Welcome!

Seeing the Gorilla: Developing Well Defined Problems in Complex Space

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Presenters:
Russ Ward &Ken Lauer

i|m|p

Kenyon

Workshop Objective

- Demonstrate Visual Awareness Difficulties when researching Problem landscapes
- Use observation frameworks to capture problems from landscape more comprehensively
- Reinforce the behaviors needed to see and extract problems before solutioning

Problems!

John Dewey (Educational Philosopher) said:

"A problem well stated is a problem half solved"

Why Understand The Problem?

"The mere formulation of a problem (opportunity) is far more essential than its solution, which may be merely a matter of mathematical or experimental skills.

To raise new questions, new possibilities, to regard old problems from a new angle requires creative imagination and marks real advances in science." **-- Albert Einstein**

What is a “Problem”?

- ***A problem is:***

“a question or matter
to be thought about or worked out”.

(Webster”s New World Dictionary Second edition)

A problem can also be explained as “the gap between what we have now and what we want in the future”.

Exercise

The Purpose:

- Demonstrate attention to visual detail
- Promote your use of memory
- Improve your observational skill
- Provide a friendly competitive exercise

TASK

Objective 1: To count the number of times individuals in the white shirts pass the ball to another individual in a white shirt.

Keep the count to your self and be as accurate as you can. The person with the correct number wins!

Selective Attention Objectives

Instructions:

- Write the objective down – clarify if needed
- No talking - do not discuss your answer or what you see!
- Please work alone
- Focus on the task and objective
- Write down your answer at the end of the video
- Be prepared to provide your answer
- If you have seen this before please keep it to yourself

OBSERVATION VIDEO

Selective Attention

So…….

How many passes did the people in white shirts have to each other?

How many did the people in the black shirts have?

Selective Attention Objectives

Now lets use our memories and go onto the second part of this exercise…

TASK 2

Objective 2: To accurately describe the people, setting, activity, behaviors and any other observations you had of the video clip.

From your memory try to record what you saw in the video. This includes (but is not limited to):

-People (Number, Gender, Race etc.)
-Size and make-up of teams
-How the ball is passed
-Movement Patterns
-Setting description
-Number of times the ball bounced
-Description of what they are doing
-Things that seemed strange
-What problems you saw

TASK 2

Instructions:

- Pair UP please
- Write the objective down – clarify if needed
- Try to remember as much as possible
- Be prepared to share your observations

TASK 2 DEBRIEF

What were you able to remember?

Is what you think you remember what really occurred?

What were the problems you identified?

TAKE AWAY - Focus can determine perception of a problem/situation

Perception, 1999, volume 28, pages 1059 – 1074

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Gorillas in our midst: sustained inattentional blindness for dynamic events

Daniel J Simons, Christopher F Chabris

Department of Psychology, Harvard University, 33 Kirkland Street, Cambridge, MA 02138, USA;
e-mail: dsimons@wjh.harvard.edu

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Abstract. With each eye fixation, we experience a richly detailed visual world. Yet recent work on visual integration and change direction reveals that we are surprisingly unaware of the details of our environment from one view to the next: we often do not detect large changes to objects and scenes ('change blindness'). Furthermore, without attention, we may not even perceive objects ('inattentional blindness'). Taken together, these findings suggest that we perceive and remember only those objects and details that receive focused attention. In this paper, we briefly review and discuss evidence for these cognitive forms of 'blindness'. We then present a new study that builds on classic studies of divided visual attention to examine inattentional blindness for complex objects and events in dynamic scenes. Our results suggest that the likelihood of noticing an unexpected object depends on the similarity of that object to other objects in the display and on how difficult the priming monitoring task is. Interestingly, spatial proximity of the critical unattended object to attended locations does not appear to affect detection, suggesting that observers attend to objects and events, not spatial positions. We discuss the implications of these results for visual representations and awareness of our visual environment.

Doctor Video

- What did you see?
- What can you say about it?

Timing can influence the inferences you make

Observation/Extraction Frameworks

How might we frame the observational planning which drives problem extraction while avoiding inattentional blindness?

Some Example Observation Frames

A. Human Factors
B. Cognitive factors
C. Social & Societal factors
D. Economic factors
E. Process maps (workflow)
F. Quality indicators (Deliverables)

What is “an Effective Problem Statement”?

Effective Problem statements have idea finding potential:

- **Phrased to Invite Ideas!**
- **State the issue for which you really want ideas!**
- **Are Concise!**
- **Locate ownership!**
- **Are free of criteria - you are not boxed in or limited!**

Elements of an Effective Problem Statement!

- **Effective Problem Statements have:**
  - **An invitational stem!**

    example ***How to*** *(H2)****:*** ***How might*** *(HM)****:***

    In what ways might I *(IWWMI)*
  - **An owner - a clearly identified responsible person!**
  - **A verb or action associated!**
  - **An identified object associated!**

Problem Statement Examples

- IWWMI motivate this team to achieve this goal?
- H2 prioritize the identified problems?
- H2 develop a better method of managing phone calls
- HMI develop a solution in the fastest time possible?

"Finding Issues that are Problems"

- **Generally we think of problems**
  - **as being explicitly stated in some way!**

- **However**
  - **a problem can be implied by a statement, a fact, an activity**

TASK 3

Task:

- Pair Off
- Watch the video using one of the following frameworks
- Write down as many problems statements that you can
- Be prepared to share them when we are done

Example Frameworks:

A. Human Factors
B. Cognitive factors
C. Social & Societal factors
D. Economic factors
E. Process maps (workflow)
F. Quality indicators (Deliverables)

VIDEO

Problem Extraction

What were the problems/issues you saw in the video?

Selective Attention Discussion

- Research outcome and implications
- How was the experience for you?
- How long could you spend on a video clip like this one of 33 seconds?
- How might you manage this phenomena?
- Questions or Comments?

So how do we use this?

Complex Related Problems

Embedded in Networks

Generation Individual Ideas

Solving each selected Problem

Early Concept Options

Refined Concepts

- Each Concept solves the same problem set.
- Selection criteria drives the choice of different Ideas to form different Concepts.

- Concepts are refined visually
- Business Case Analysis
- Approval
- Prototyping
- Testing