HUMAN COMPUTER INTERACTION

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First, the news…

- First 5 minutes we talk about something interesting and recent
- You will not be tested on the news part of lecture
- You may use news as an example on tests
- Why do this?
  1. Some students show up late
  2. Reward students who show up on time
  3. Important to see real world examples

Pronouncing my last name:

English: **Van-yay**
French: **Vanier**

Bit of American history:

Computer Security

Kami

Human Computer Interaction

Today…

1. Course introduction
2. Basic concepts
3. Turn survey in
4. Questionnaires

Step one of any good design is determining what your goals are and who you are designing for…

Learning goals

1. Write UG4 and MSc theses
   A. Understand user needs
   B. Justify design decisions
   C. Evaluate the final result
2. Discuss projects during interviews
   A. Describe a project you worked on that they can understand
   B. Be able to break down the good and bad elements from a usability angle
3. Create usable things in the real world
   A. Same as #1
   B. Justify decisions to your boss

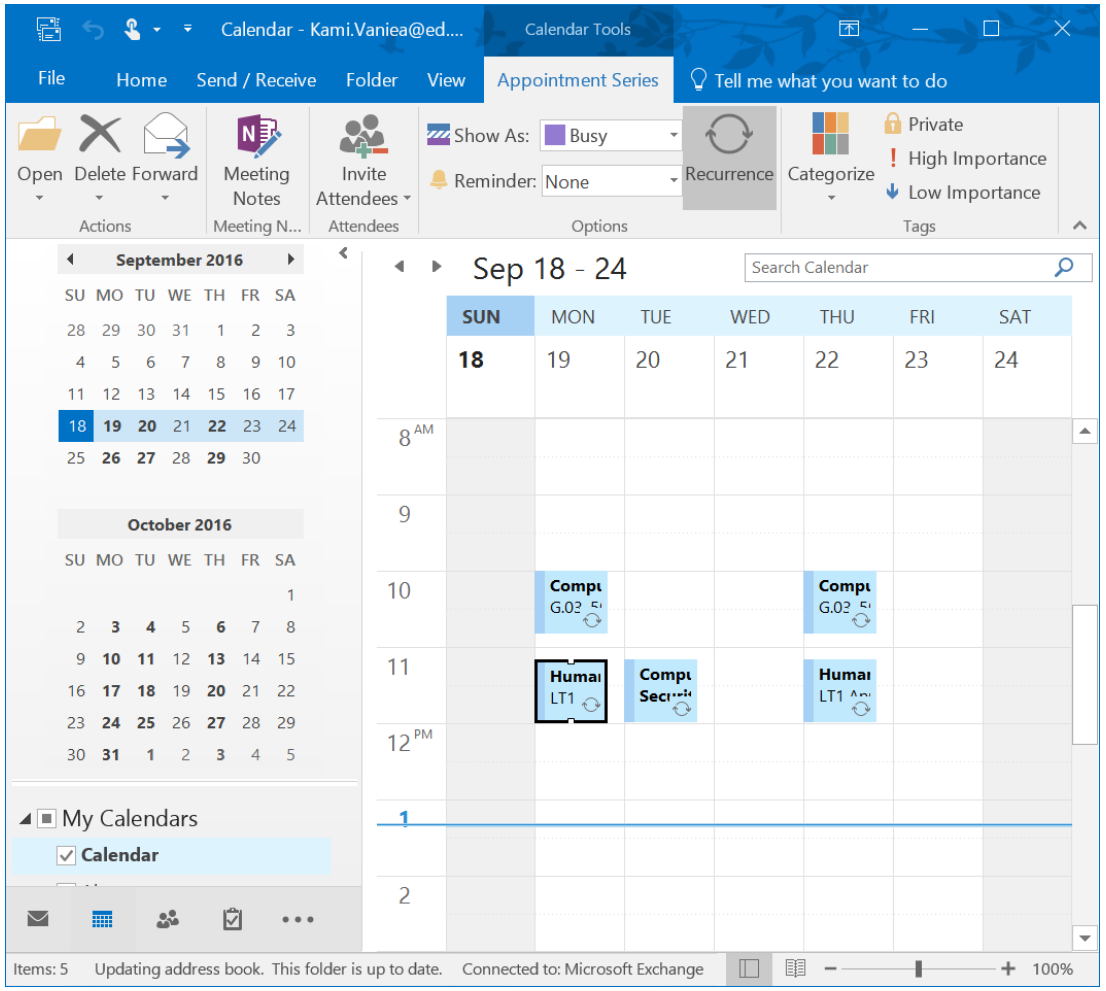
Coursework

CW1: **Evaluate Outlook Calendar**

- Groups of 3-4
- Each member: 1 evaluation
- Group: combined analysis

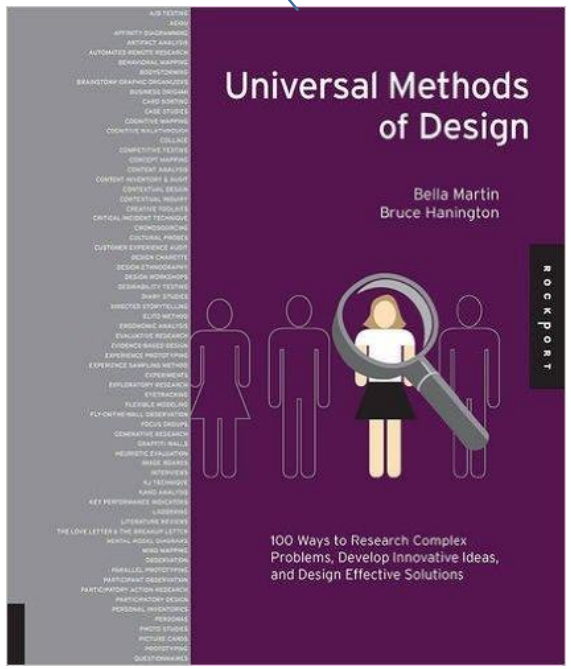
CW2: **Build a usable website**

- Collaboration groups of up to 10
- Max 3 students per website

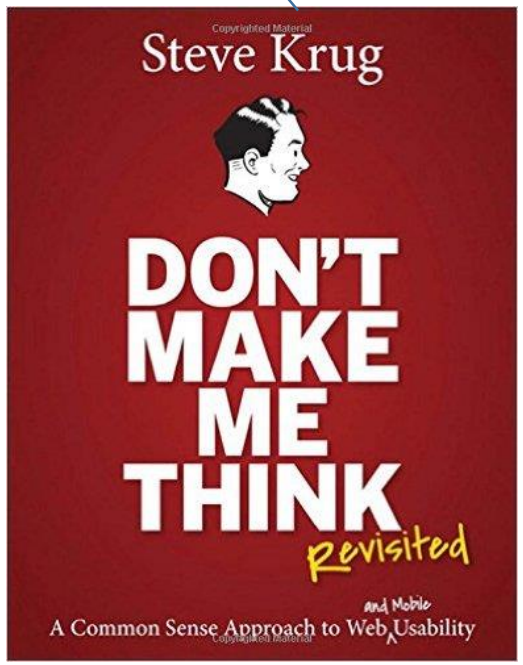


Books

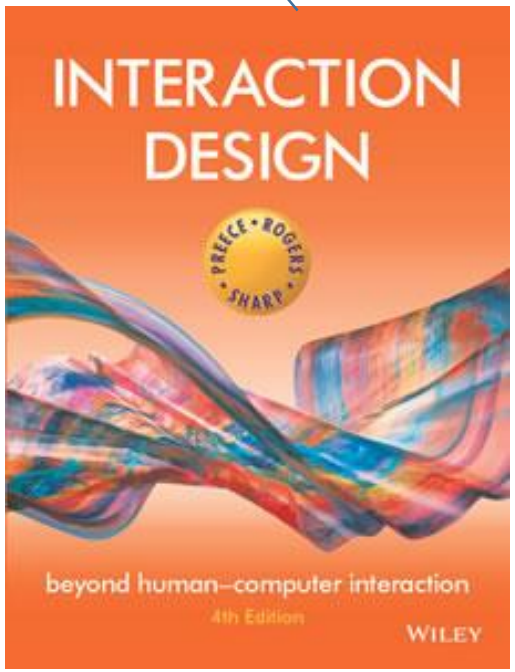
Quick guide to common methodologies



Practical guide to building and testing usable interfaces



Thick textbook with everything in great detail

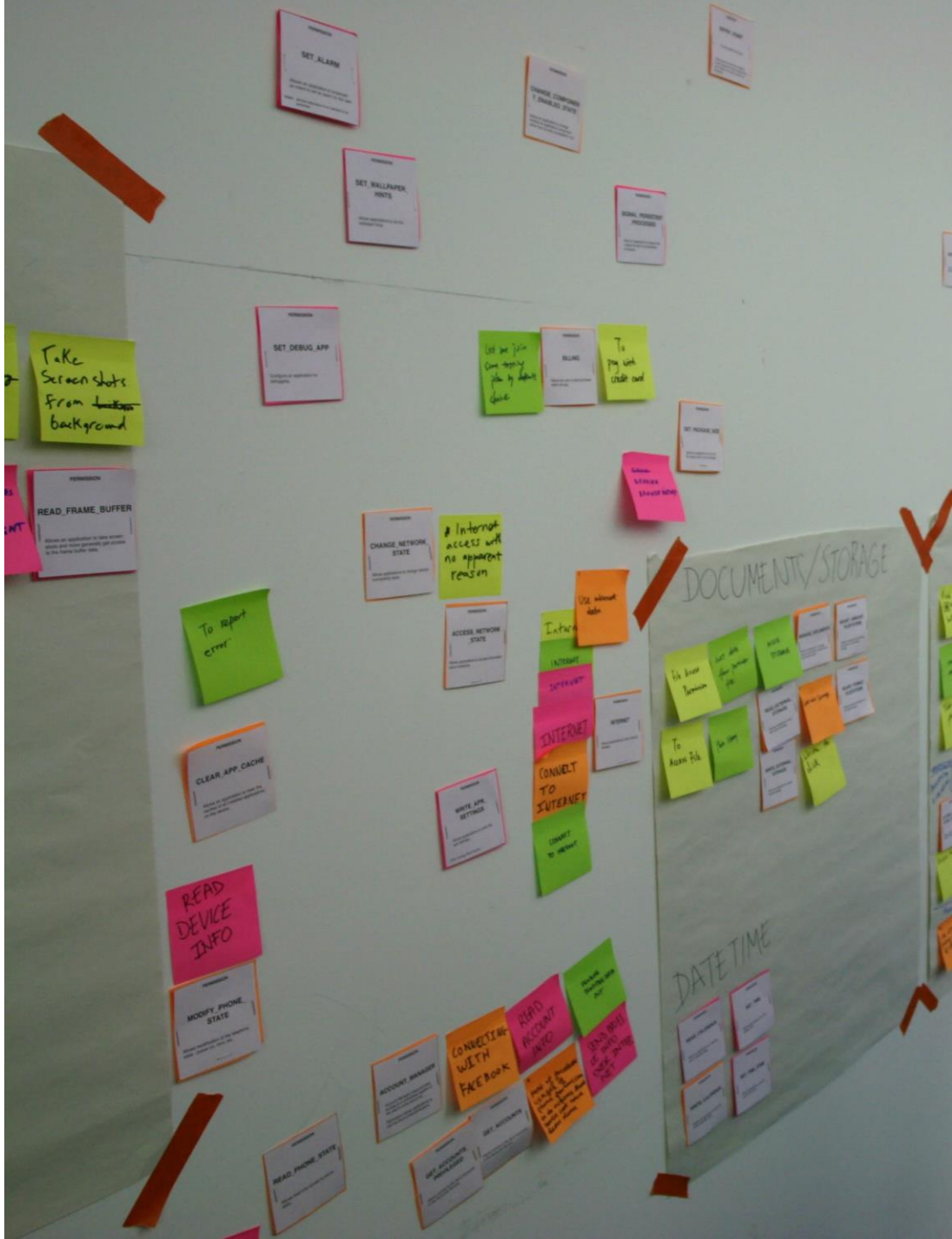


Readings

- Short readings
  - Should take less than 10 minutes to read
  - Typically only 2 pages per methodology
  - I expect you to know this, likely will show up on exam
- Long readings
  - Everything you need to know
  - Further clarification of slide material
- Supplemental readings
  - Extra information for those who are interested

Tutorials

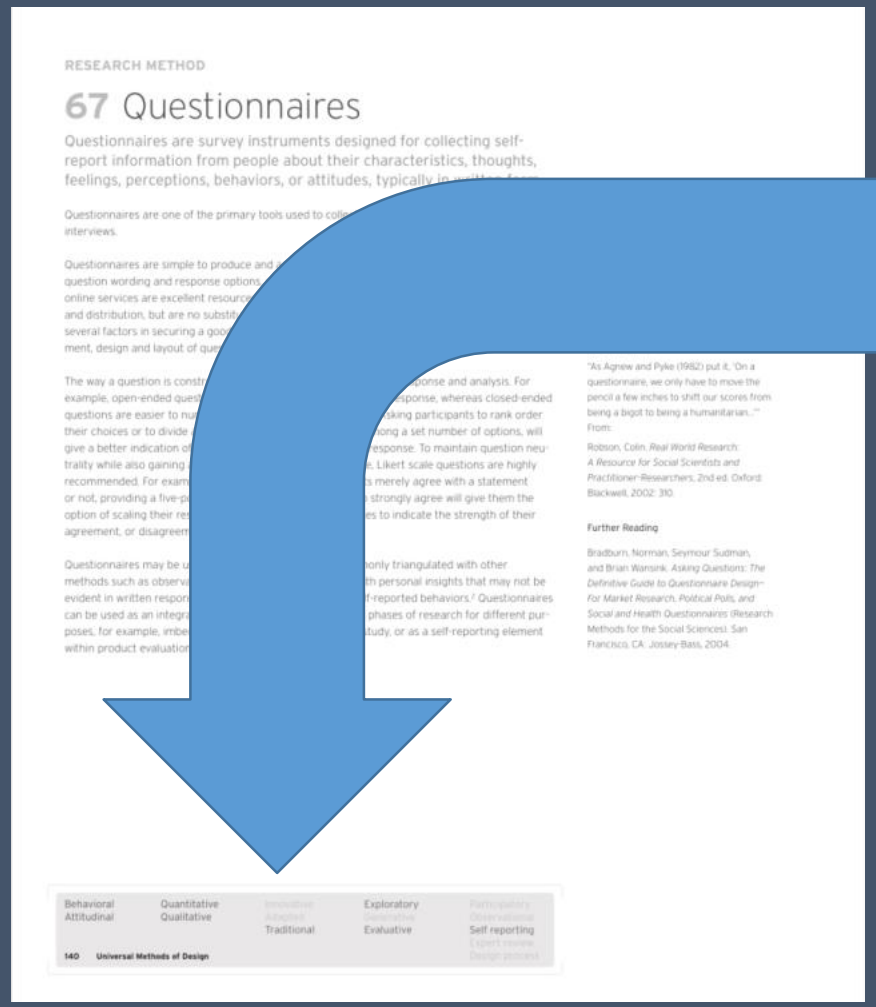
- Starting in the third week
- Focus on hands-on doing of the methodologies
- Work through some sample exam questions



Design process

Many design processes, we use the Universal Methods of Design one

1. Planning, scoping, and definition
   - What do we want to do?
2. Exploration, synthesis, and design implications
   - Would it work? Would it solve the problem?
3. Concept Generation
   - Create a prototype and try it out
4. Evaluation, refinement, and production
   - Build it, test it, fix it
5. Launch and monitor
   - See if it works in the real world and perform ongoing review


RESEARCH METHOD

67 Questionnaires

Questionnaires are survey instruments designed for collecting self-report information from people about their characteristics, thoughts, feelings, perceptions, behaviors, or attitudes, typically

Questionnaires are one of the primary tools used to colle
interviews.

Questionnaires are simple to produce and
question wording and response options
online services are excellent resource
and distribution, but are no substi
several factors in securing a goo
ment, design and layout of que

The way a question is consti
example, open-ended ques
questions are easier to nu
their choices or to divide
give a better indication o
trality while also gaining
recommended. For exam
or not, providing a five-p
option of scaling their re
agreement, or disagreem

Questionnaires may be u
methods such as observa
evident in written respon
can be used as an integr
poses, for example, imbe
within product evaluatio

sponse and analysis. For
sponse, whereas closed-ended
king participants to rank order
ong a set number of options, will
esponse. To maintain question neu-
. Likert scale questions are highly
s merely agree with a statement
strongly agree will give them the
es to indicate the strength of their

nly triangulated with other
th personal insights that may not be
f-reported behaviors.[2] Questionnaires
phases of research for different pur-
tudy, or as a self-reporting element

"As Agnew and Pyke (1982) put it, 'On a questionnaire, we only have to move the pencil a few inches to shift our scores from being a bigot to being a humanitarian...'"
From:

Robson, Colin. *Real World Research: A Resource for Social Scientists and Practitioner-Researchers*, 2nd ed. Oxford: Blackwell, 2002: 310.

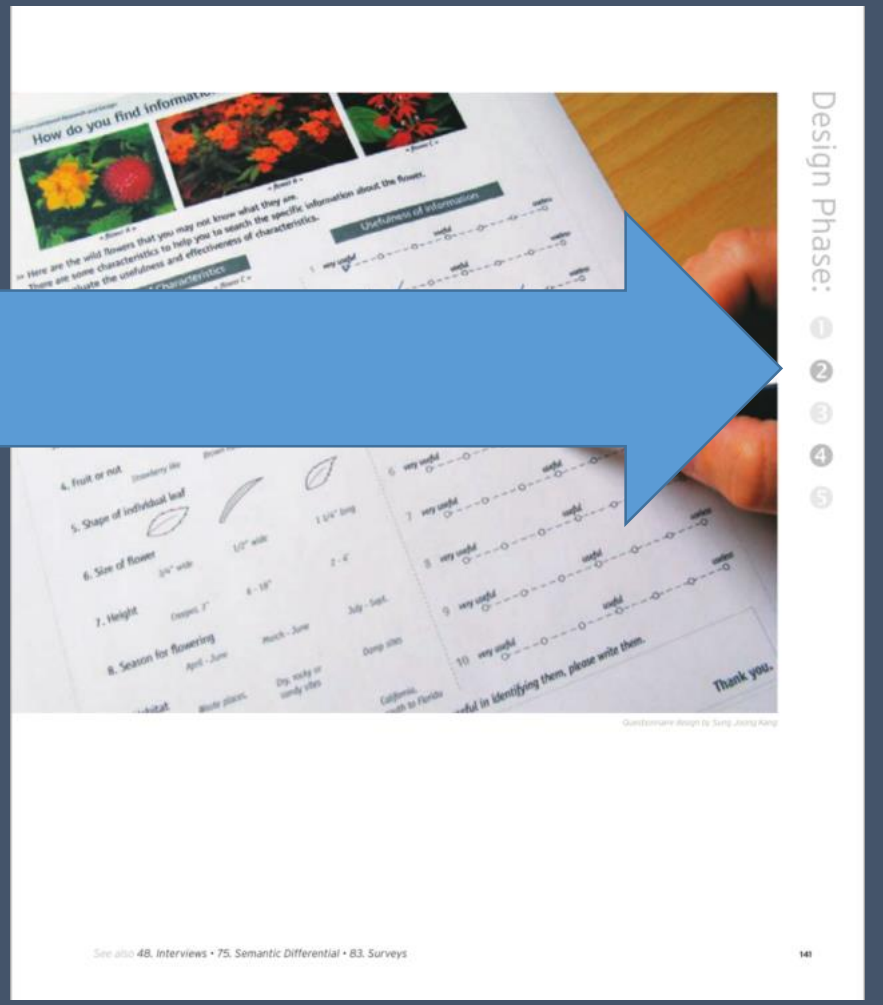
Further Reading

Bradburn, Norman, Seymour Sudman, and Brian Wansink. *Asking Questions: The Definitive Guide to Questionnaire Design—For Market Research, Political Polls, and Social and Health Questionnaires* (Research Methods for the Social Sciences). San Francisco, CA: Jossey-Bass, 2004.

Behavioral Attitudinal	Quantitative Qualitative		Exploratory Evaluative	Self reporting
		Traditional		

140 Universal Methods of Design

The Methods book always lists what design phases a method works with and what type of evaluation it can be used for



See also 48. Interviews • 75. Semantic Differential • 83. Surveys

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Learning order

We will be learning about these slightly out of order to best support our goal of enabling students to do their UG4 projects.

1. Design requirements
   - What do we want to do?
2. Evaluation
   - Does the design work?
3. Concept generation
   - Prototyping
   - Matching needs
4. Interface design
   - Common approaches
5. Evaluation, with data
   - Quantitative

Any questions about the course setup?

Please turn in your surveys

Questionnaires

Questionnaires let us learn something about our target population

Questionnaires in requirements gathering

- Typically used in either requirements gathering or in evaluation
- Pro: gather data from a large number of people
- Pro: can determine how prevalent an issue or concern is
- Pro: close-ended questions are easy to analyze
- Con: can only gather data you know about
- Con: careful planning is required before running a questionnaire
- Con: open-ended questions can take a lot of time to analyze and require careful setup

We want to know about?

- Attitudes
  - Do you like X?
- Behaviors
  - How often do you use X?
- Conceptualizations
  - Which of the following best describes X?
- Expectations
  - If the webpage did X what would you expect to happen?
- Capabilities
  - Add the numbers 20 and 30, what do you get?

Open ended

- Where does this URL go? What does it do?

Easier to write, harder to analyze

Harder to write, easier to analyze

Close-ended

If you clicked on the link above, what web page would open?

- ◯ WWW3's main page
- ◯ National Geographic's main page
- ◯ World News's main page
- ◯ I will be taken to one of the sites above, but not their main page
- ◯ I will be taken to a website not listed above
- ◯ Other _____

Common survey elements

- Single and multiple choice checkboxes
- Rating scales
  - Likert Scales
    - 3, 5, 7 points scales
  - Semantic scales
- Open ended responses

Response Anchors

Psychologists have been working for quite some time to determine the least biased way to present a set of answers.

On the right are a set of response anchors that are known to work well.

Likert-Type Scale Response Anchors

Citation:
Vagias, Wade M. (2006). *Likert-type scale response anchors*. Clemson International Institute for Tourism & Research Development, Department of Parks, Recreation and Tourism Management. Clemson University.

Level of Acceptability
- 1 – Totally unacceptable
- 2 – Unacceptable
- 3 – Slightly unacceptable
- 4 – Neutral
- 5 – Slightly acceptable
- 6 – Acceptable
- 7 – Perfectly Acceptable

Level of Appropriateness
- 1 – Absolutely inappropriate
- 2 – Inappropriate
- 3 – Slightly inappropriate
- 4 – Neutral
- 5 – Slightly appropriate
- 6 – Appropriate
- 7 – Absolutely appropriate

Level of Importance
- 1 – Not at all important
- 2 – Low importance
- 3 – Slightly important
- 4 – Neutral
- 5 – Moderately important
- 6 – Very important
- 7 – Extremely important

Level of Agreement
- 1 – Strongly disagree
- 2 – Disagree
- 3 – Somewhat disagree
- 4 – Neither agree or disagree
- 5 – Somewhat agree

My beliefs
- 1 – Very untrue of what I believe
- 2 – Untrue of what I believe
- 3 – Somewhat untrue of what I believe
- 4 – Neutral
- 5 – Somewhat true of what I believe
- 6 – True of what I believe
- 7 – Very true of what I believe

Priority:
- 1 – Not a priority
- 2 – Low priority
- 3 – Somewhat priority
- 4 – Neutral
- 5 – Moderate Priority
- 6 – High priority
- 7 – Essential priority

Level of Concern
- 1 – not at all concerned
- 2 – Slightly concerned
- 3 – Somewhat concerned
- 4 – Moderately concerned
- 5 – Extremely concerned

Priority Level
- 1 – Not a priority
- 2 – Low priority
- 3 – Medium priority
- 4 – High priority
- 5 – Essential

Level of Support/Opposition
- 1 – Strongly oppose
- 2 – Somewhat oppose
- 3 – neutral
- 4 – Somewhat favor
- 5 – Strongly favor

Level of Probability
- 1 – Not probable
- 2 – Somewhat improbable
- 3 – Neutral
- 4 – Somewhat probable
- 5 – Very probable

Level of Agreement
- 1 – Strongly disagree
- 2 – Disagree
- 3 – Neither agree or disagree
- 4 – Agree
- 5 – Strongly agree

Level of Desirability
- 1 – Very undesirable
- 2 – Undesirable
- 3 – neutral
- 4 – Desirable
- 5 – Very desirable

Level of Participation
- 1 – No, and not considered
- 2 – No, but considered
- 3 – Yes

Frequency – 5 point

Lets go through the survey I gave out earlier and see examples of these points

Questions