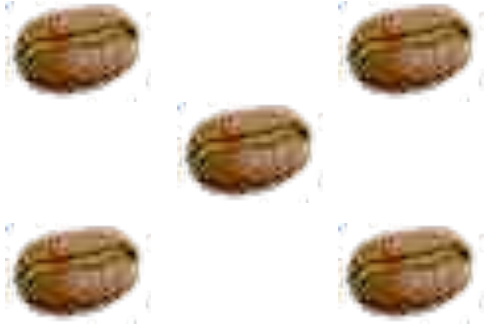


# Exercise: bean counting - 2





# Exercise: bean counting - 3



# Exercise: bean counting - 4



# So how many beans did you count?

Exercise: bean counting - 1.



**5**

Exercise: bean counting - 2.



**7**

Exercise: bean counting - 3.



**30**

Exercise: bean counting - 4.



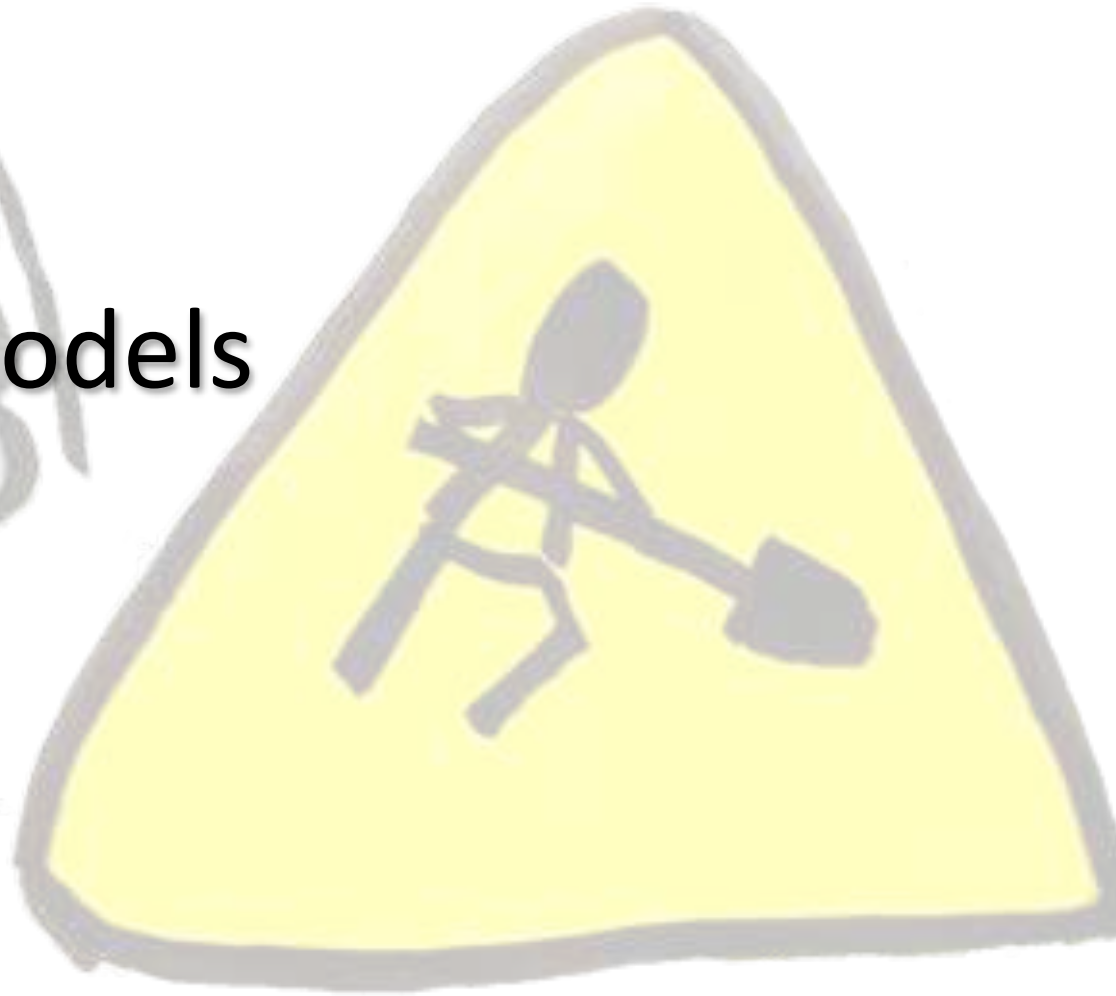
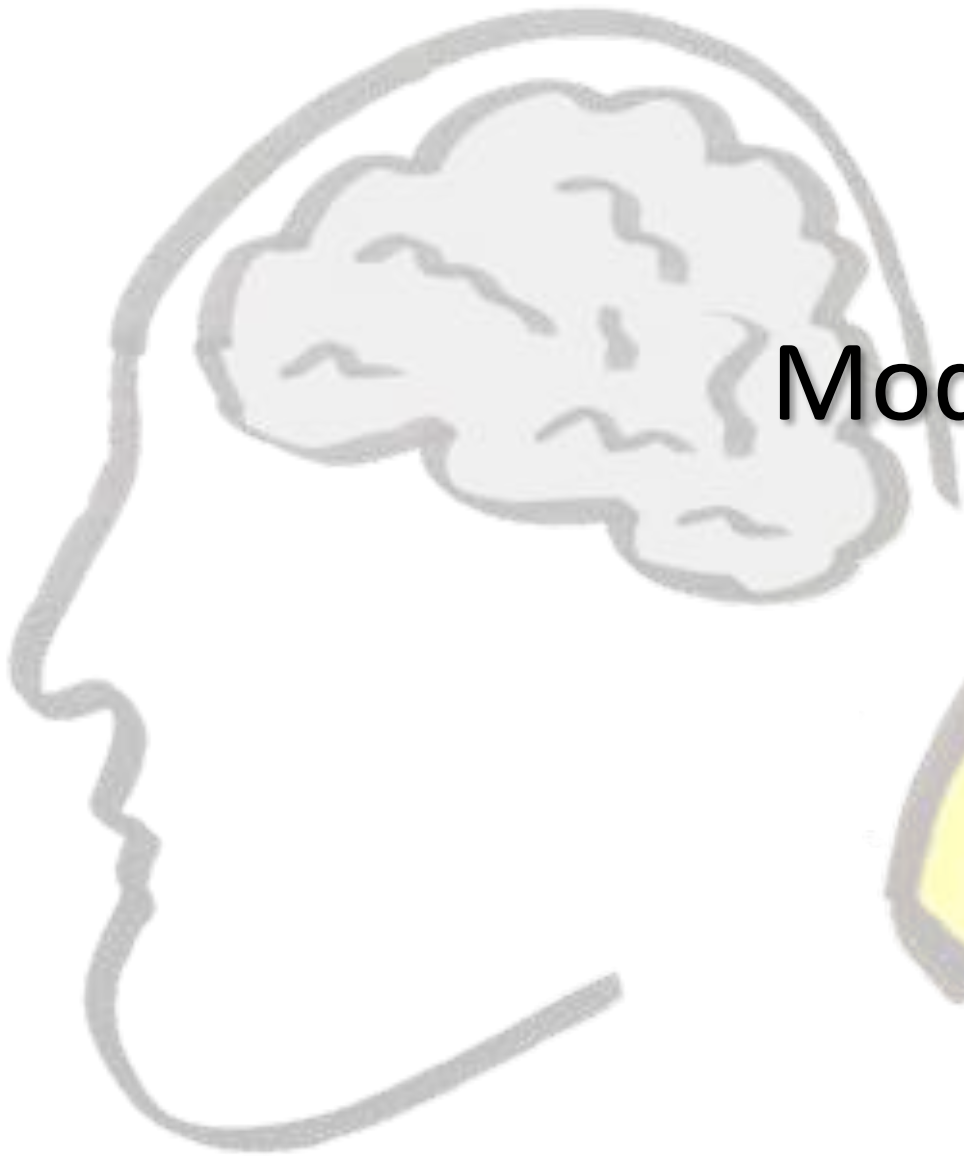
**14**

# Visualisation helps to:

- Develop ideas and information
- Steer thought processes
- Transfer ideas and results
- To express yourself using little text and explanation



Models





# Models

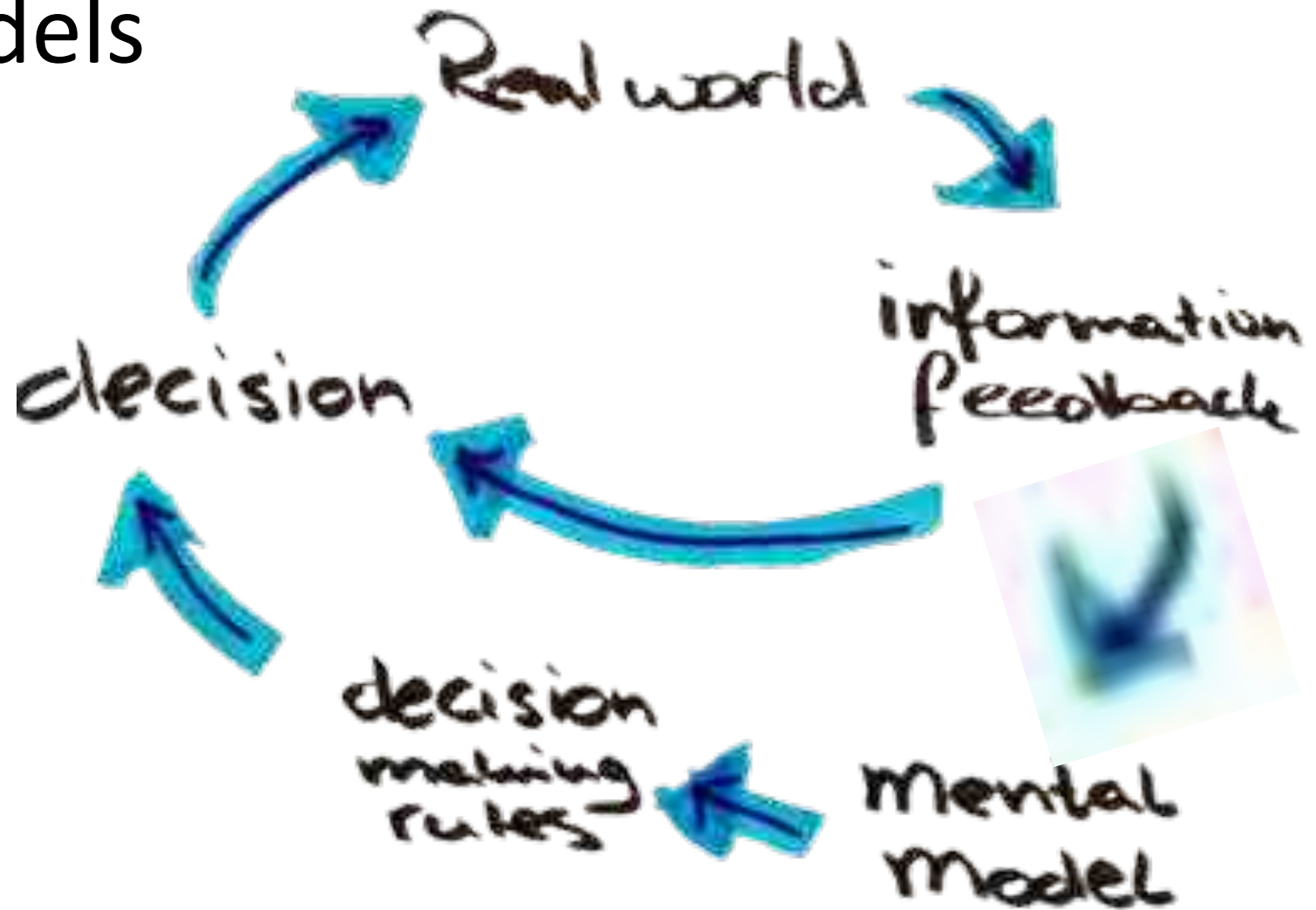


- Is a representation of anything else
- Help you understand and solve problems
- Simplify complex stuff
- A good model is one that helps you understand or manipulate the thing that it represents

“Essentially, all models are wrong, but some are useful”

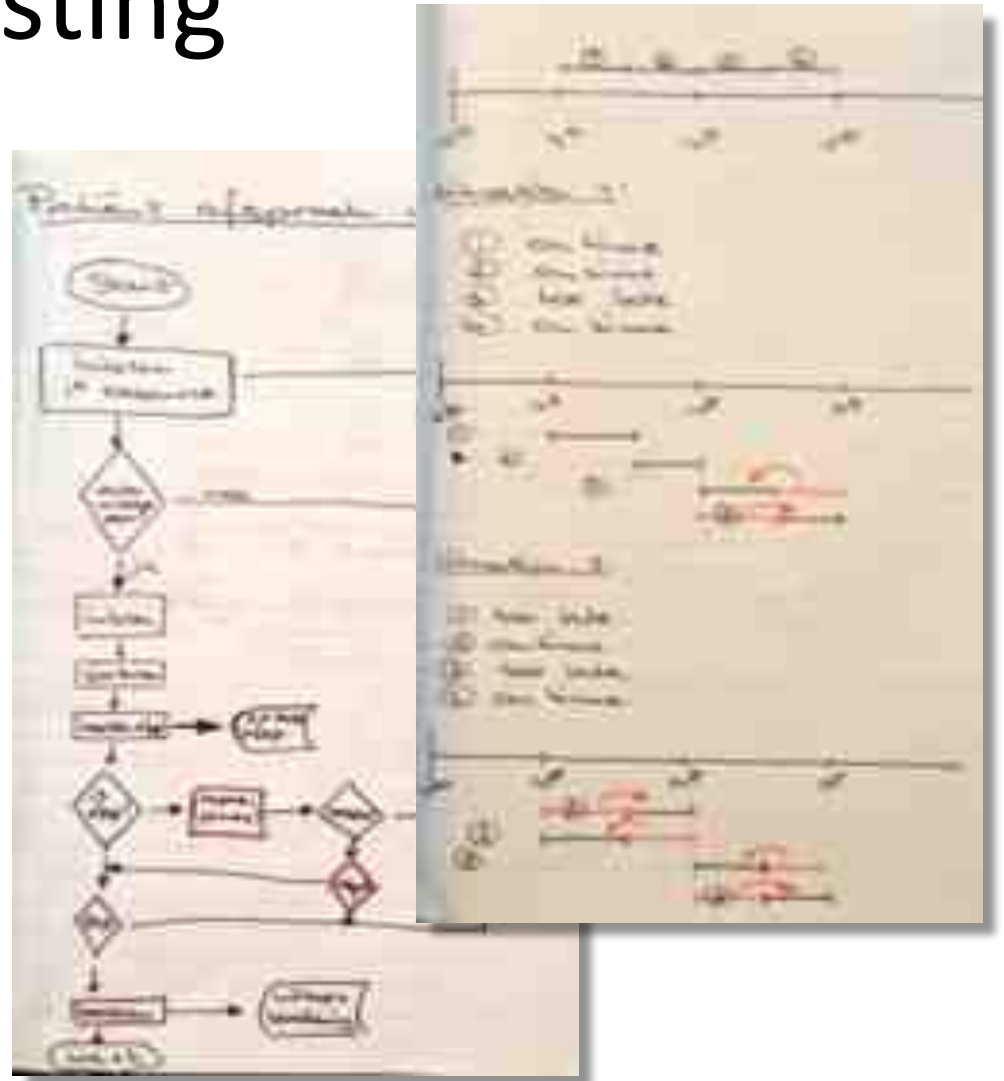
George E. P. Box (British mathematician and Professor of Statistics)

# Models

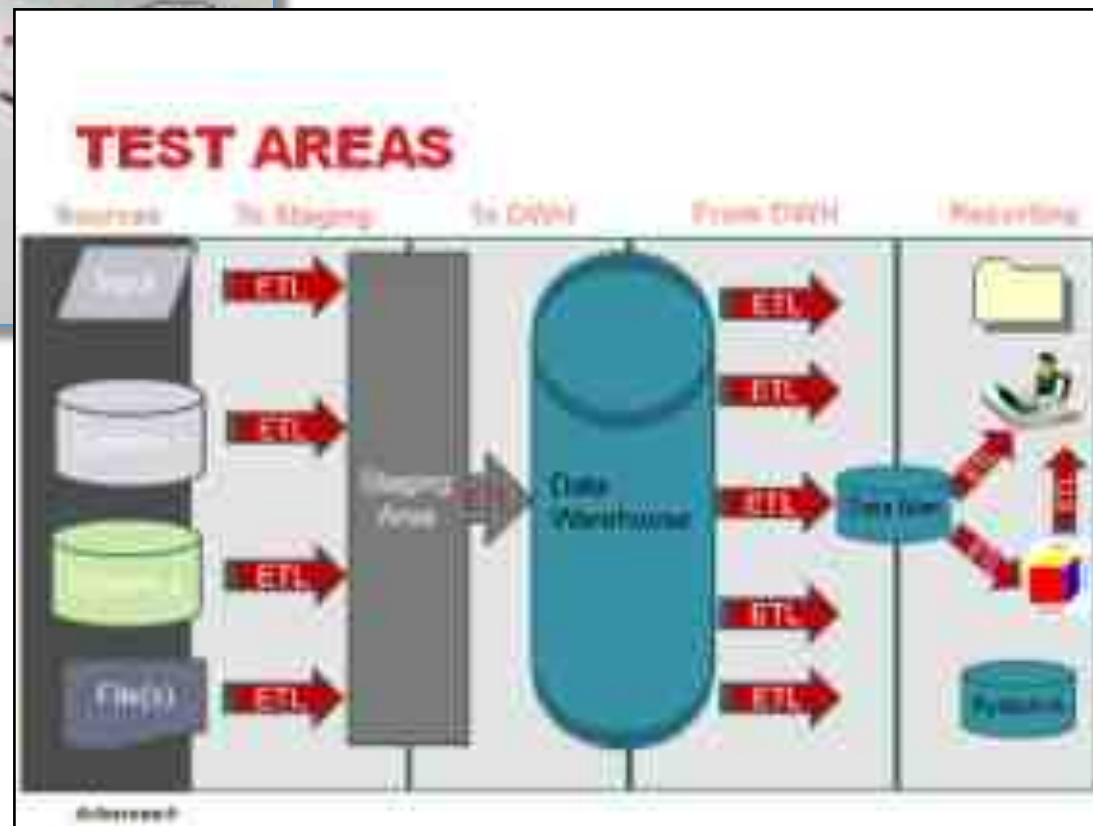


# Modeling your testing

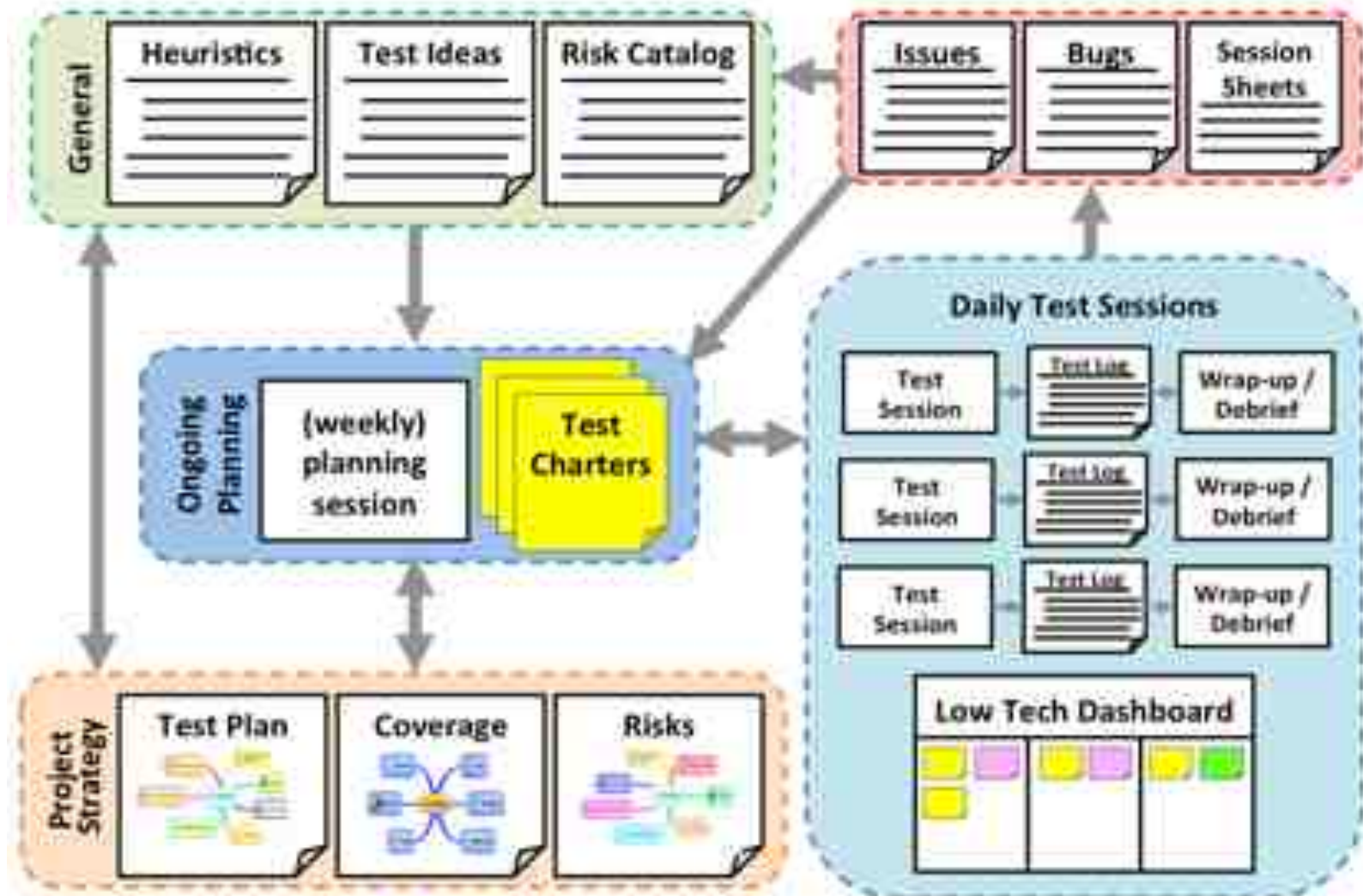
- Flowcharts
- Timelines
- Equivalence Classes
- SQL Joins
- State diagrams
- Story Boarding
- Etc.

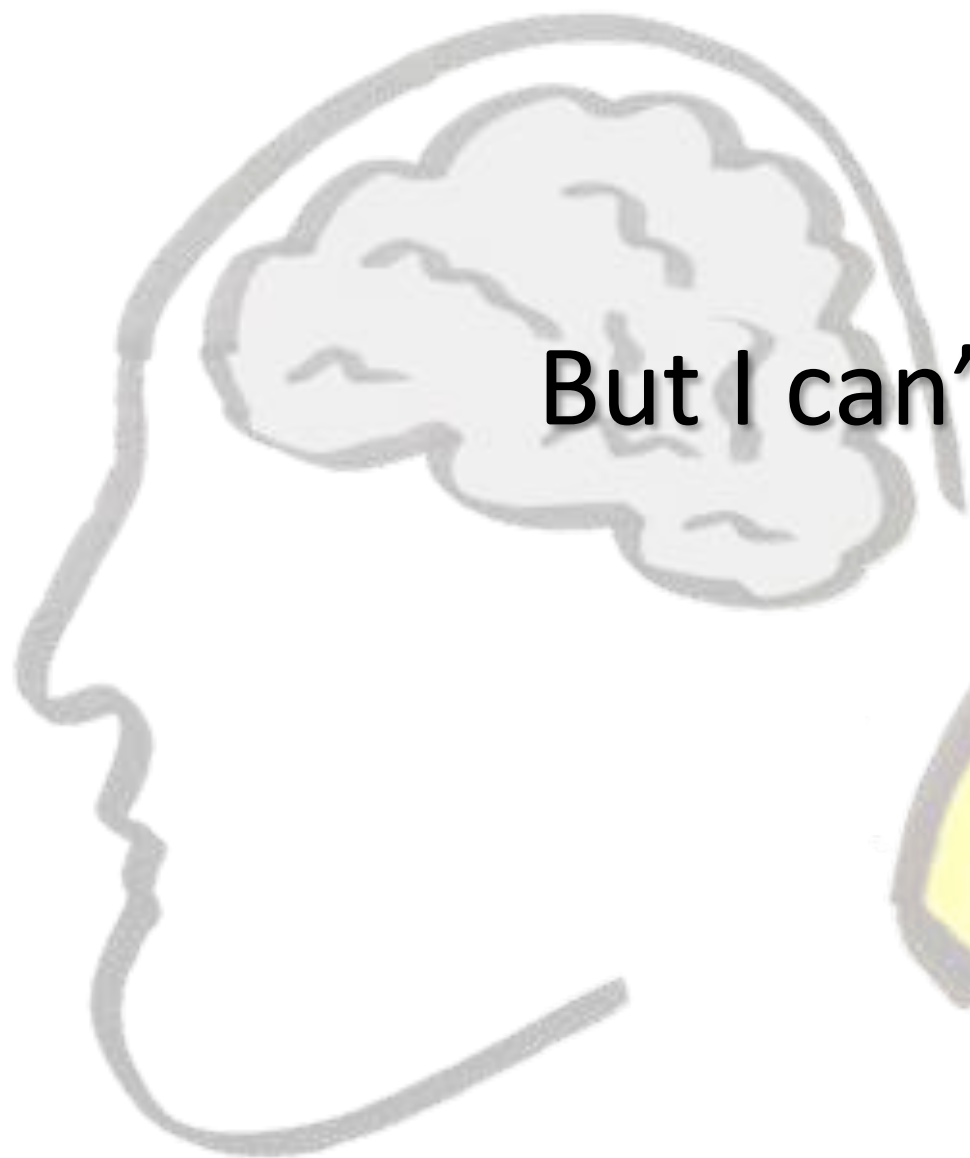


# Example: DWH model

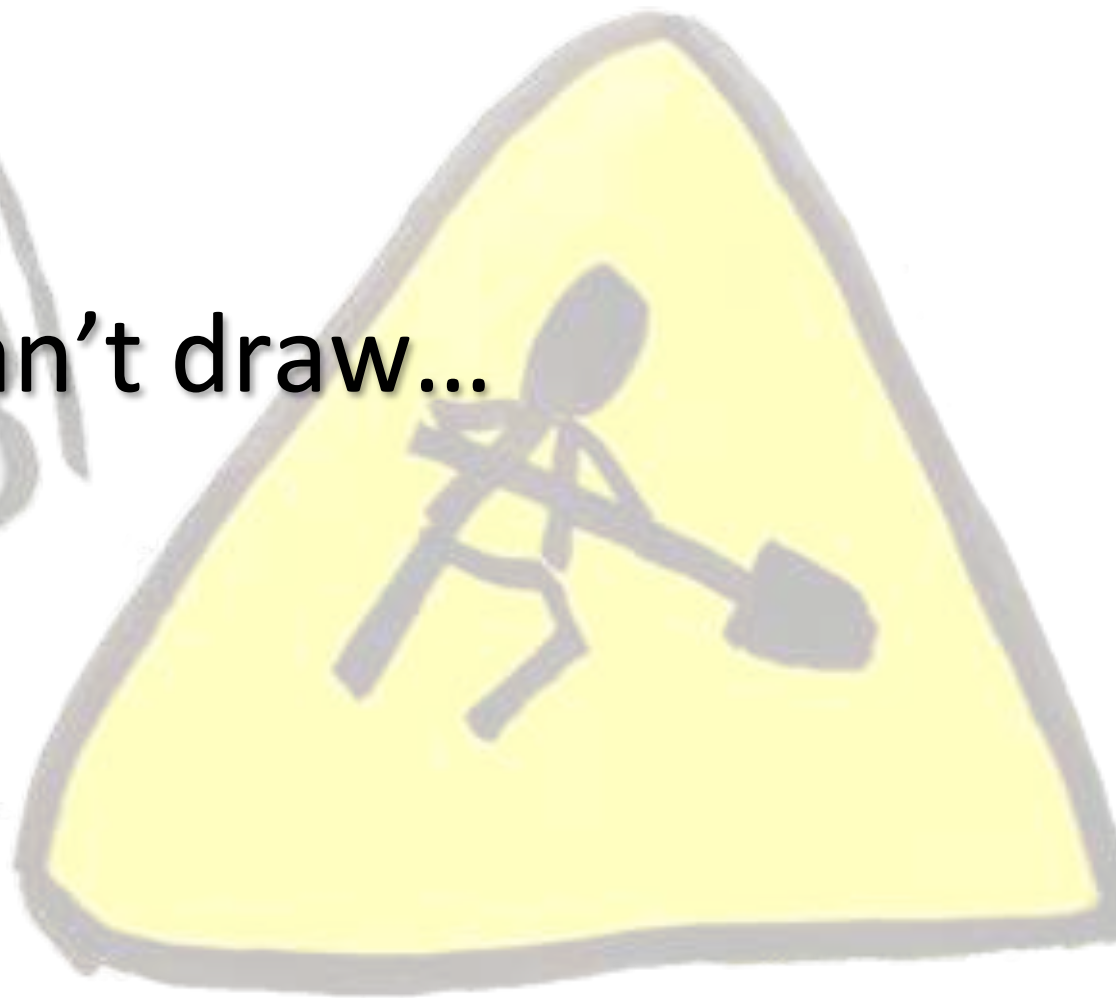


# Example: SBTM Model





But I can't draw...





# But...

**Huib Schoots** @huibschoots 27 Apr  
My sketchnotes from DEWT3 [huibschoots.nl/wordpress](http://huibschoots.nl/wordpress/?p=1)  
[/?p=1](#) ... #DEWT3  
Details

**Chris George** @chrisg0811 Follow  
@huibschoots sketch notes are really cool!  
Wish I were talented enough to do them lol

← Reply ↻ Retweet ★ Favorite ⋮ More

10:22 AM - 26 Apr 13

... I can't draw!

Are you sure?

No fear!

All you need is paper and  
a pen or pencil!



# Ideas not art

You don't have to draw like an artist  
to tell that these both are houses



# The basics

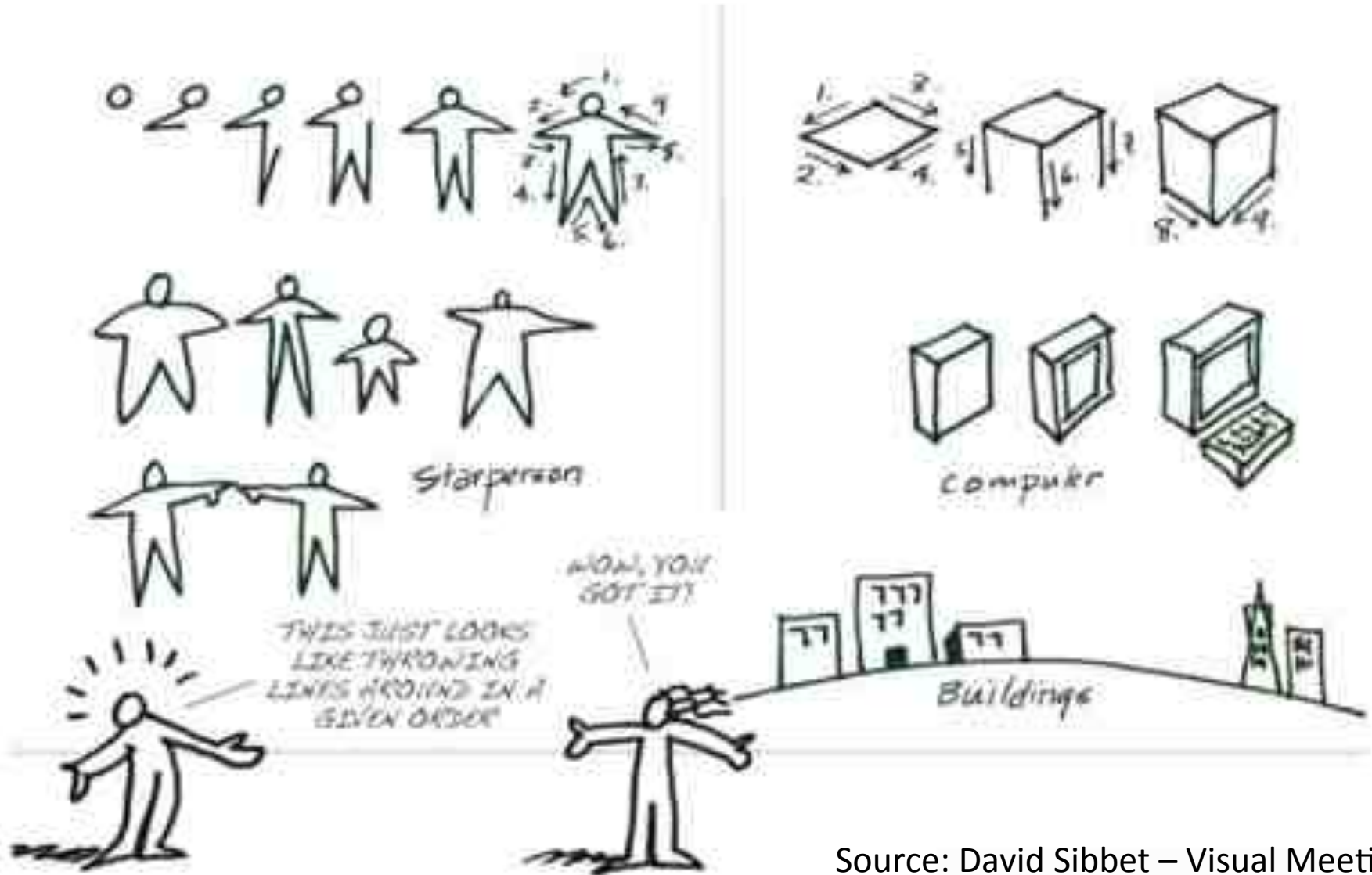
Pick up your pencil and join me in drawing

- A point
- A line
- A triangle
- A square
- Some arrows
- A circle

Use these basics to make any shape you want

Don't be afraid. You can always erase and start again.

# People and objects



# Visual Vocabulary



Source: <http://sachachua.com/blog/2013/03/sketchnotes-building-my-visual-vocabulary/>



• ICON • LIBRARY • PRACTICE •

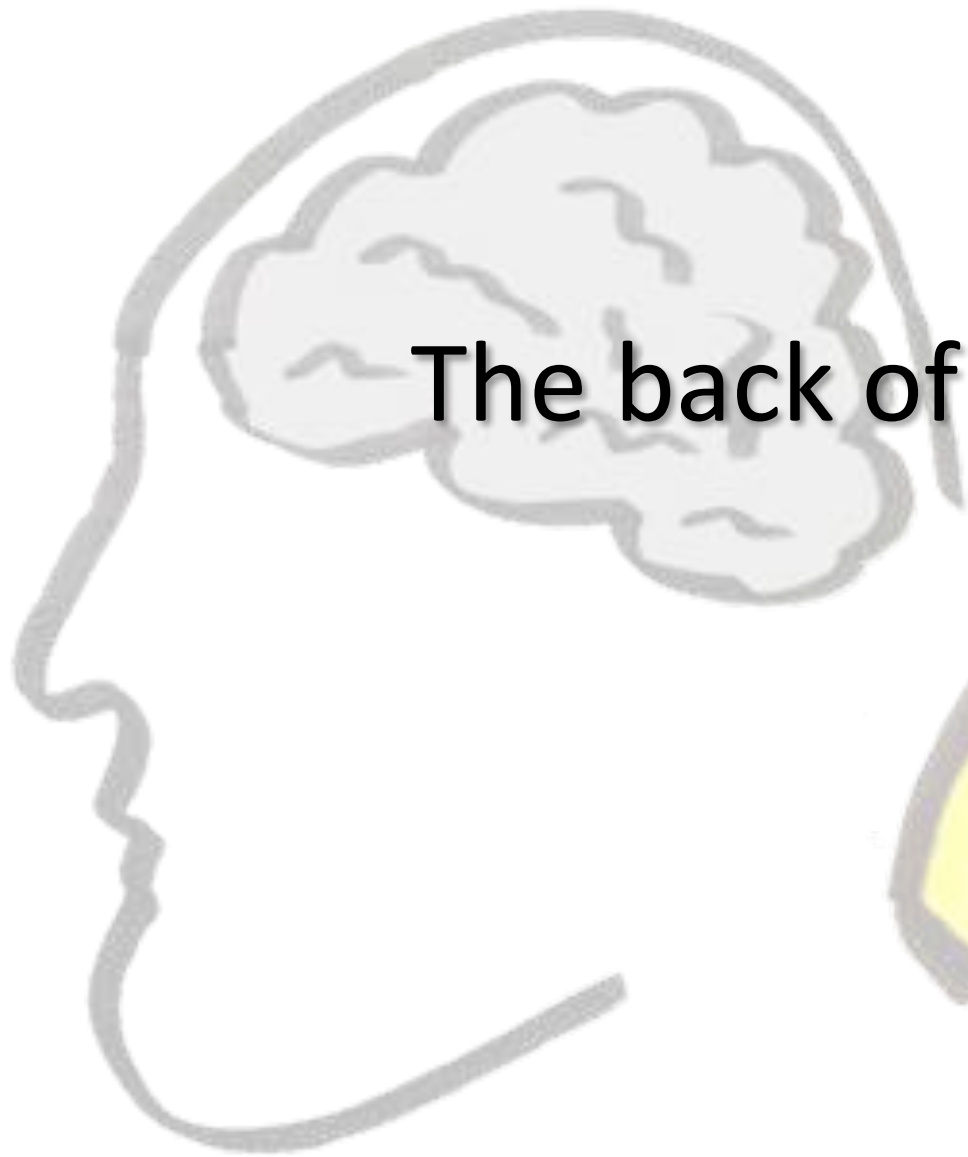


Source: <http://cheryllowry.com/2013/05/03/sketchnote-building-blocks-visual-vocabulary/>

# Let's draw!

- Star figure
- Computer
- Cup of coffee
- Book
- Files
- Database
- Sailboat
- Flag
- Idea





The back of the napkin



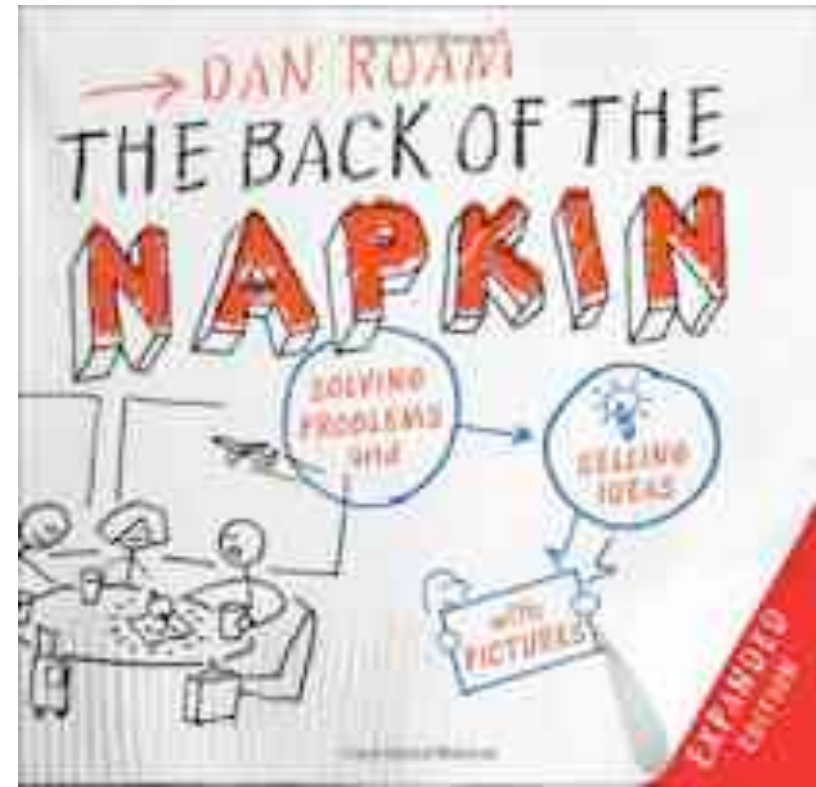
# Dan Roam – The Back of the Napkin

Every problem can be solved  
by drawing a simple picture!

4 steps of visual thinking

6 ways we look

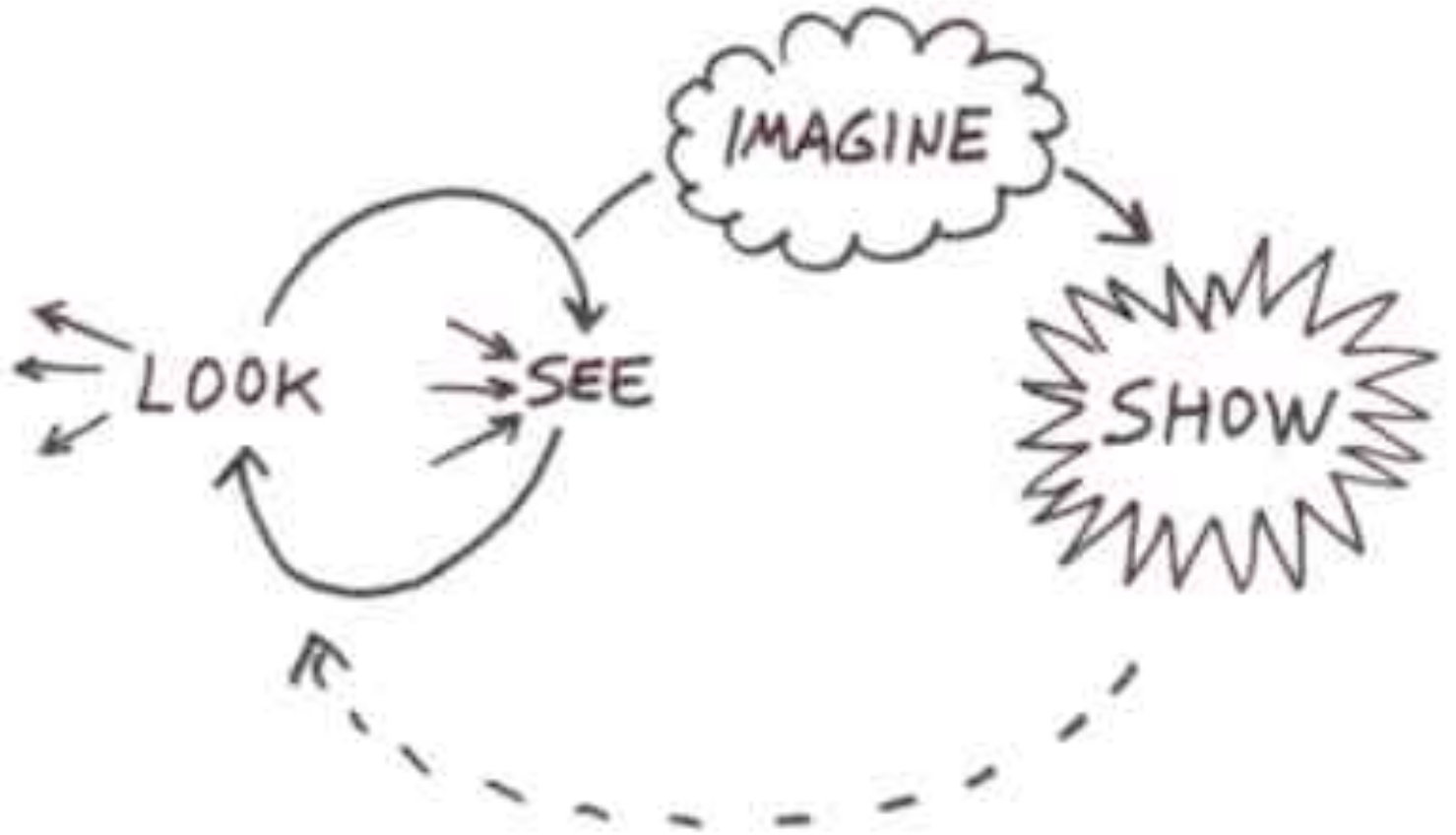
5 questions that help focus



SOURCE: [HTTP://WWW.DANROAM.COM](http://www.danroam.com)

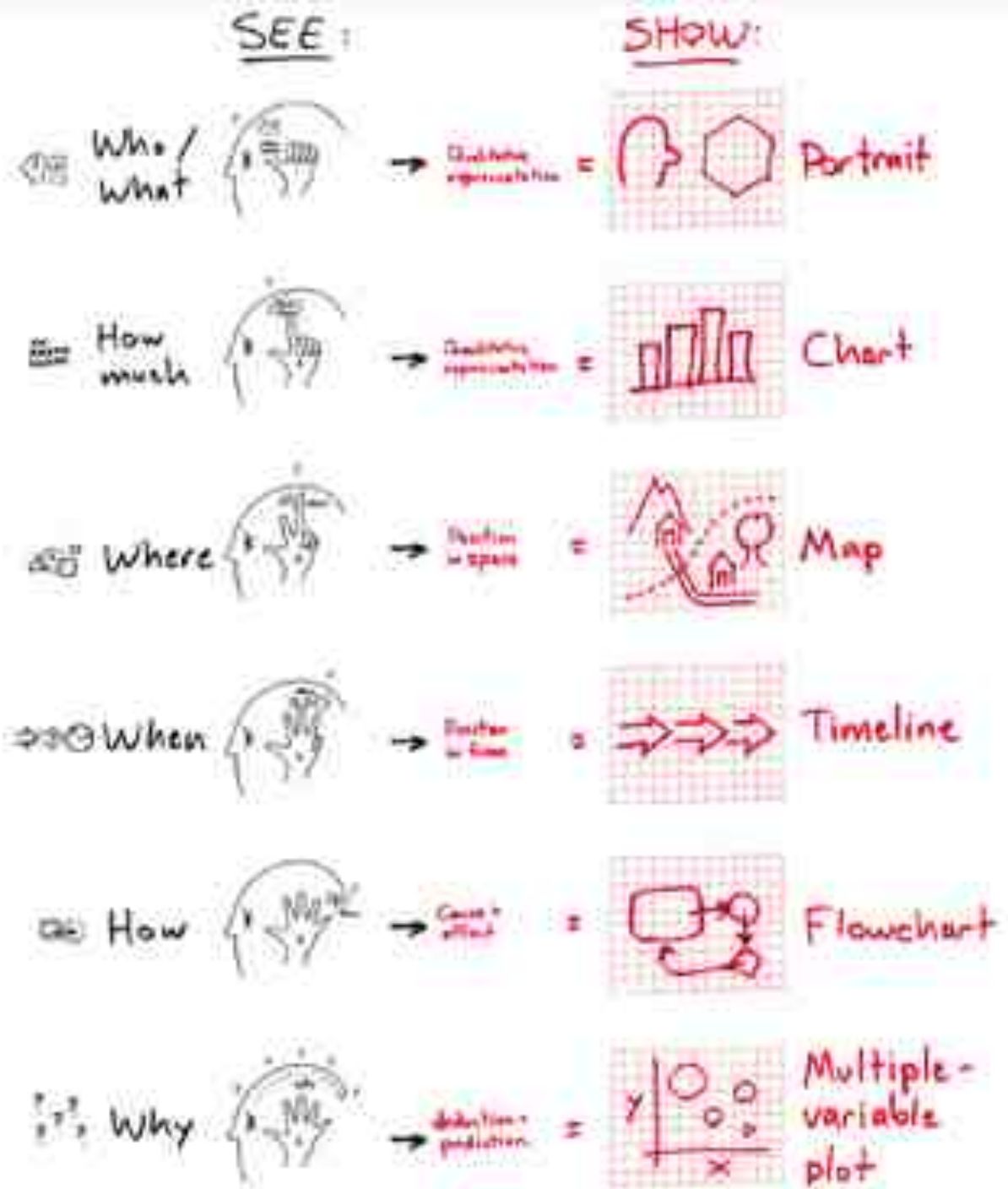
# 4 steps of visual thinking

1. Look
2. See
3. Imagine
4. Show



# 6 ways we look 6 ways we show

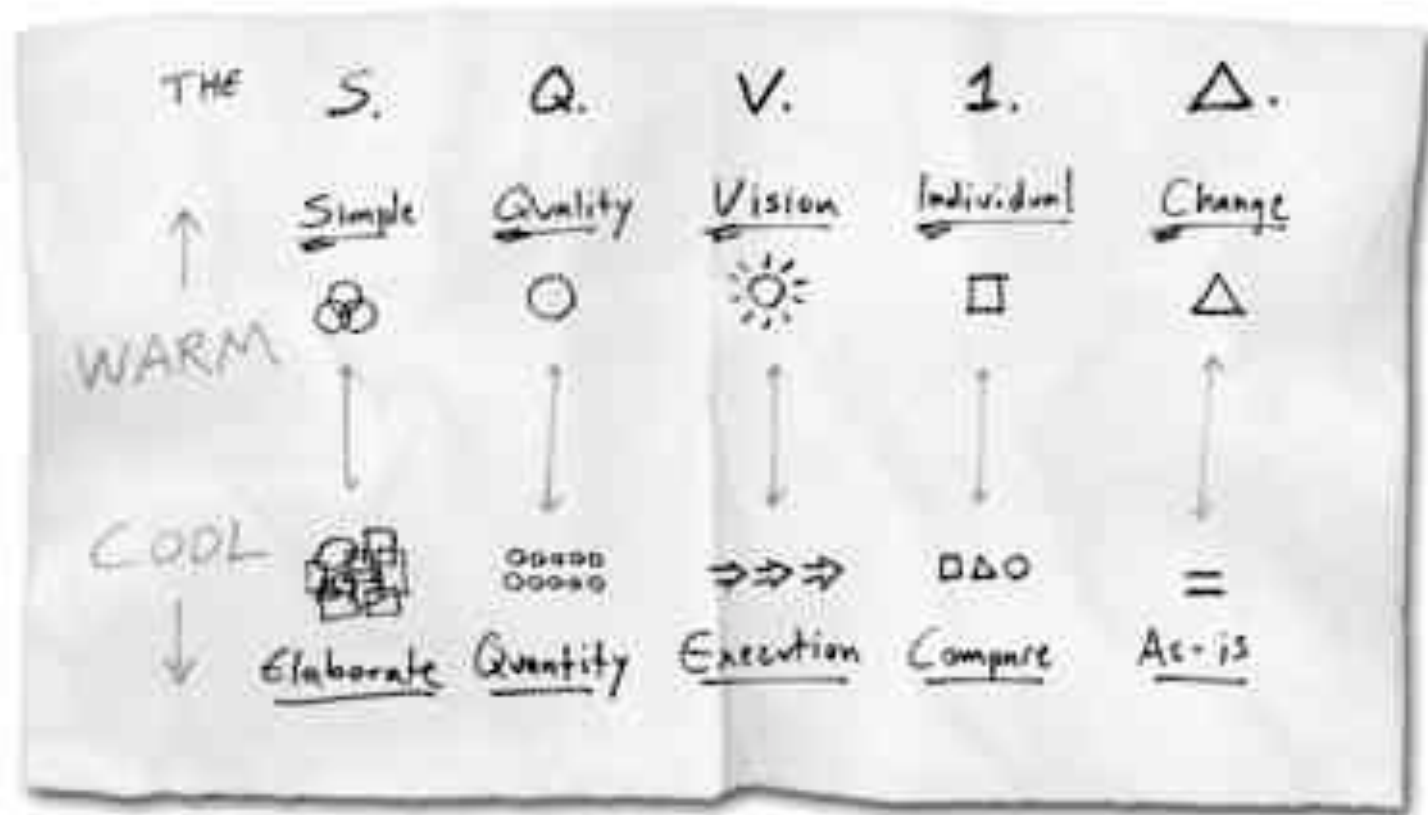
1. Who/What
2. How much
3. Where
4. When
5. How
6. Why



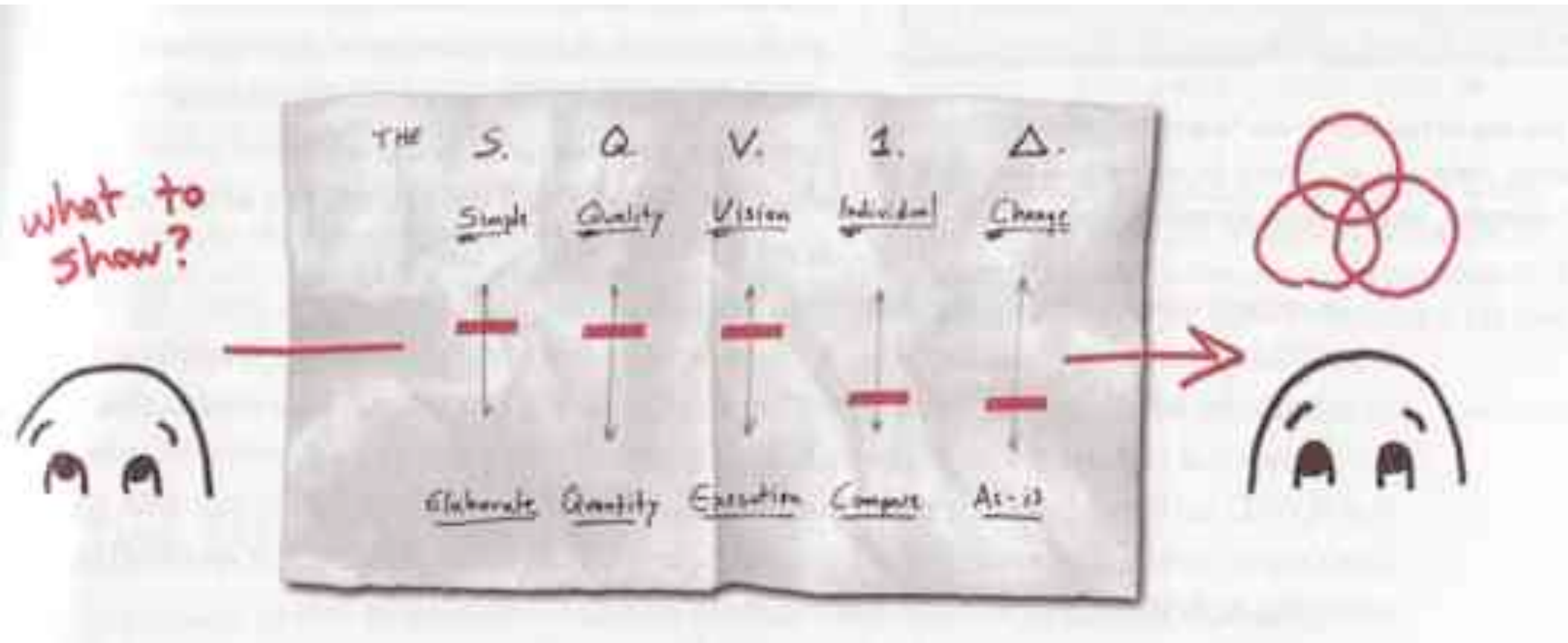


# 5 questions that help focus: the SQVID

1. Simple
2. Quality
3. Vision
4. Individual
5. Difference



# 5 questions that help focus: the SQVID

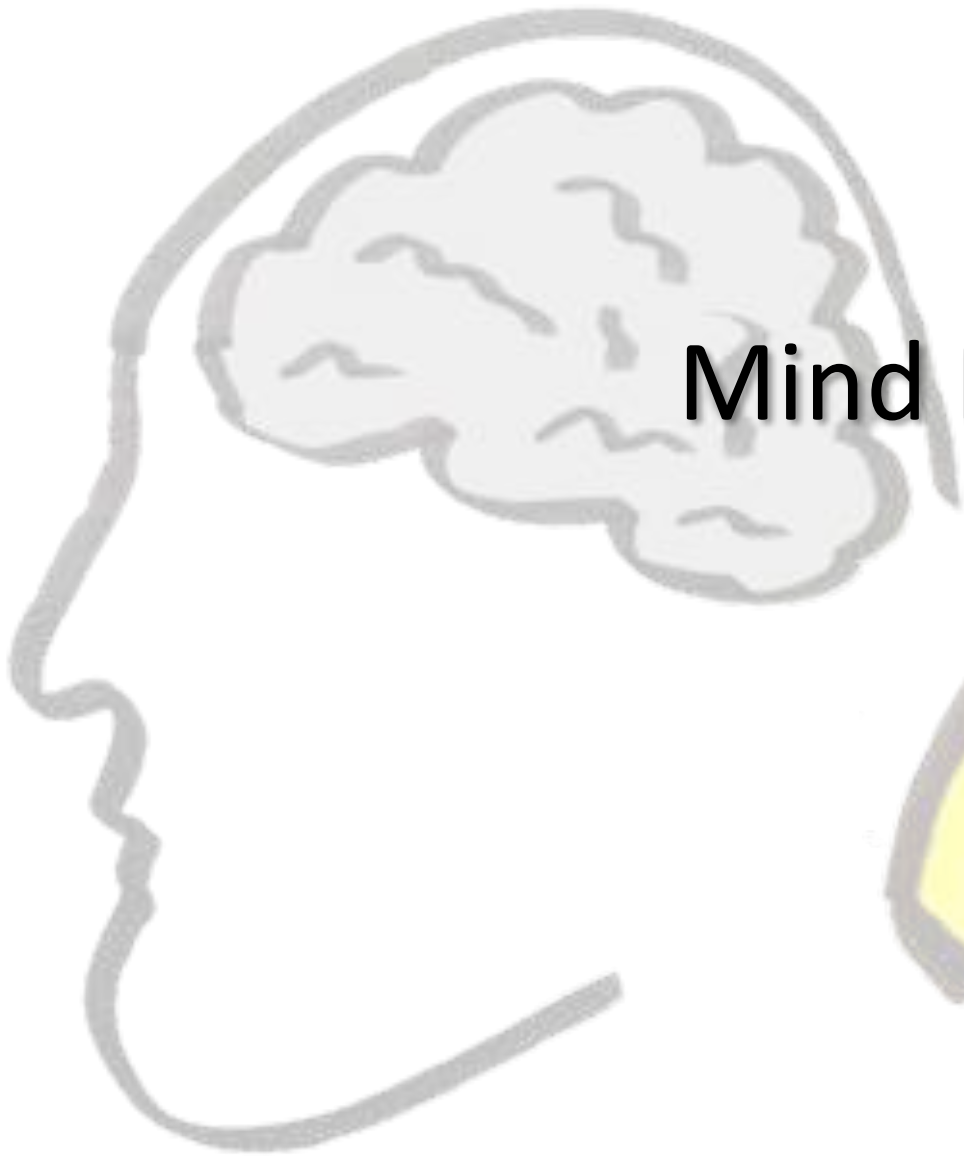


SOURCE: THE BACK OF THE NAPKIN – DAN ROAM (PAGE 101)

How is the Napkin useful?



# Mind Maps



# Mind map

A combination of:

- Images
- Symbols
- Codes
- Dimensions
- Key words

Goal: To store and transmit information

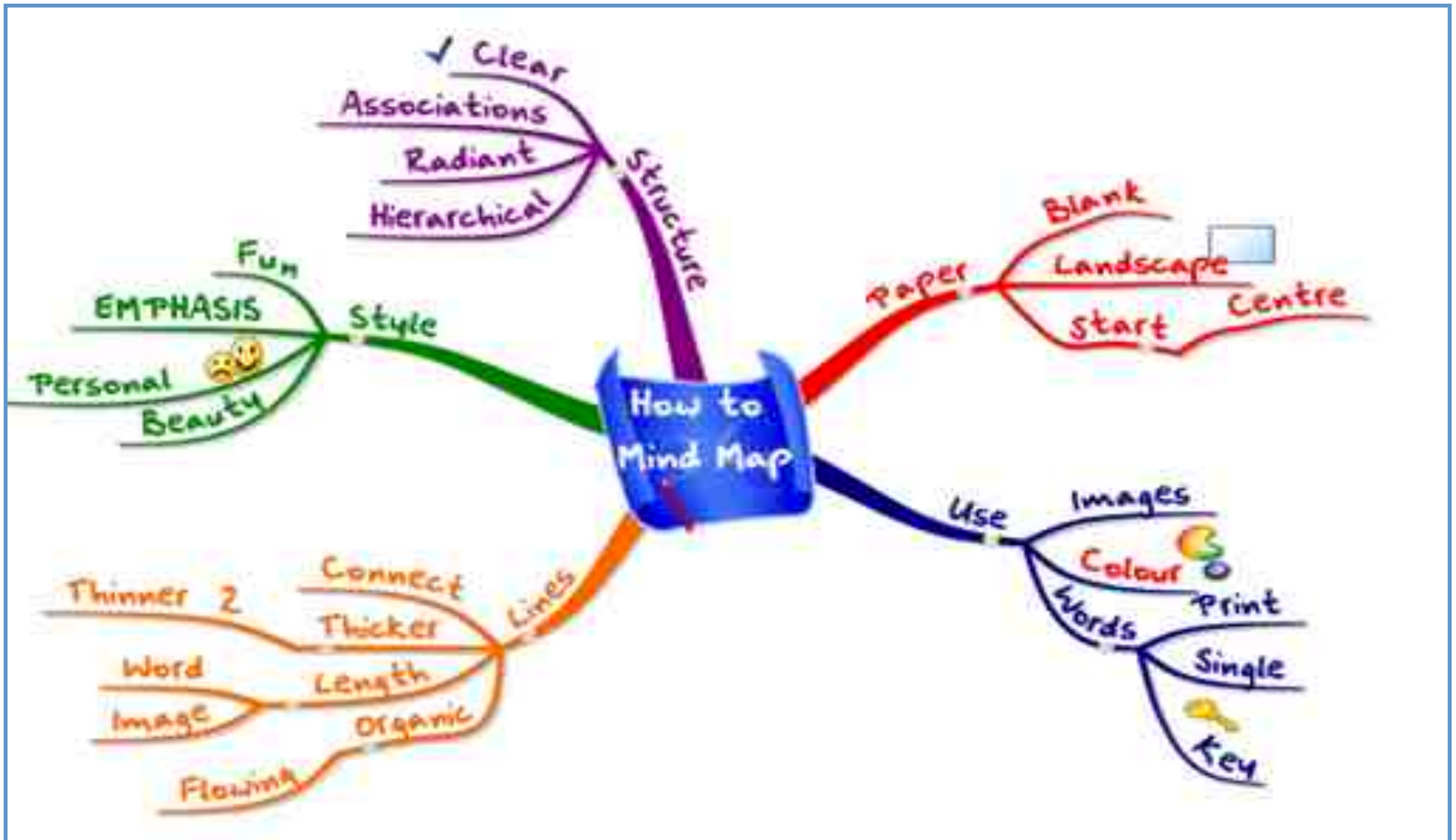
Made popular by Buzan











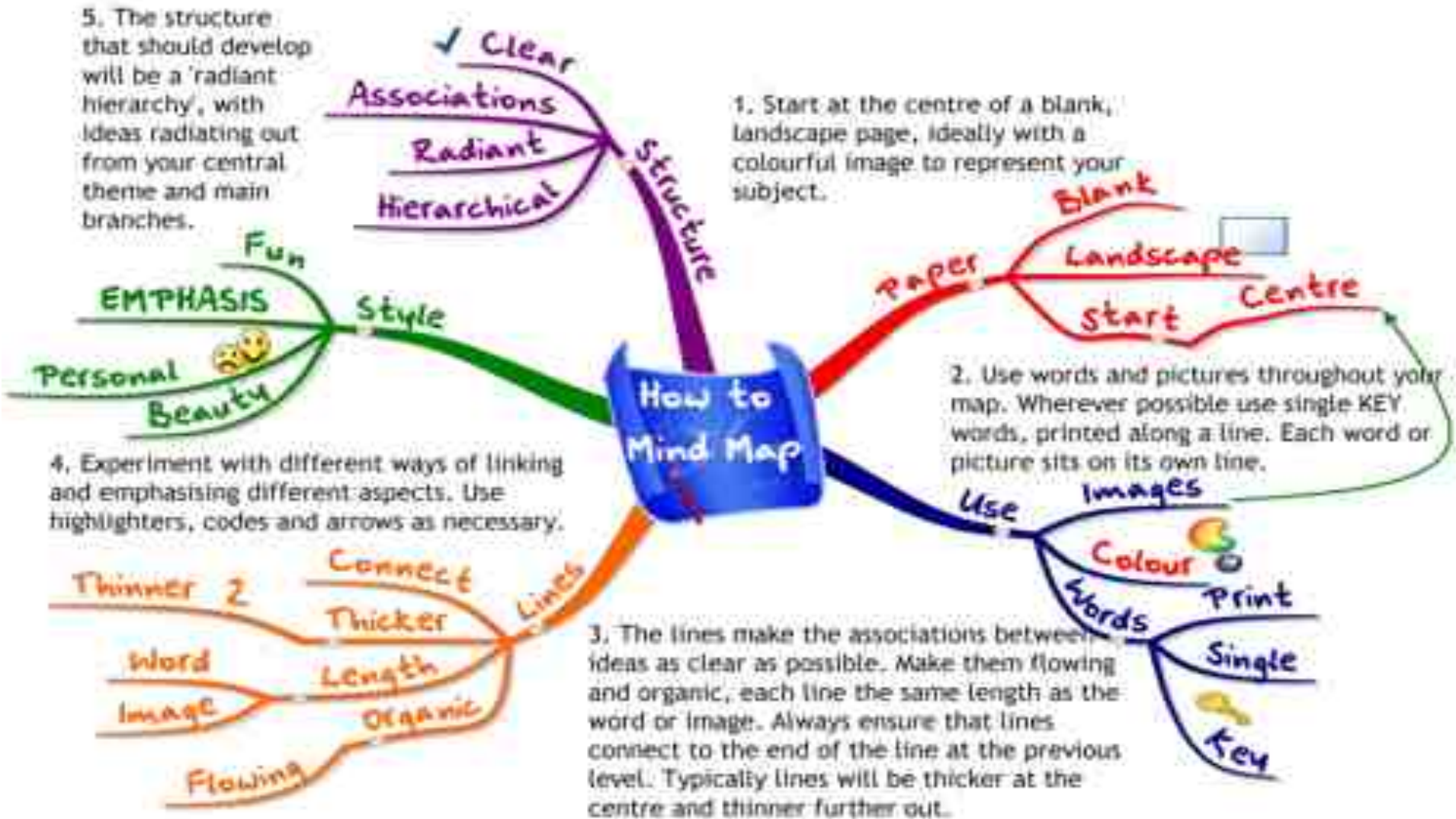
5. The structure that should develop will be a 'radiant hierarchy', with ideas radiating out from your central theme and main branches.

1. Start at the centre of a blank, landscape page, ideally with a colourful image to represent your subject.

2. Use words and pictures throughout your map. Wherever possible use single KEY words, printed along a line. Each word or picture sits on its own line.

3. The lines make the associations between ideas as clear as possible. Make them flowing and organic, each line the same length as the word or image. Always ensure that lines connect to the end of the line at the previous level. Typically lines will be thicker at the centre and thinner further out.

4. Experiment with different ways of linking and emphasising different aspects. Use highlighters, codes and arrows as necessary.



# Create your 1<sup>st</sup> mind map



Create a mind map in 10 minutes:

- Who are you?
- What are your goals for Let's Test
- Your projects test strategy
- How would you test a salt shaker?
- Anything else you want to share...



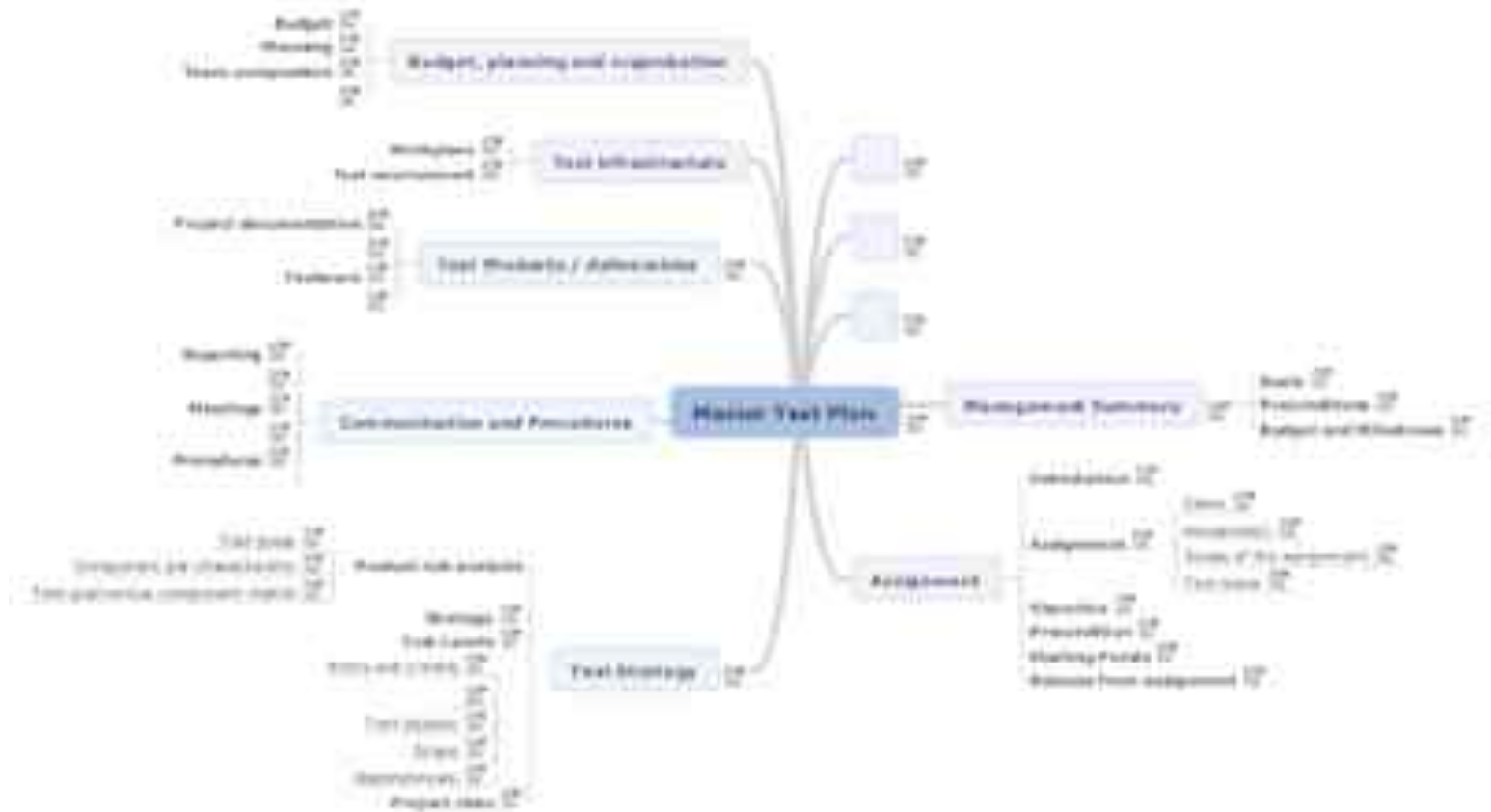
Present your mind map to the group in 60 seconds

# Test plan example



- Lots of text (this example = 55 pages!!!)
- Inaccessible
- Does anybody really read these?

# Test plan example



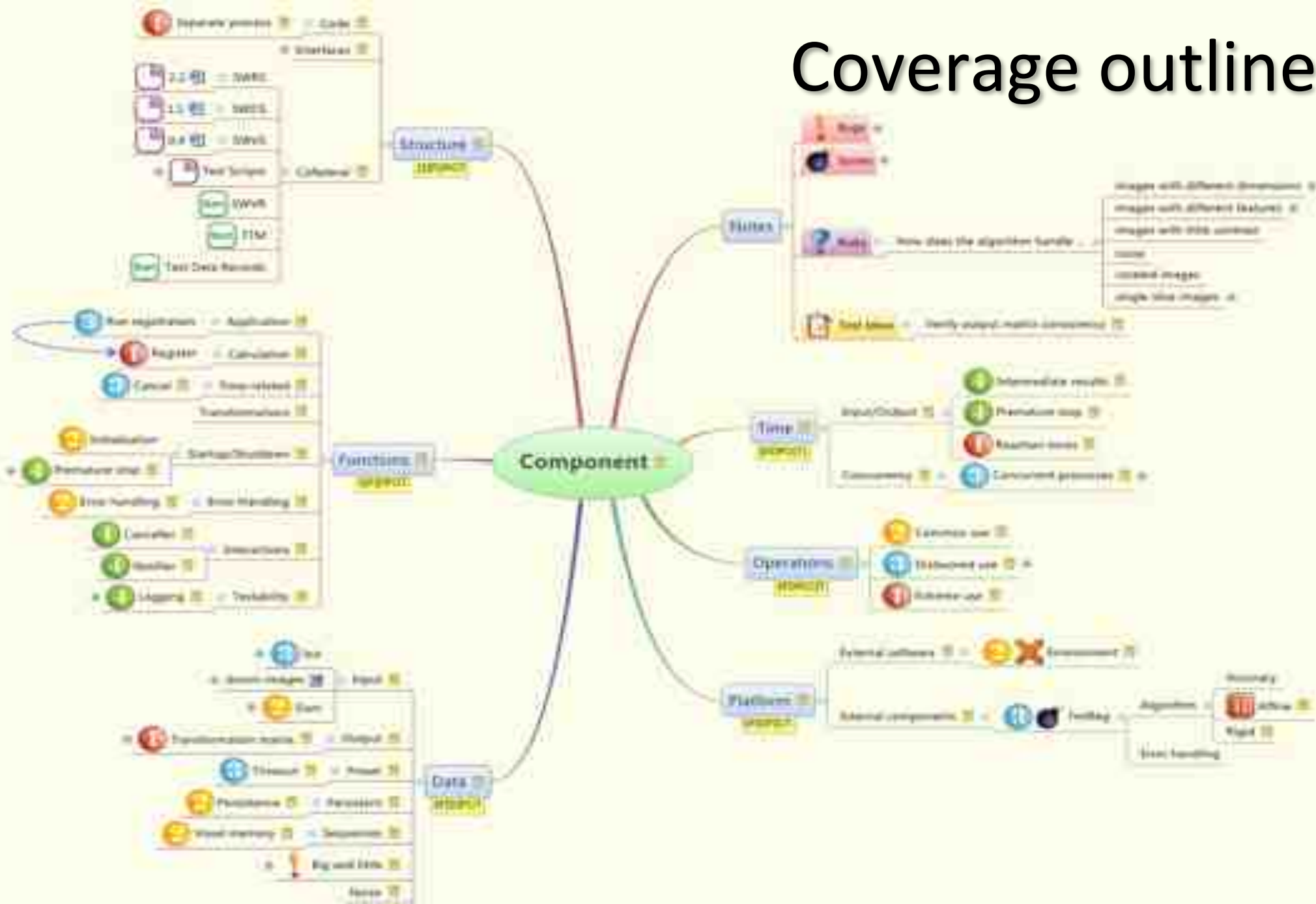
- Doc imported



# Test plan: mind map

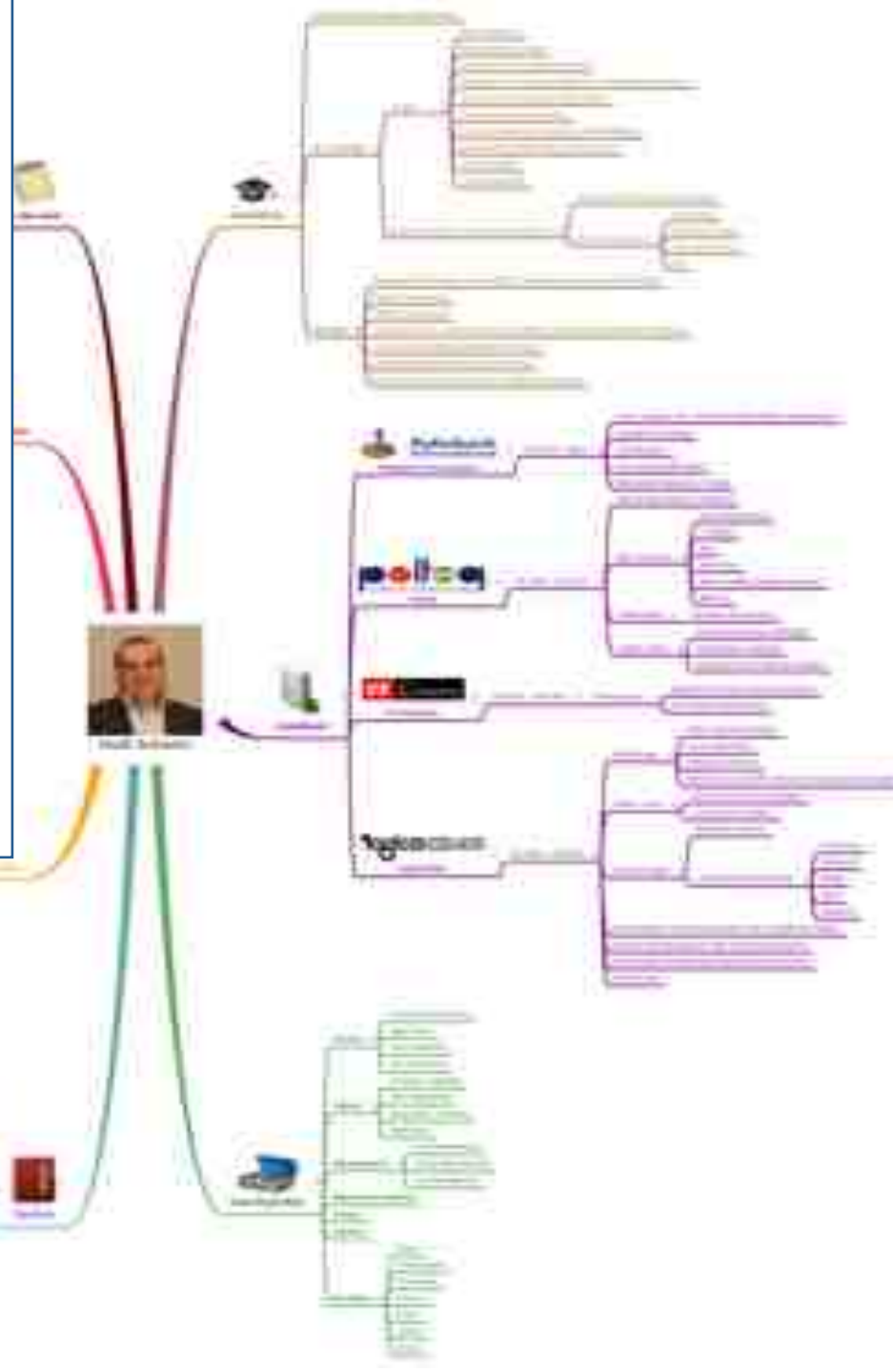


# Coverage outline



# Risks and/or Status

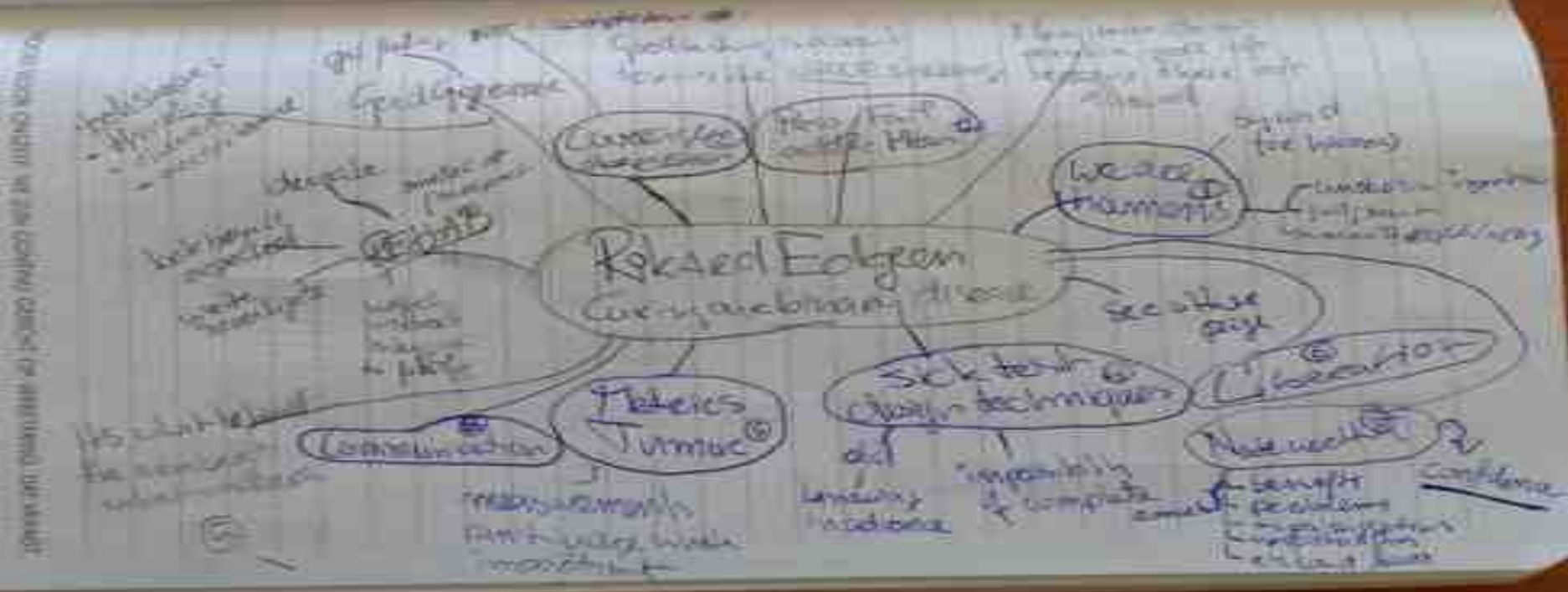
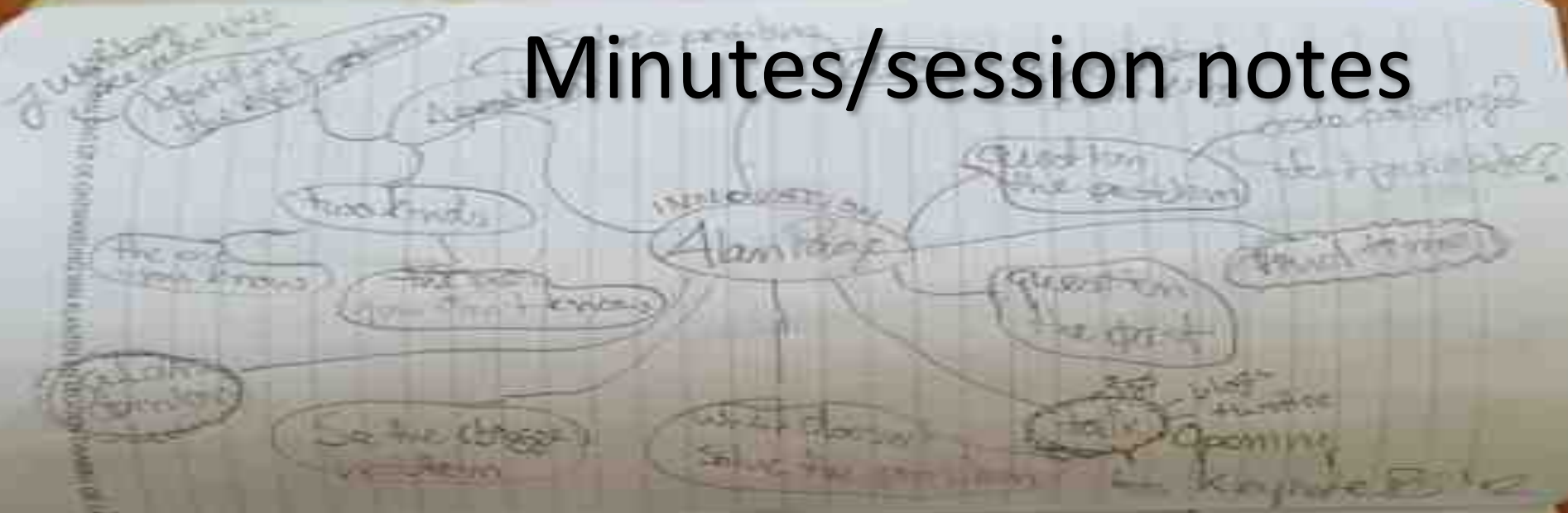




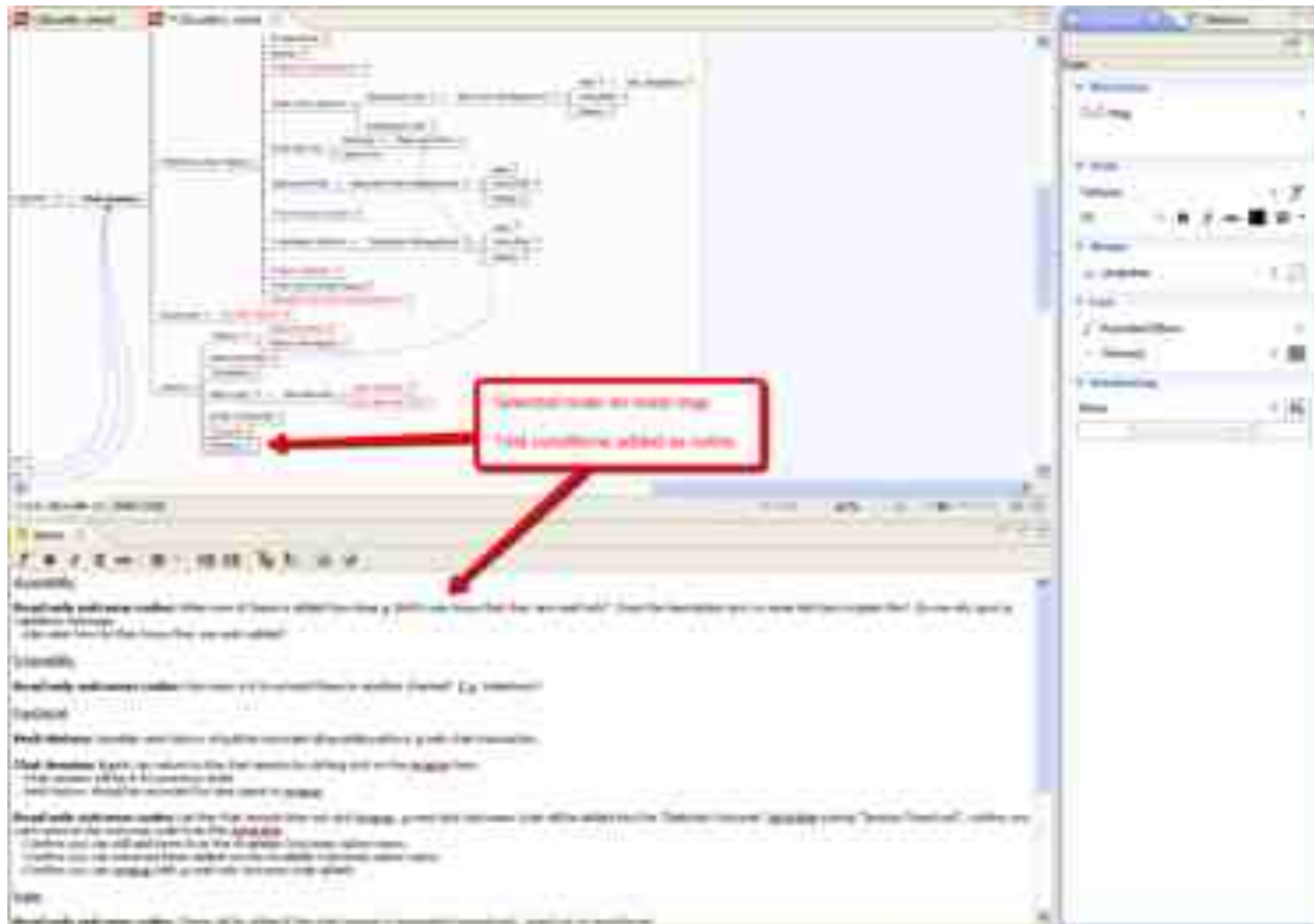
# Resume



# Minutes/session notes

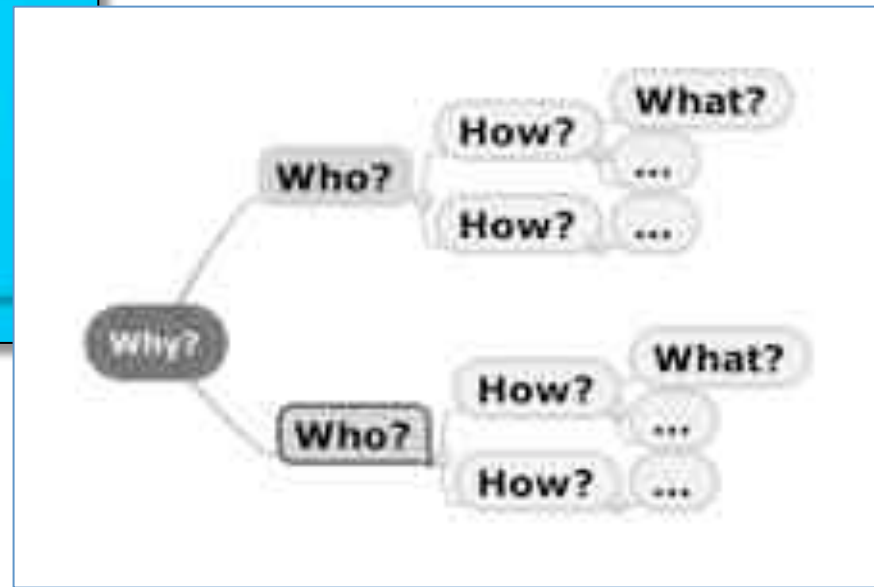


# Test cases / test ideas

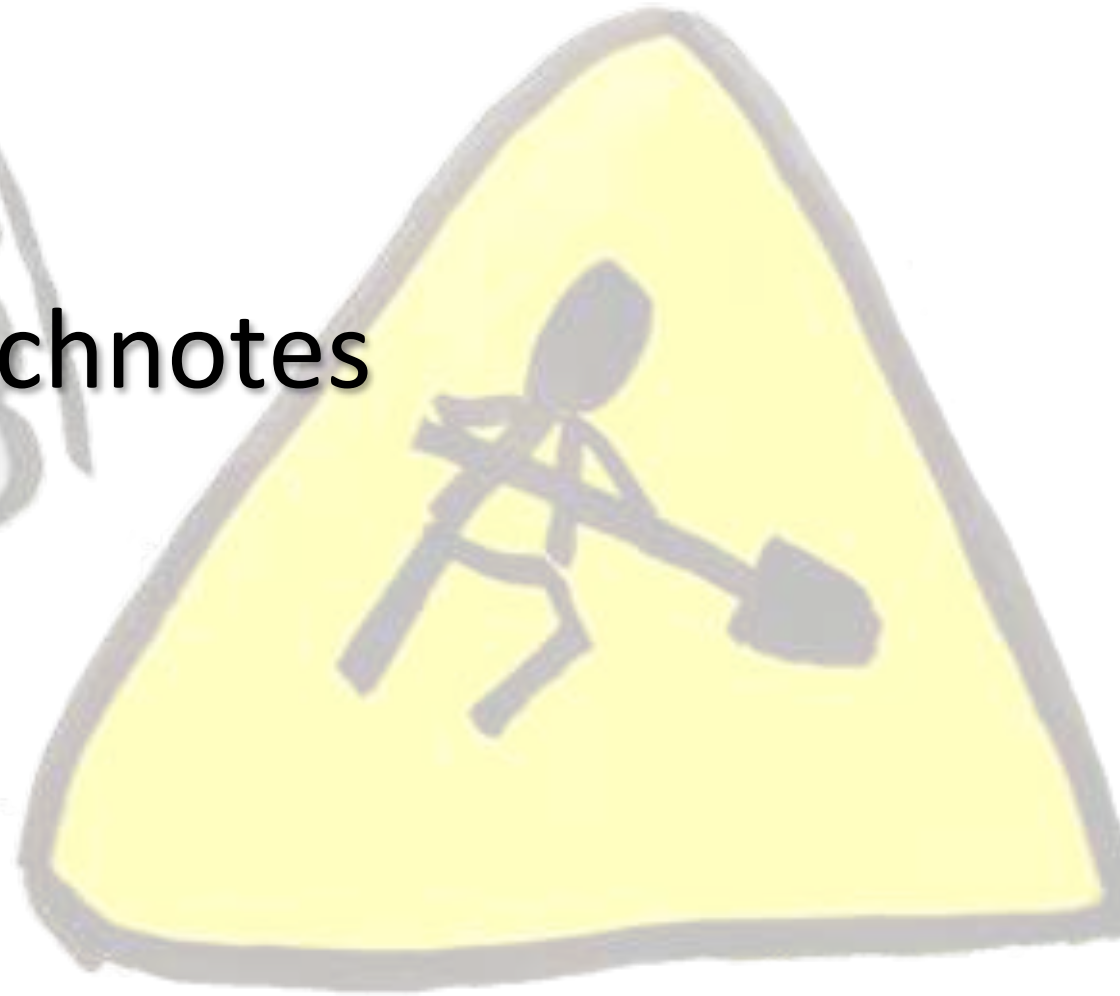
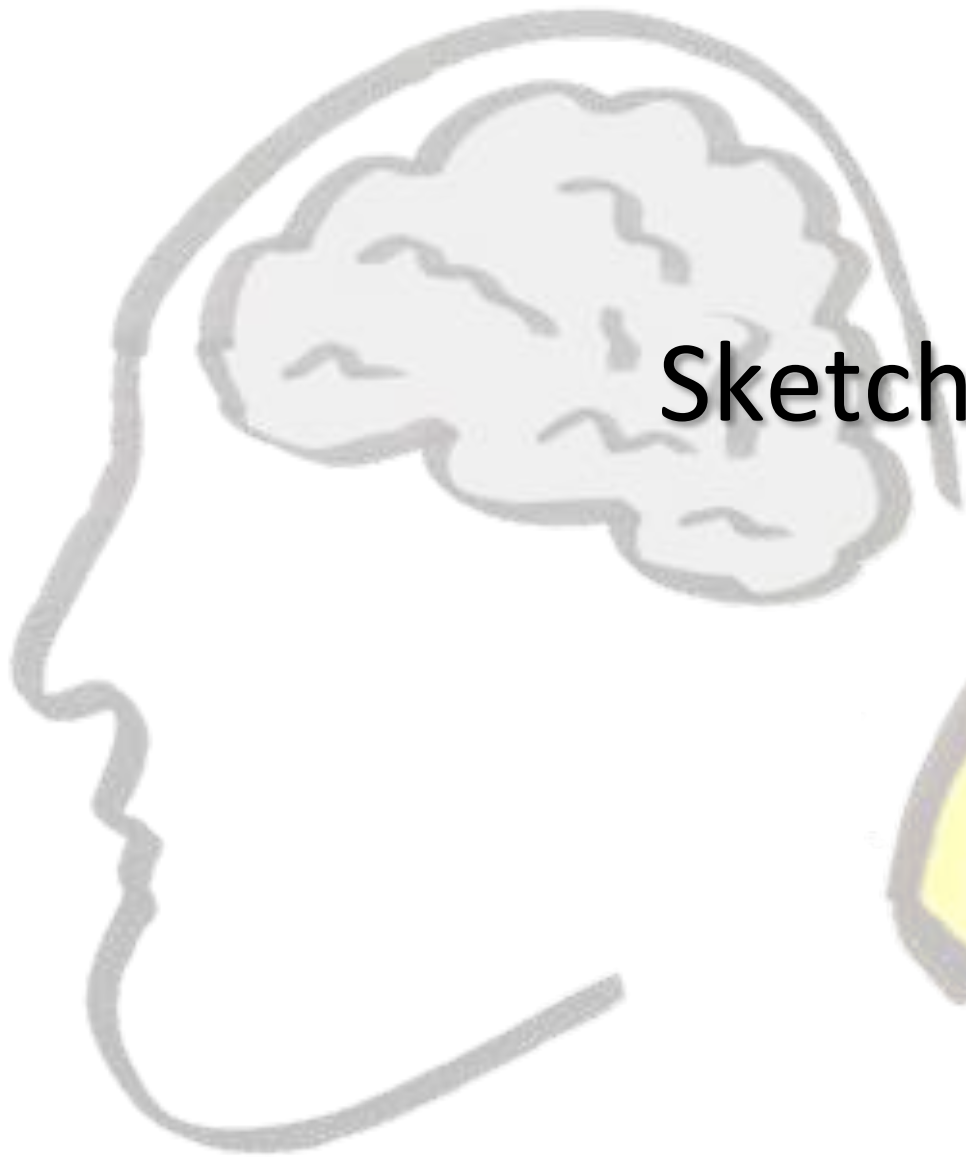




# Impact Mapping

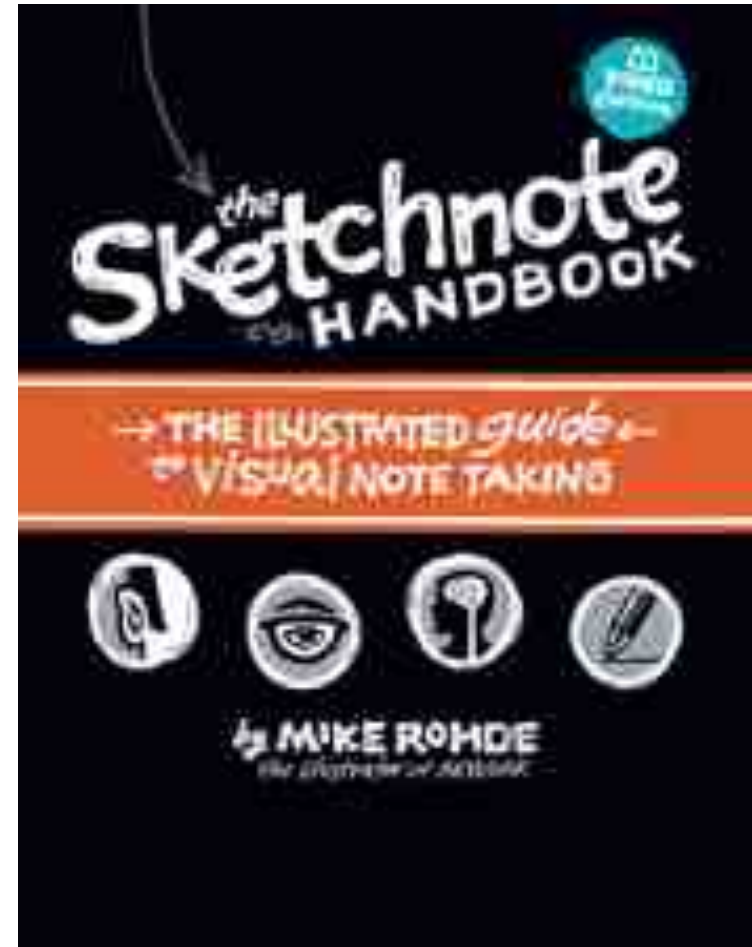


Sketchnotes



# Sketchnotes

1. Engages your whole mind
2. Creates a visual map
3. Helps your concentration
4. Taps your visual language
5. Relaxing
6. Dynamic and fun!



# Examples



# Exercise Sketchnotes



You will now see two short movies:

1. Sugata Mitra: Build a school in the cloud
2. Fiona Charles: Requirements suck. Get over it!

Sketchnote them...

# Sugata Mitra: Build a school in the cloud

---





# Exercise Sketchnotes



So? How did that go?

What was easier than you expected?

What was hard to do?

# Sketchnotes Huib

Sugata Mitra:

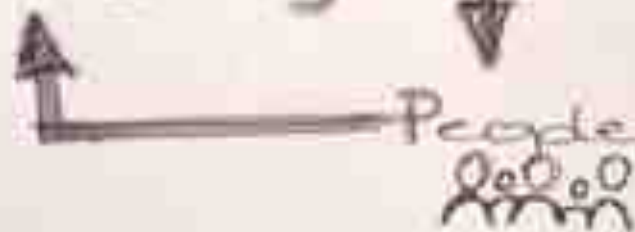
Build a school in the cloud

Where does the learning come from?



British Empire

Bureaucratic Administrative Machine



Read Calculate Write nice

# Sketchnotes Jean-Paul



# Fiona Charles: Requirements suck. Get over it!



Source: [http://www.youtube.com/watch?v=VefQrJ\\_h84g](http://www.youtube.com/watch?v=VefQrJ_h84g)

# Exercise Sketchnotes



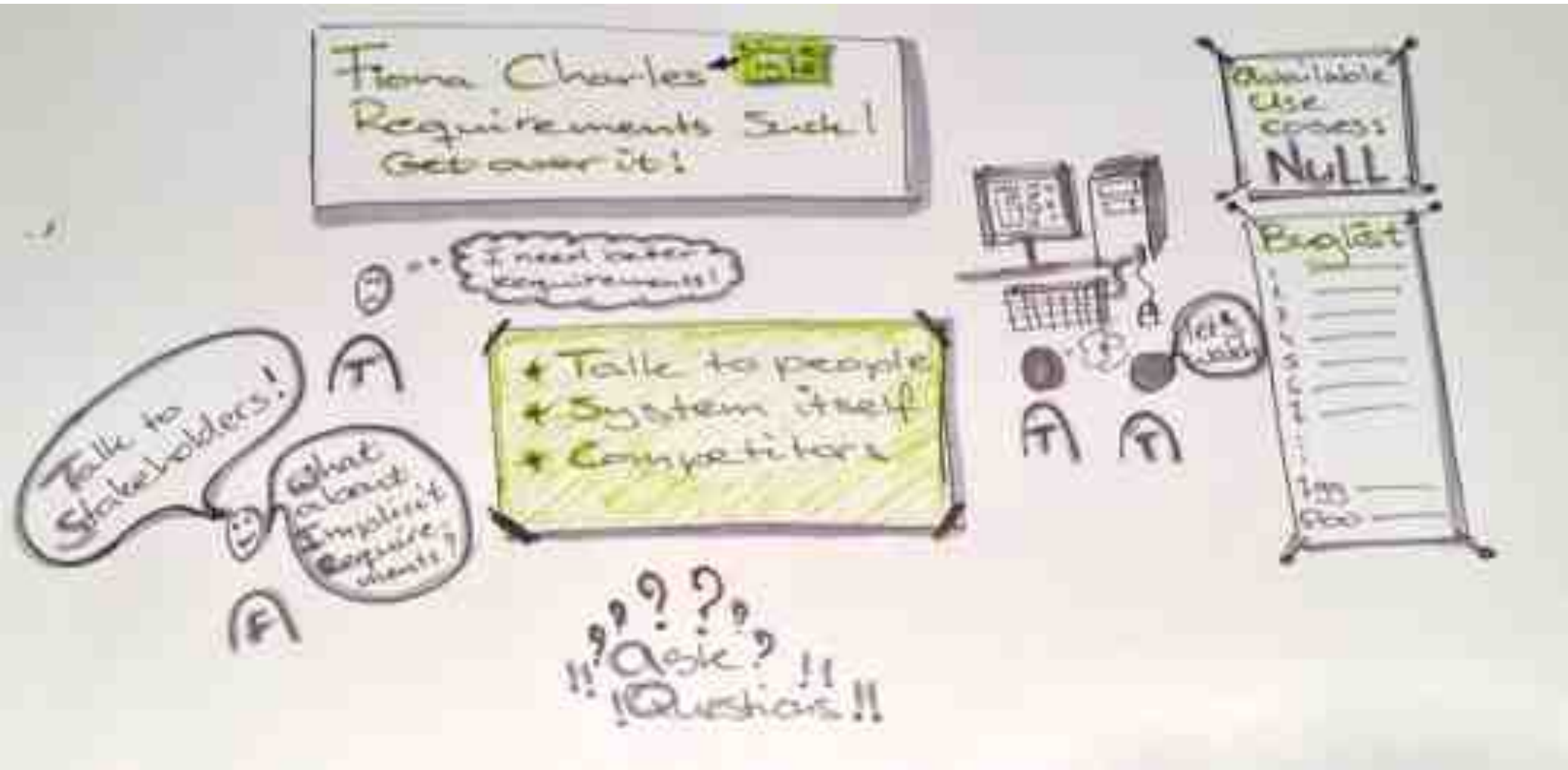
And now? How did that go?

What was easier than you expected?

What was hard to do?

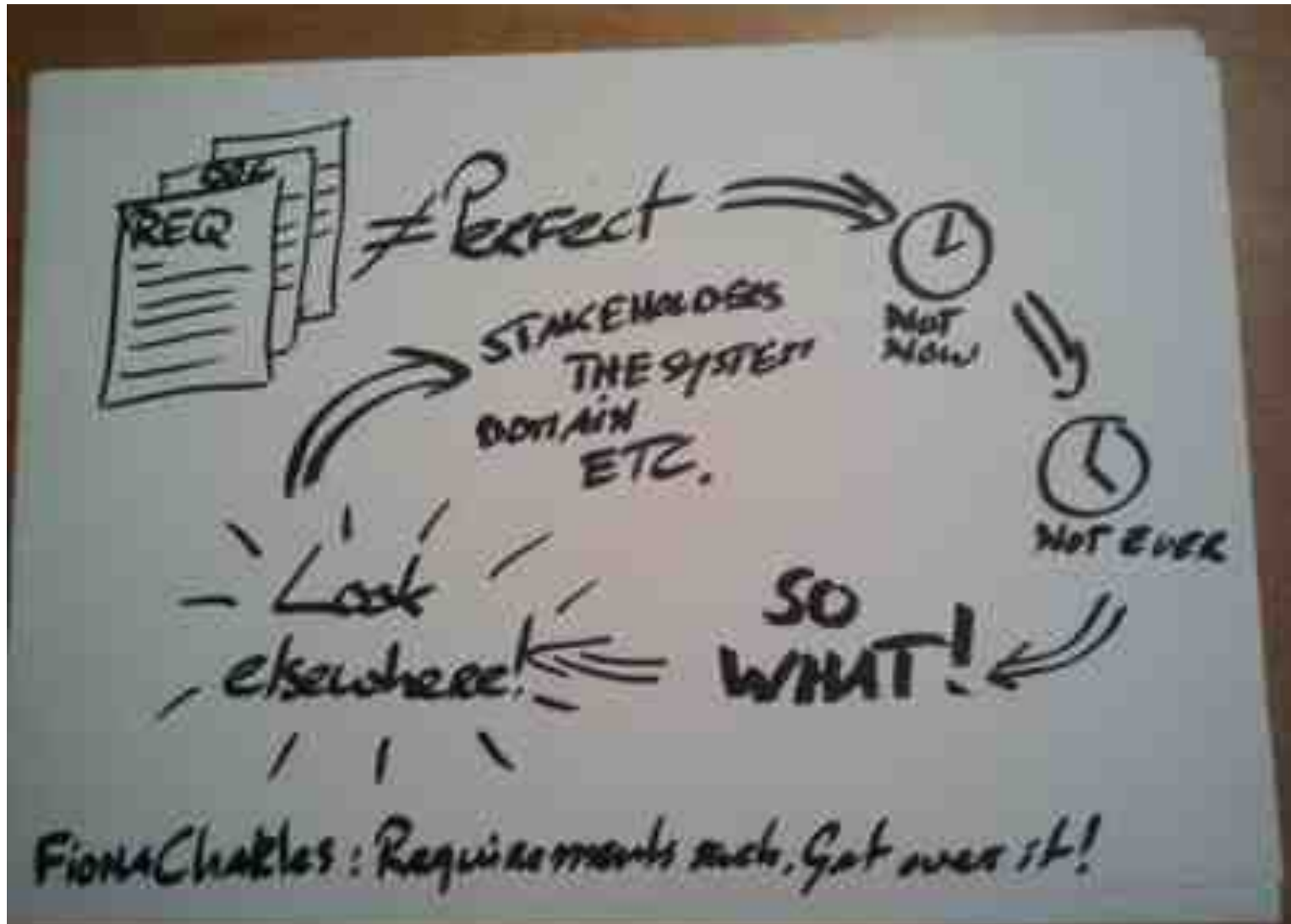
Did you do something different the second time?

# Sketchnotes Huib





# Sketchnotes Jean-Paul



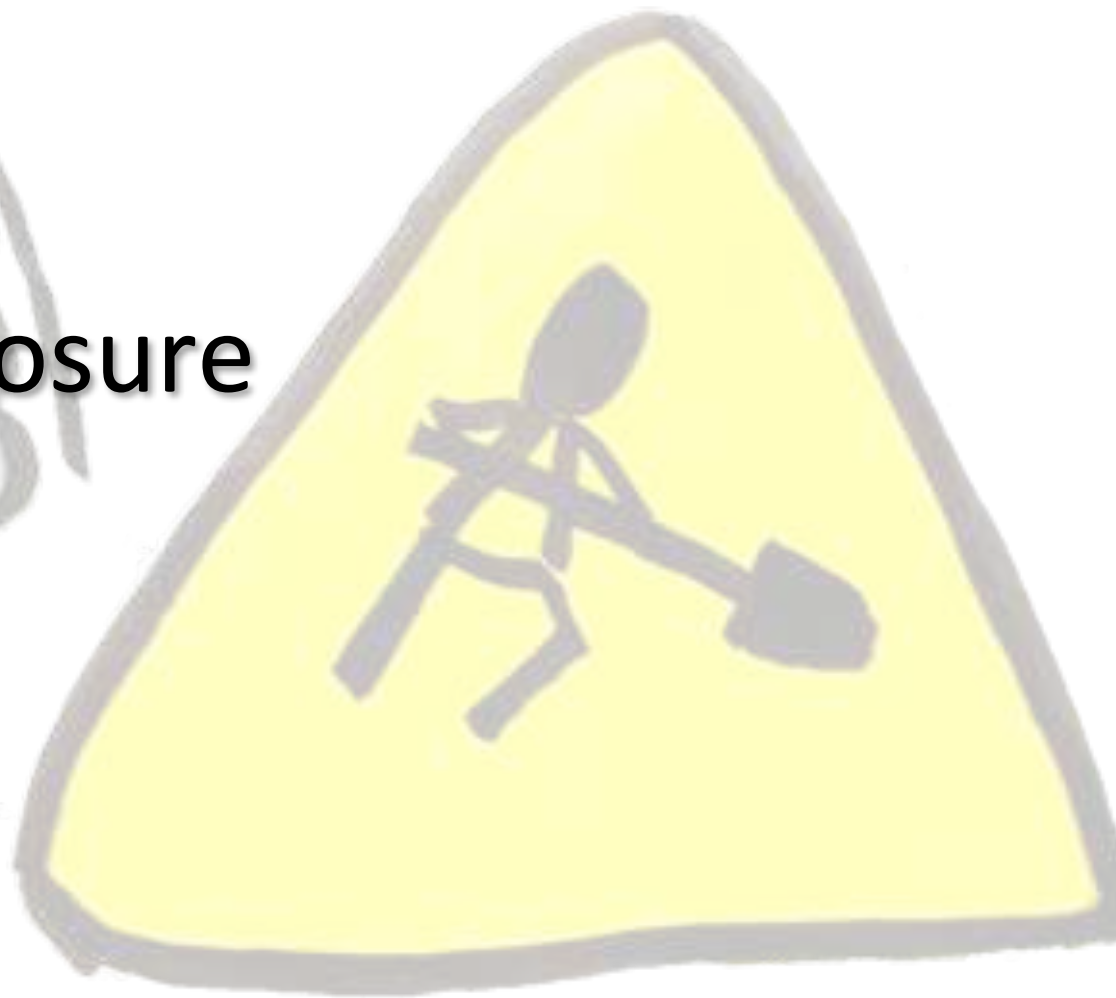
# Draw something



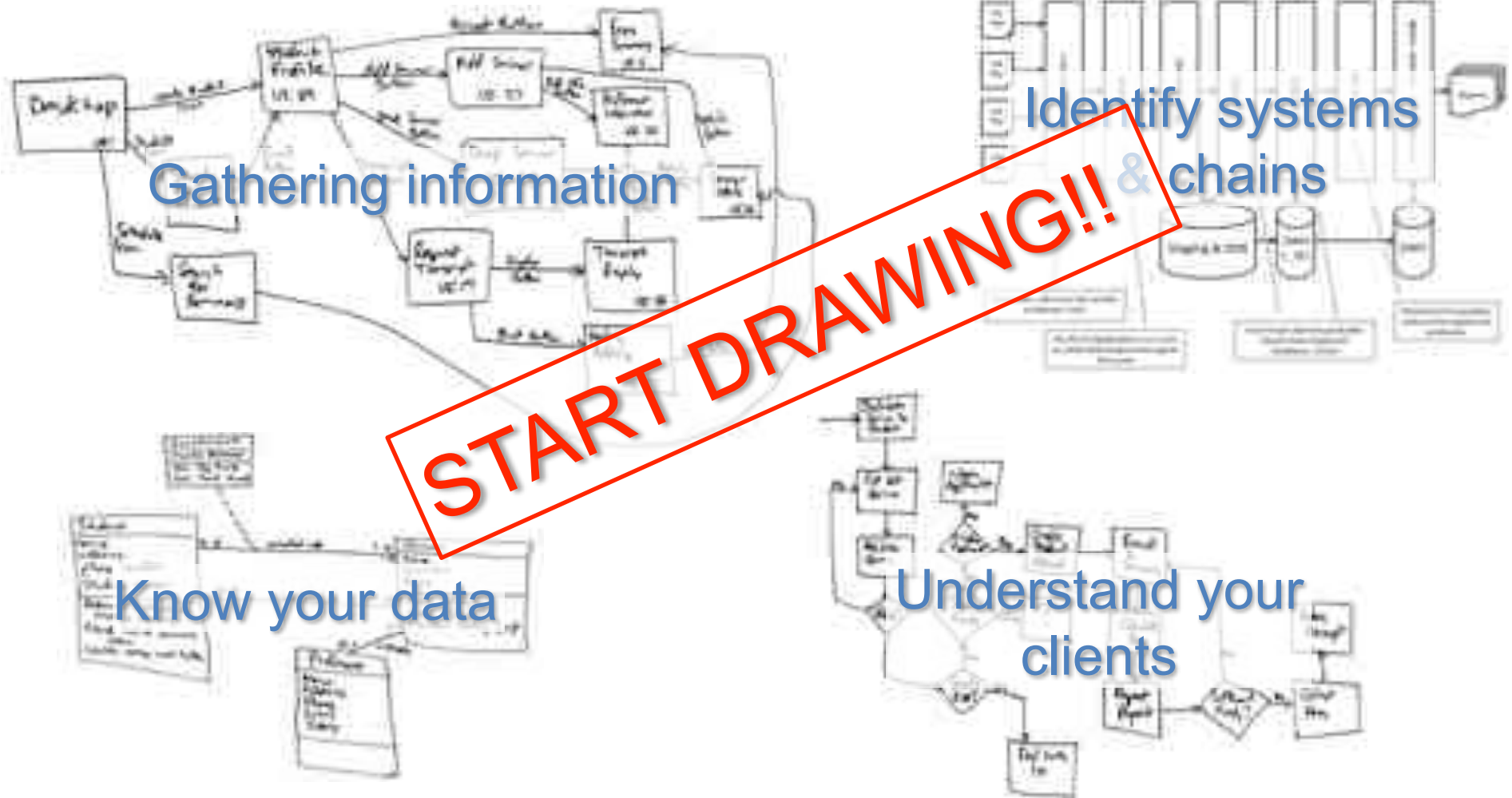
Now draw anything your current project could benefit from...

Discuss with your neighbour why it is beneficial

Closure

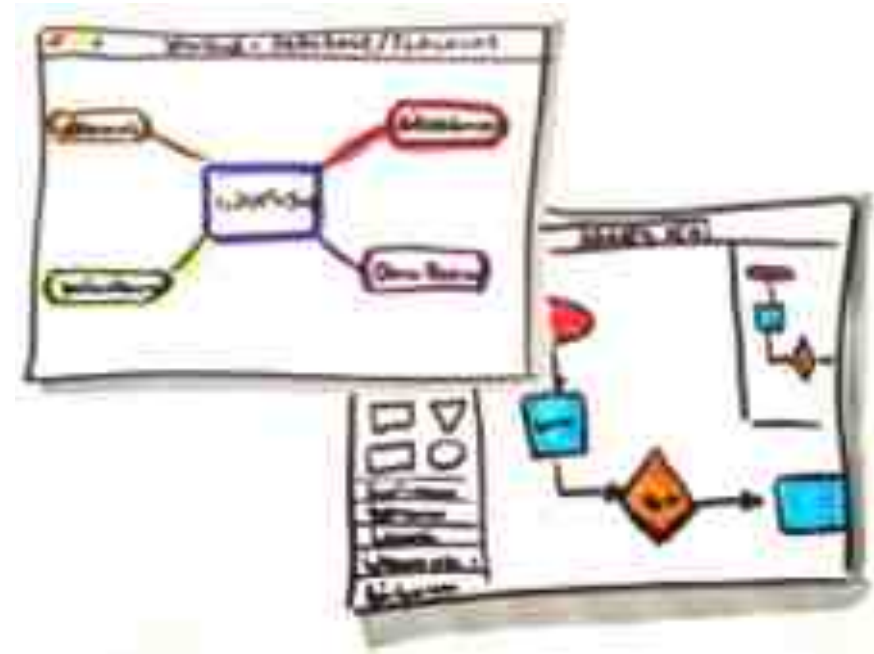


# Working & thinking visual for testers...



# Tools

- Freemind
- Xmind
- Paper (ipad)
- Sketchbook (Android)
- Gliffy
- yEd
- pixlr.com
- Notepad++, UltraEdit, Textwrangler
- Powerpoint
- Excel
- Screen Capture



**And your notebook and fineliners 😊**

“Think. Make your thinking visible.  
Communicate your thinking. And  
do it your way.”

Alan Richardson



Questions?



# Acknowledgements

Many of the ideas in this presentation were inspired by colleagues including Michael Bolton, James Bach, Gojko Adzic, Mike Rohde, Dan Roam, Jeff Patton, Jurgen Appelo, Ruud Cox, Pascal Dufour, Derk-Jan de Groot, Fiona Charles, Sugata Mitra and Alan Richardson

A handwritten-style text graphic that says "Thank you!!" in a vibrant purple color. The letters are thick and slightly irregular, giving it a personal, hand-drawn feel. The text is positioned in the lower right area of the slide.

# Wanna learn more?



## Books:

- 📖 **Back of Napkin (Dan Roam)**
- 📖 **Sketchnotes (Mike Rohde)**
- 📖 **The mind map book (Tony Buzan)**
- 📖 **Visual Meetings (David Sibbet)**
- 📖 **Bikablo (Neuland.com)**
  
- 📖 **Edward Tufte: [http://www.edwardtufte.com/tufte/books\\_vdqi](http://www.edwardtufte.com/tufte/books_vdqi)**
- 📖 **12 visualisation books:**  
<http://www.targetprocess.com/blog/2012/09/visualization-books.htm>

# Wanna learn more?



## Videos:

- **Alan Richardson: Thinking Visually In Software Testing**  
<http://www.youtube.com/watch?v=K4hvAbN2QbE>
- **Rob Sabourin: Whiteboarding for Testers, Developers and Customers too**  
<http://vimeo.com/55845357#>
- **Sunni Brown: Doodlers, unite!**  
[http://www.ted.com/talks/sunni\\_brown.html](http://www.ted.com/talks/sunni_brown.html)
- **Rachel Smith: Drawing in class**  
<http://www.youtube.com/watch?v=3tJPeumHNLy>
- **Hans Rosling: Stats that reshape your worldview**  
[http://www.ted.com/talks/hans\\_rosling\\_shows\\_the\\_best\\_stats\\_you\\_ve\\_ever\\_seen.html](http://www.ted.com/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html)

# Wanna learn more?



## Presentations:

58 **Rob Sabourin – Visual Test Design**

[http://www.amibugshare.com/workshops/Workshop\\_Visual\\_Test\\_Design.zip](http://www.amibugshare.com/workshops/Workshop_Visual_Test_Design.zip)

58 **Visual Thinking - Liz Burow**

<http://www.slideshare.net/burowe/visual-thinking-presentation-for-united-health-innovation-day>

58 **An Introduction to Visual Thinking – Ryan Coleman**

<http://www.slideshare.net/rycoleman/an-introduction-to-visual-thinking>

58 **Visual Creative Thinking – Kelsey Ruger**

<http://www.slideshare.net/homehelper/visual-creative-thinking-1260733>

58 **Solving Problems with pictures - Santo Thie**

<http://www.slideshare.net/stsanto>

# Wanna learn more?



## Websites / blogposts:

- **14 Ways to Present Information Visually**  
<http://www.velocitypartners.co.uk/our-blog/infographics-14-ways-to-present-information-visually/>
- **Thinking Visually – Johan Jonasson**  
<http://blog.johanjonasson.com/?p=154>
- **Breaking the Tyranny of Form – Fiona Charles**  
<http://quality-intelligence.blogspot.nl/2012/06/breaking-tyranny-of-form-part-1.html>
- **Visualisation – Huib Schoots**  
<http://www.huibschoots.nl/wordpress/?p=927>
- **Big Visible Testing – Claire Moss**  
<http://blog.aclairification.com/2012/08/big-visible-testing/>
- **Can you solve these visual thinking puzzles?**  
<http://www.psychologytoday.com/blog/brain-workout/200903/can-you-solve-these-visual-thinking-puzzles>



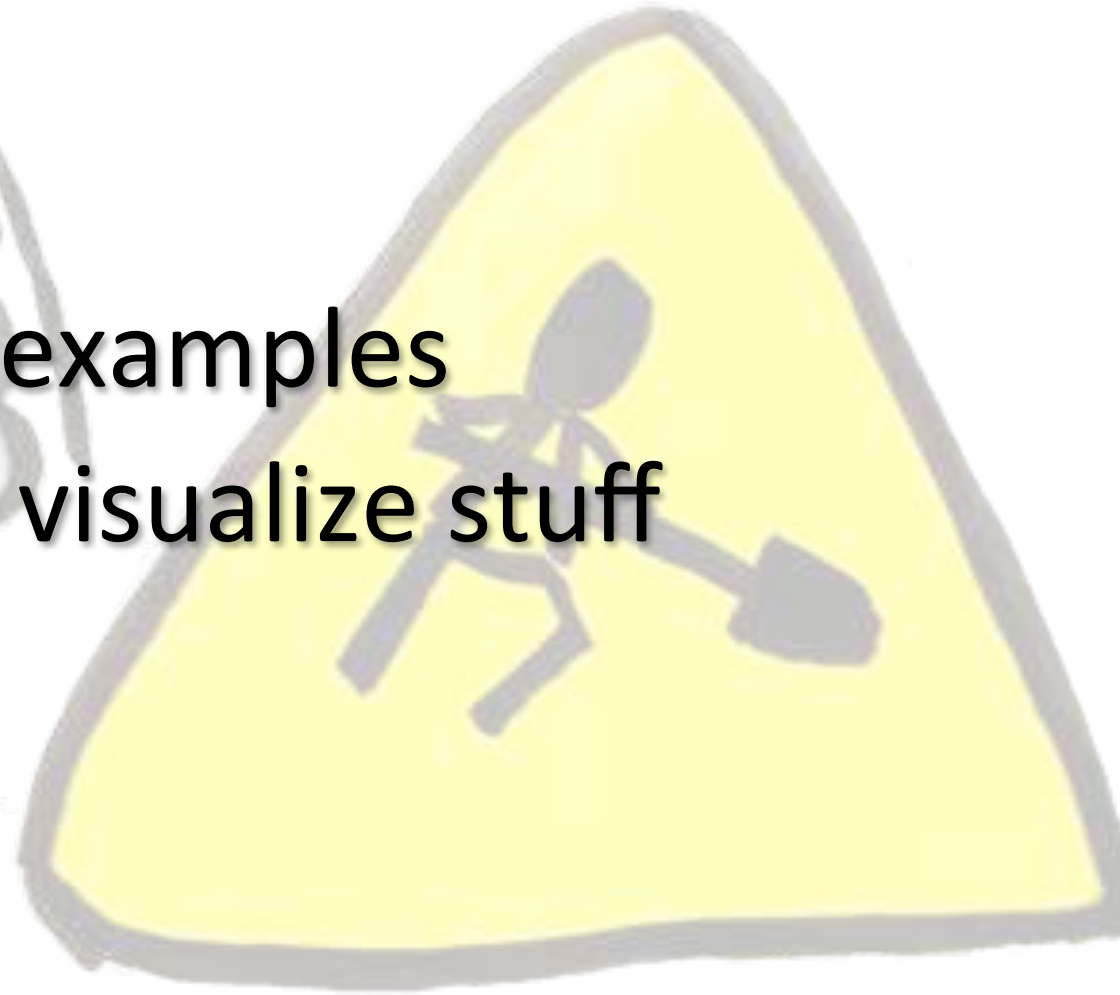
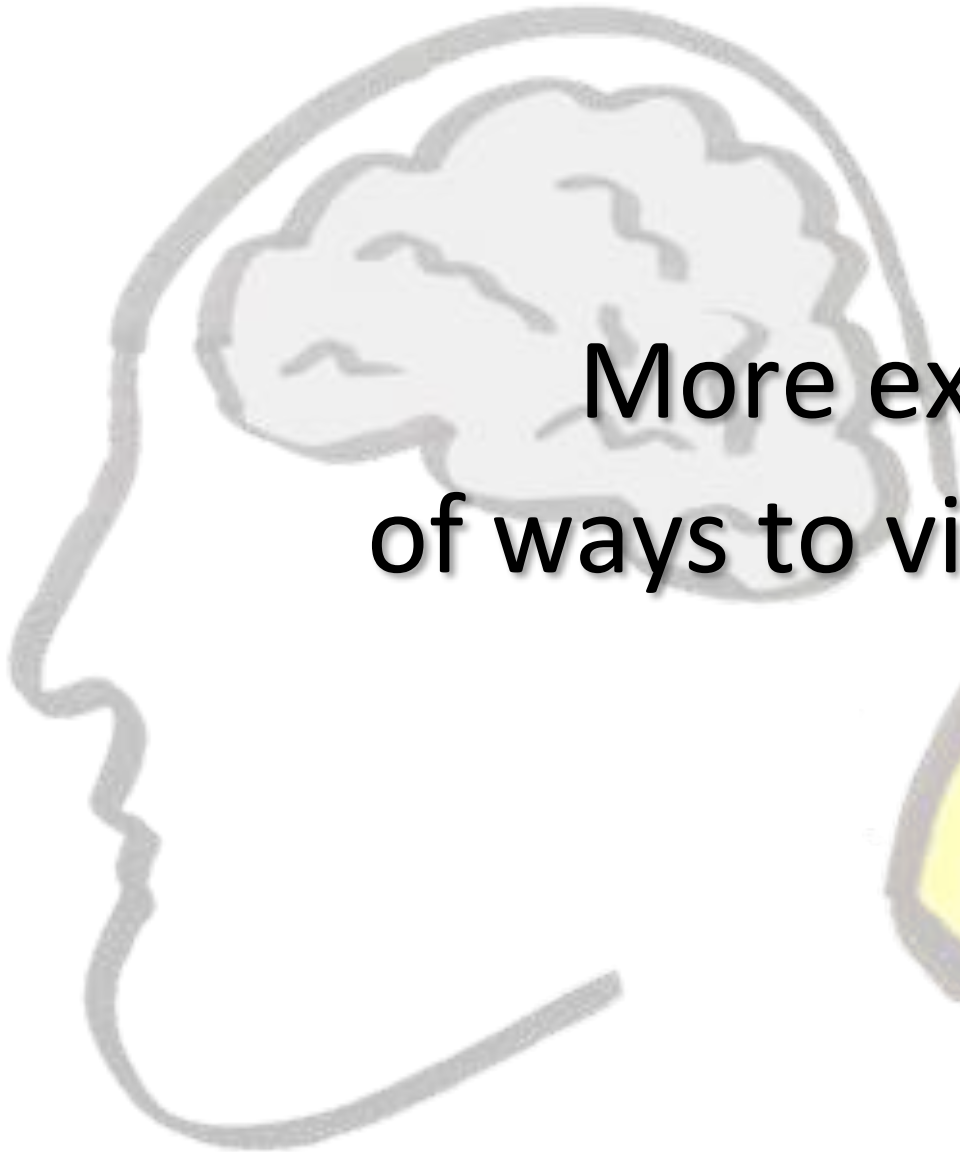
# Wanna learn more?



## Websites / blogposts:

- 🌐 **Patterns for Information Visualization**  
<http://www.targetprocess.com/articles/information-visualization/>
- 🌐 **Sketchnote Index**  
<http://sketchnoteindex.com/>
- 🌐 **Sketchnote Army**  
<http://sketchnotearmy.com/>
- 🌐 **Sketchnotes on plntrest.com**  
<http://pinterest.com/search/pins/?q=sketchnotes>
- 🌐 **Sketchnoting for absolute beginners – Laurens Bonnema**  
<http://laurensbonnema.blogspot.nl/2013/02/sketchnoting-for-absolute-beginners.html>
- 🌐 **Building a visual vocabulary**  
<http://sachachua.com/blog/2013/03/sketchnotes-building-my-visual-vocabulary>  
<http://cheryllowry.com/2013/05/03/sketchnote-building-blocks-visual-vocabulary/>

More examples  
of ways to visualize stuff



# Visual walls

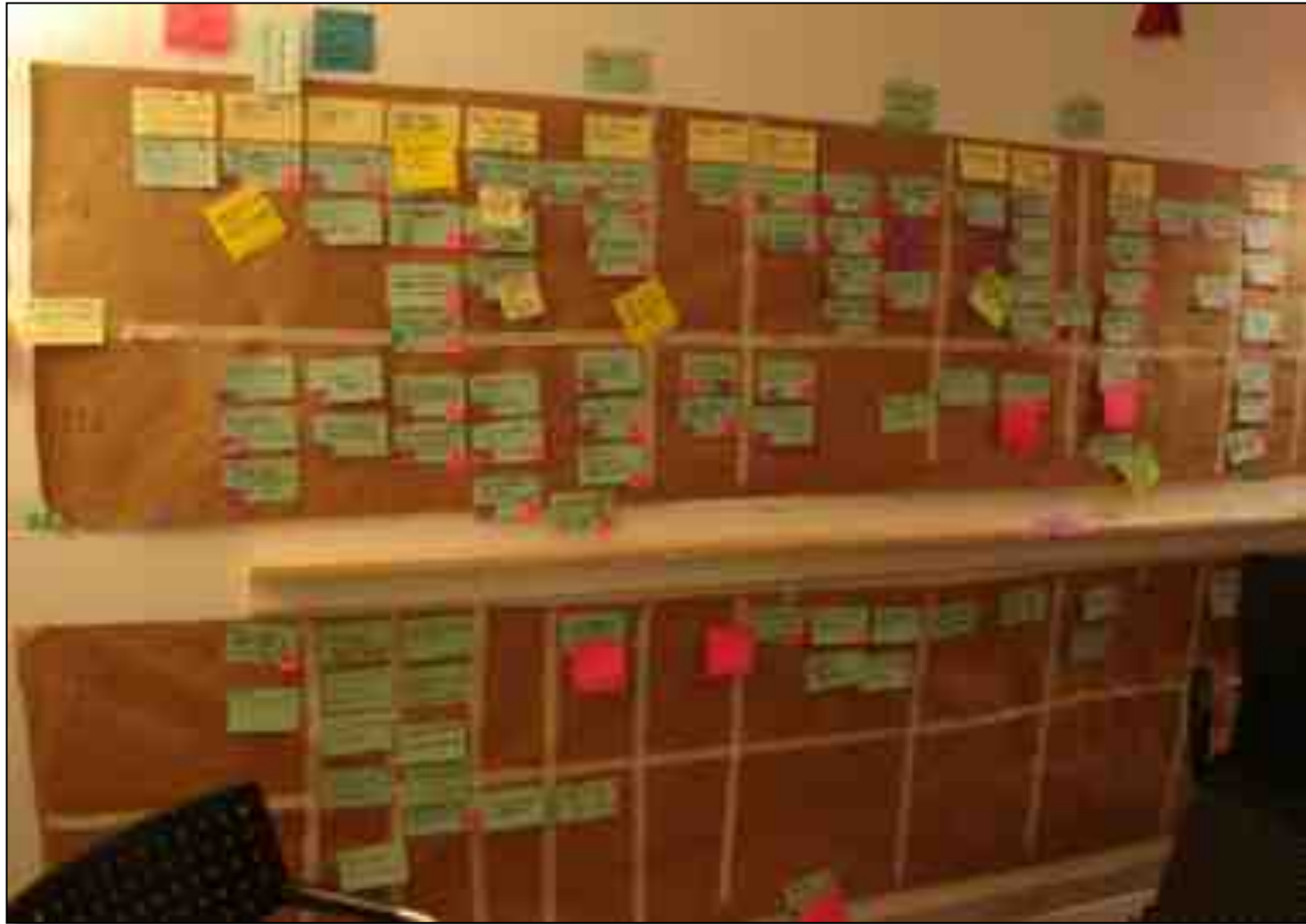
Business Canvas

Product Canvas

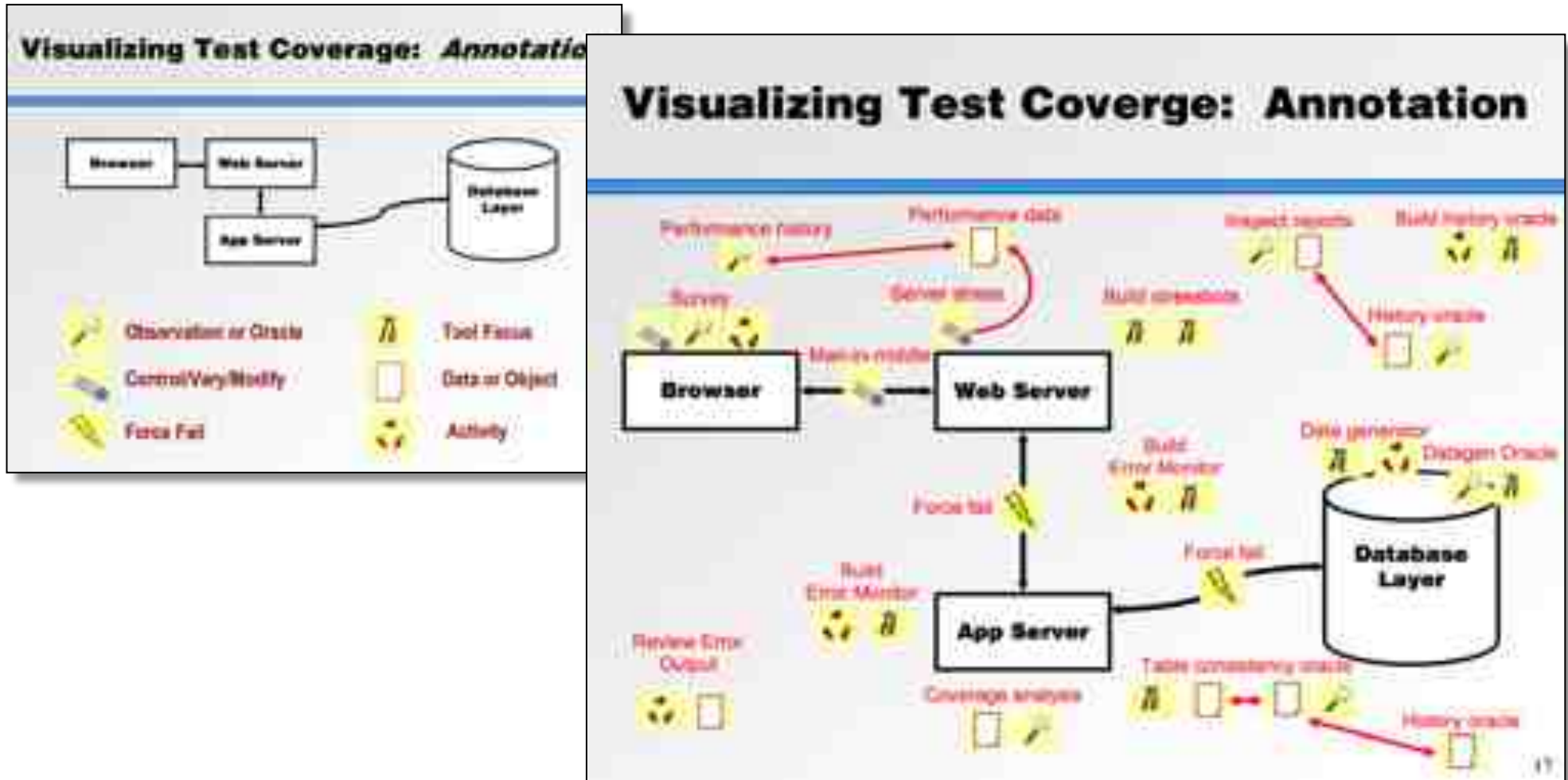
Personas



# Story and effect mapping



# Visual Test Strategy

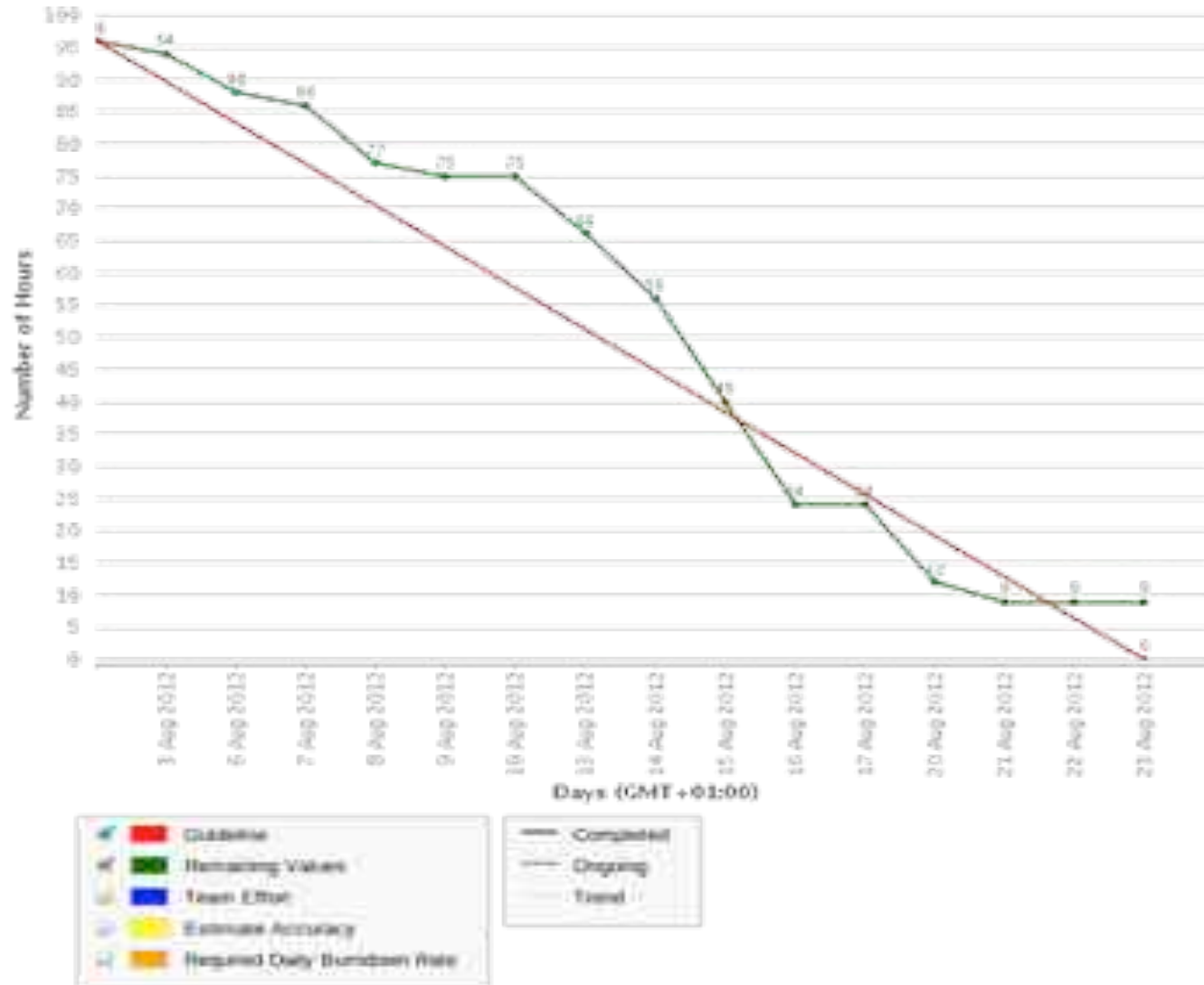


# Scrum Boards

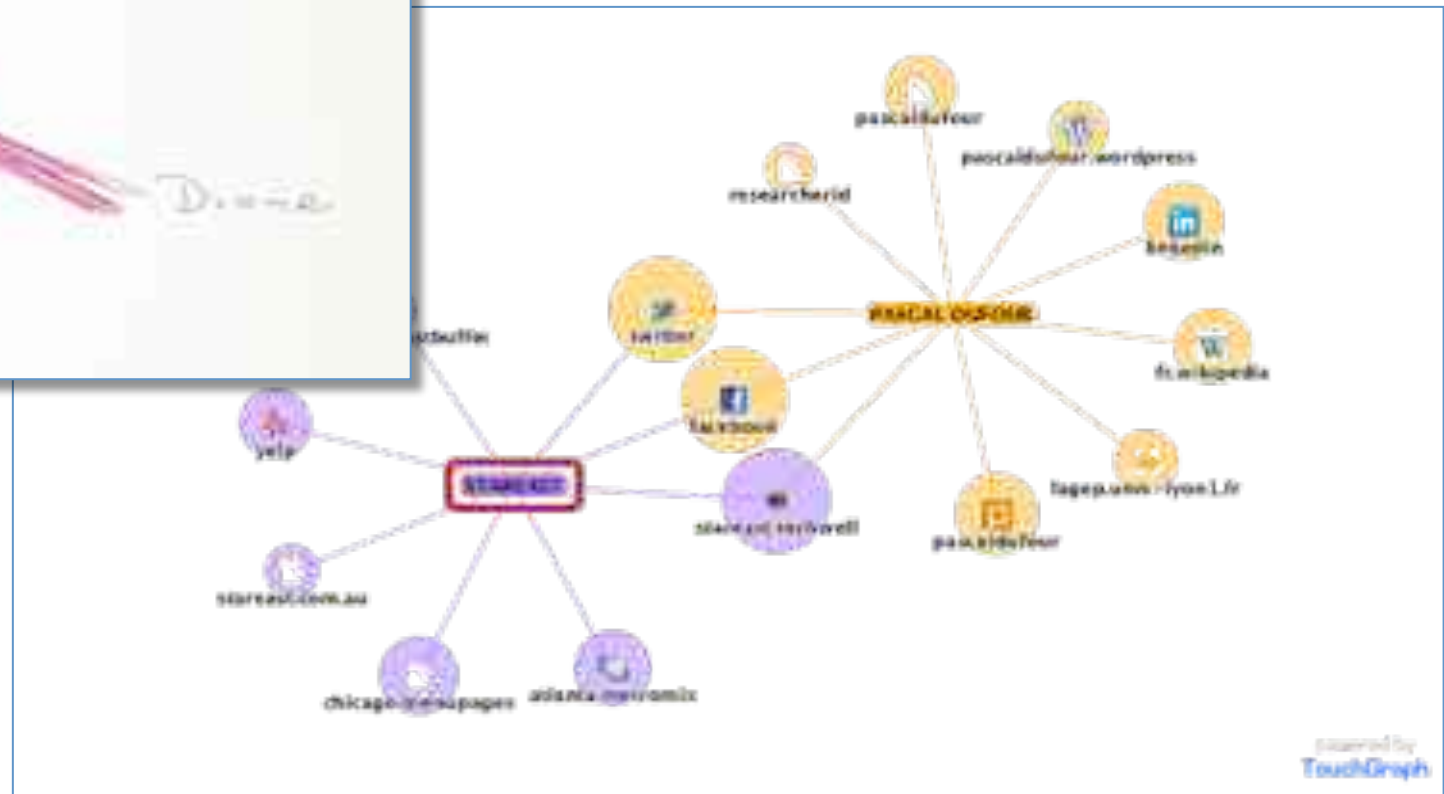
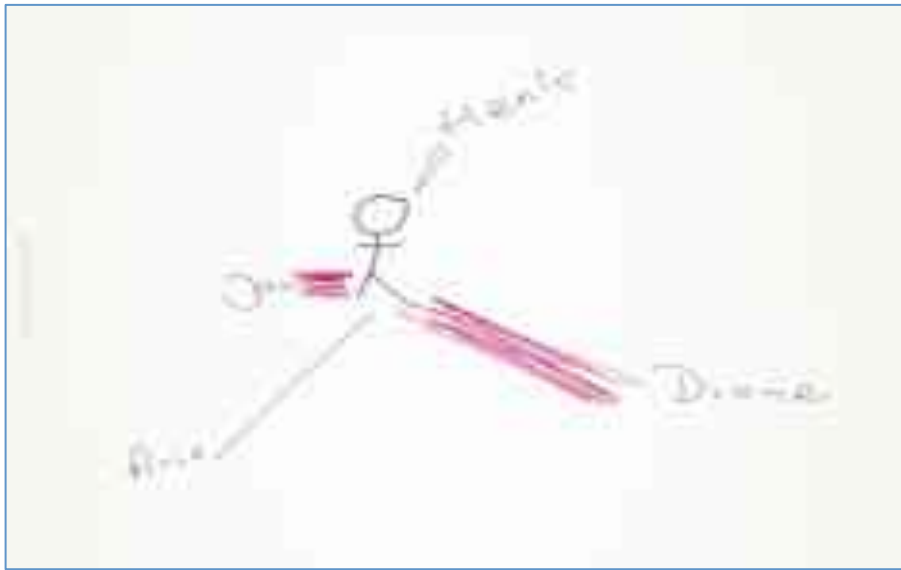




# Burndown

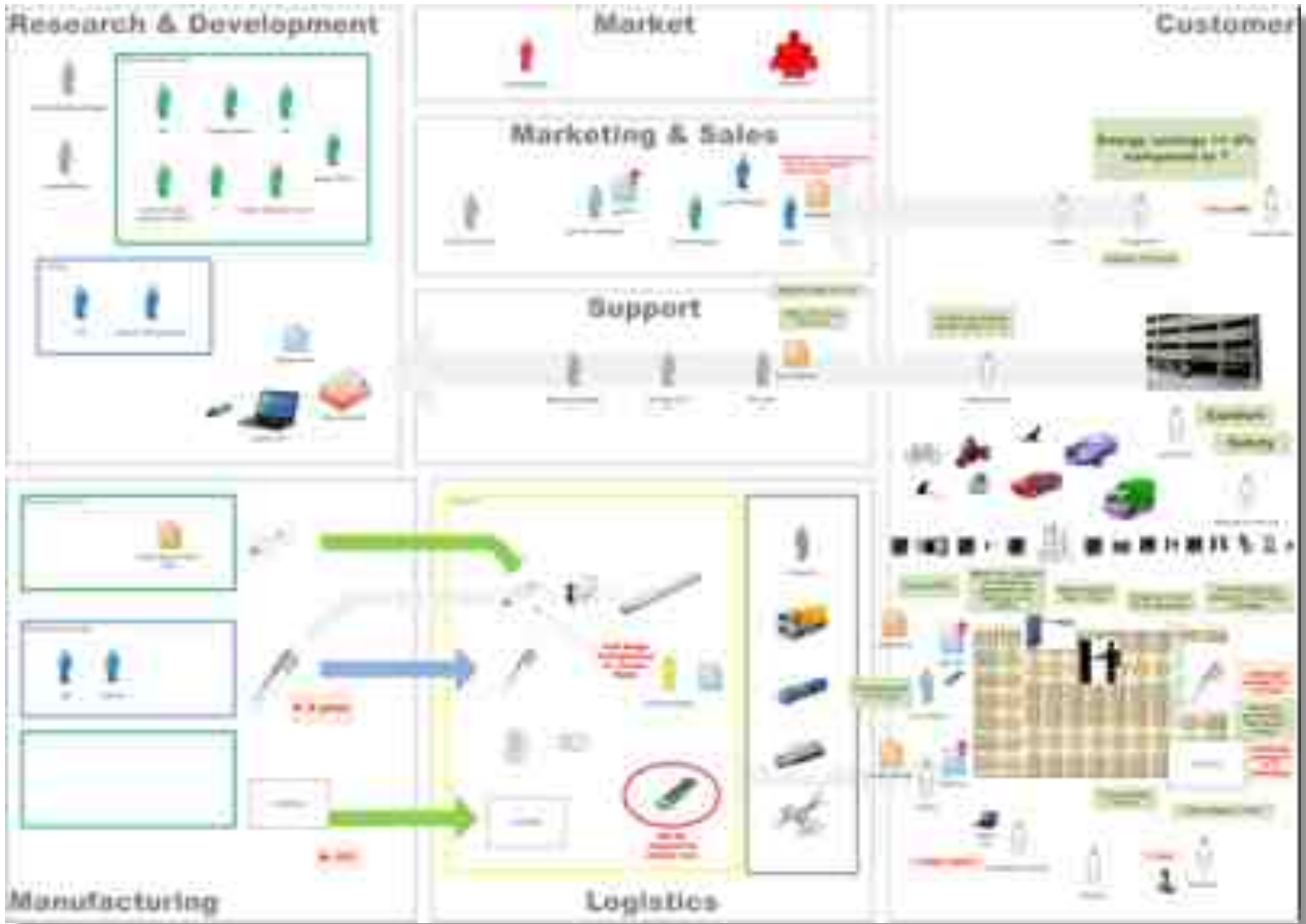


# Contact graphs



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TouchGraph

# Stakeholders








# Code Coverage

The screenshot shows an IDE with a code editor and a coverage analysis window. The code editor displays C++ code with various lines highlighted in green, yellow, and red. The coverage analysis window at the bottom shows a table with columns for 'Element', 'Coverage', 'Count', and 'Lines'. The table lists various code elements and their corresponding coverage percentages and counts.

Element	Coverage	Count	Lines
any_qt5_qt5_common_collector_test.cpp	100%	2007	1228
any_qt5_qt5_common_collector_test.cpp	100%	19	8
any_qt5_qt5_common_collector_test.cpp	100%	20	27
any_qt5_qt5_common_collector_test.cpp	100%	22	21
any_qt5_qt5_common_collector_test.cpp	100%	19	14
any_qt5_qt5_common_collector_test.cpp	100%	207	144
any_qt5_qt5_common_collector_test.cpp	100%	30	30
any_qt5_qt5_common_collector_test.cpp	100%	5	5
any_qt5_qt5_common_collector_test.cpp	100%	3	5
any_qt5_qt5_common_collector_test.cpp	100%	4	13
any_qt5_qt5_common_collector_test.cpp	100%	3	34
any_qt5_qt5_common_collector_test.cpp	100%	190	111
any_qt5_qt5_common_collector_test.cpp	100%	7	10
any_qt5_qt5_common_collector_test.cpp	100%	69	100

# Low Tech Dashboards

<b>Testing Dashboard</b>				Updated: 2/21	Build: 38
<b>Area</b>	<b>Effort</b>	<b>C.</b>	<b>Q.</b>	<b>Comments</b>	
file/edit	high	1			
view	low	1+		B45, B63, W01	
insert	low	2			
format	low	2+		automation broken	
tools	blocked	1		crashes: W06, W07	
slideshow	low	2		animation memory leak	
online help	blocked	0		new files not delivered	
clipart	none	1		need help to test...	
converters	none	1		need help to test...	
install	start 3/17	0			
compatibility	start 3/17	0		lab time is scheduled	
general GUI	low	3			

# Current Project

