Faculty of Science

The effect of gaze-contingency in DCE

Work in progress by

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Gaze-contingency??

Wikipedia:

The **gaze-contingency paradigm** is a general term for techniques allowing a computer screen display to change in function depending on where the viewer is looking.

Motivation for looking into this?

- Previous eyetracking study investigating attribute non-attendance
- Only ~1-2% of the visual field can be used for detailed processing of visual information ("rule of thumb")
- Eyetracking should thus give us the ultimate measure of non-attendance
  - If you haven't looked at an attribute, it cannot affect your choice, right?
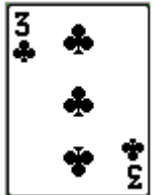   - But our previous dataset mysteriously suggested otherwise… *were the models wrongly picking up preferences??*

Wrong assumptions?

"Rule of thumb"

Peripheral vision

How can we rule out peripheral vision?

To test whether peripheral vision is really the explanation, we have recently collected a new data set using eyetracking technology to incorporate gaze-contingency

The chocolate survey

293 respondents, mainly students in Copenhagen
Lab experiment with SMI Red250 (250Mz) eyetracker
Respondent sitting alone in room – operator next door
Incentivized DCE concerning chocolate bars
Fractional factorial design with zero priors
2x21 choice tasks per respondent
Split sample: gaze-contingency used in half of the sample

Data almost ready for analyses

	Bar 1	Bar 2	Bar 3
Type (Milk / Dark)	Milk	Dark	Milk
Production method (Conv. / Org.)	Conv.	Org.	Org.
Sustainable trade (Conv. / Fairtr.)	Fairtr.	Conv.	Fairtr.
Origin of the beans (Equador / Panama)	Equador	Panama	Equador
Size (25g / 100g / 175g / 250g)	175g	250g	100g

Type
(Milk / Dark)

Production method
(Conv. / Org.)

Sustainable trade
(Conv. / Fairtr.)

Origin of the beans
(Equador / Panama)

Size
(25g / 100g / 175g / 250g)

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Ideas for analysis

- Visual vs inferred vs stated non-attendance (the ultimate test ☺)

- RUM vs RRM (vertical vs horizontal eyemovements)
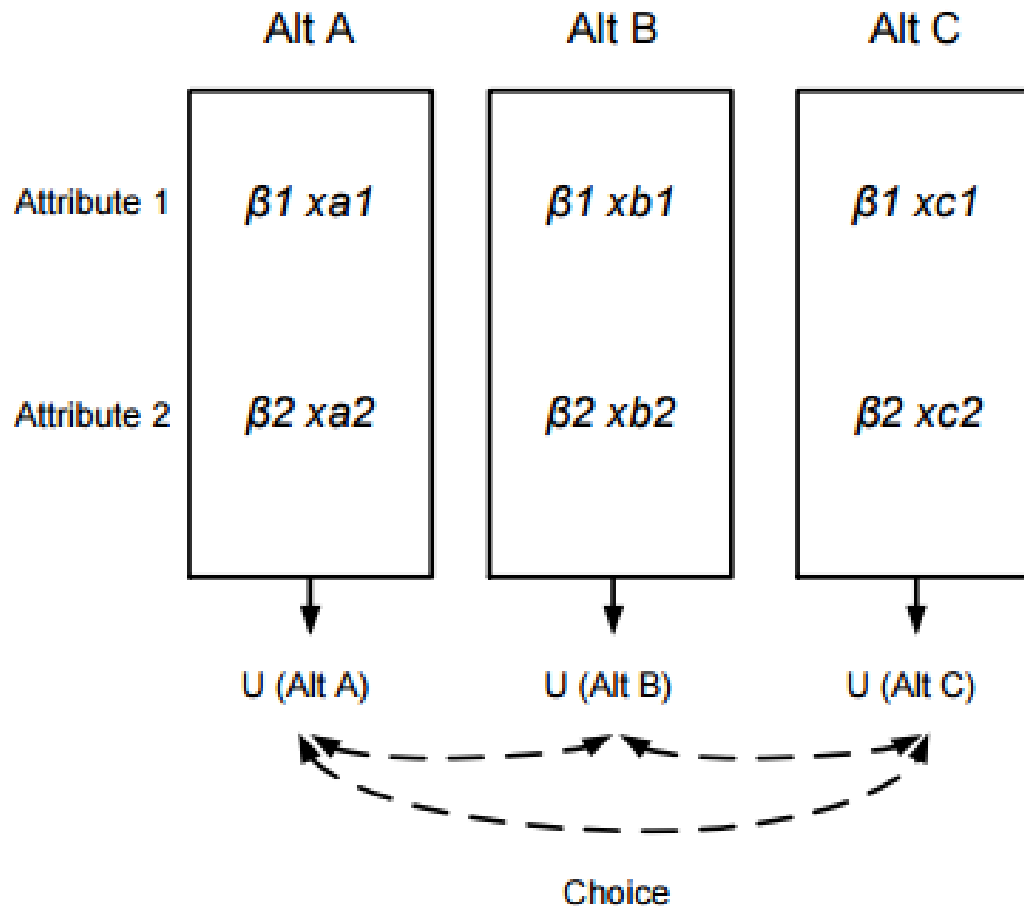
RUM process (Chorus 2012)
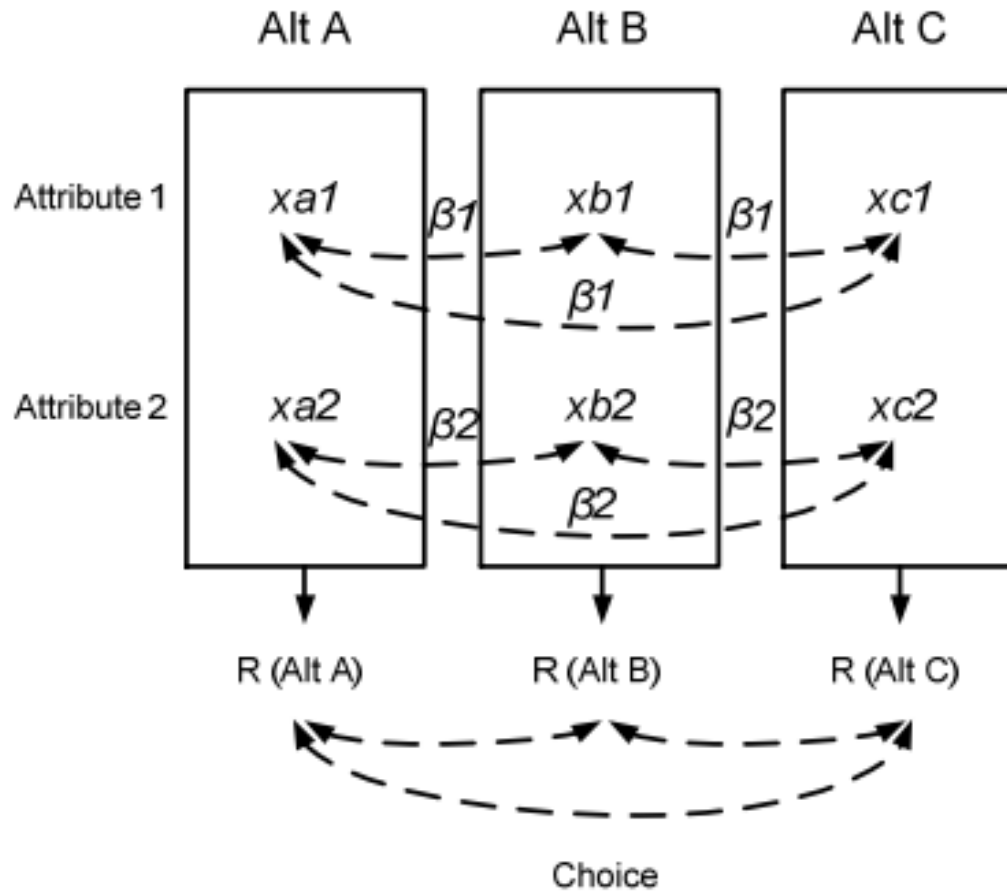

Figure 2.3 (c)

RRM process (Chorus 2012)

Fig 2.4: A regret minimization-based decision process

- Elimination-by-aspects

- Simplification heuristics

- Learning + fatigue

- Other ideas are more than welcome!

The IFRO eyetracking lab is open!

Our very own eyetracking lab at IFRO in Copenhagen is now close to being operational

Guest are welcome ☺