Identifying and Compensating for Biases in User Feedback

A Case Study

Team Chartreuse

Walkthrough

PayR is an iPhone app which aids restaurant goers in splitting bills.
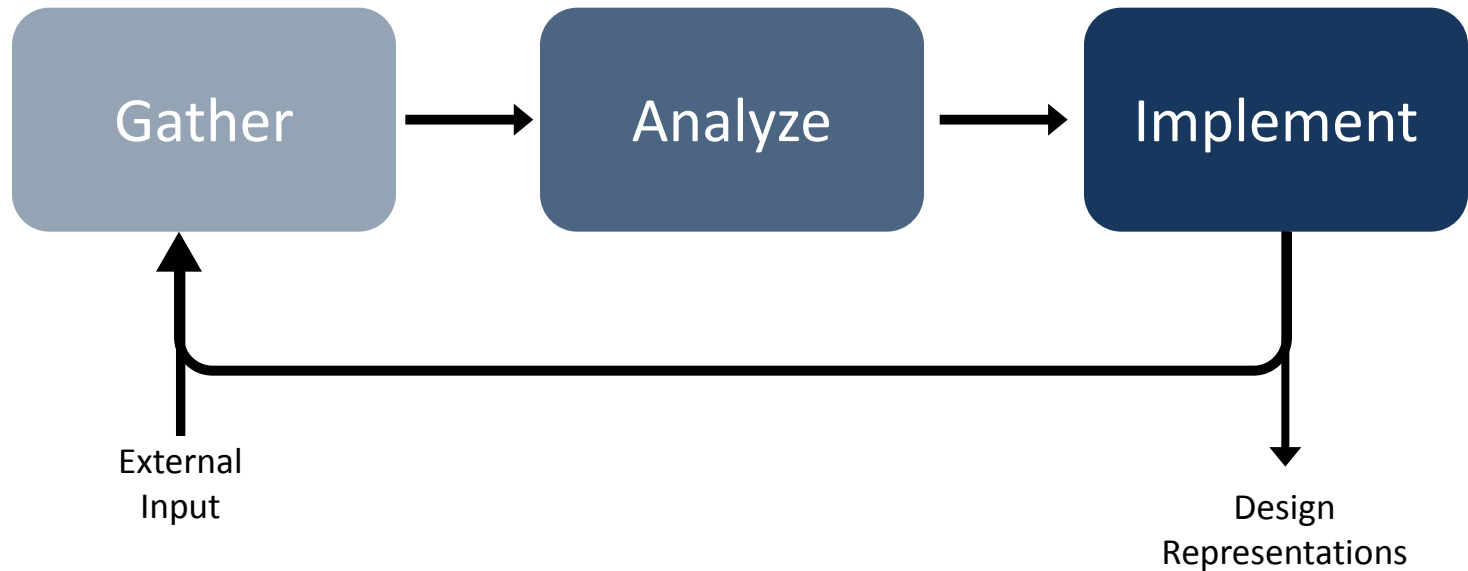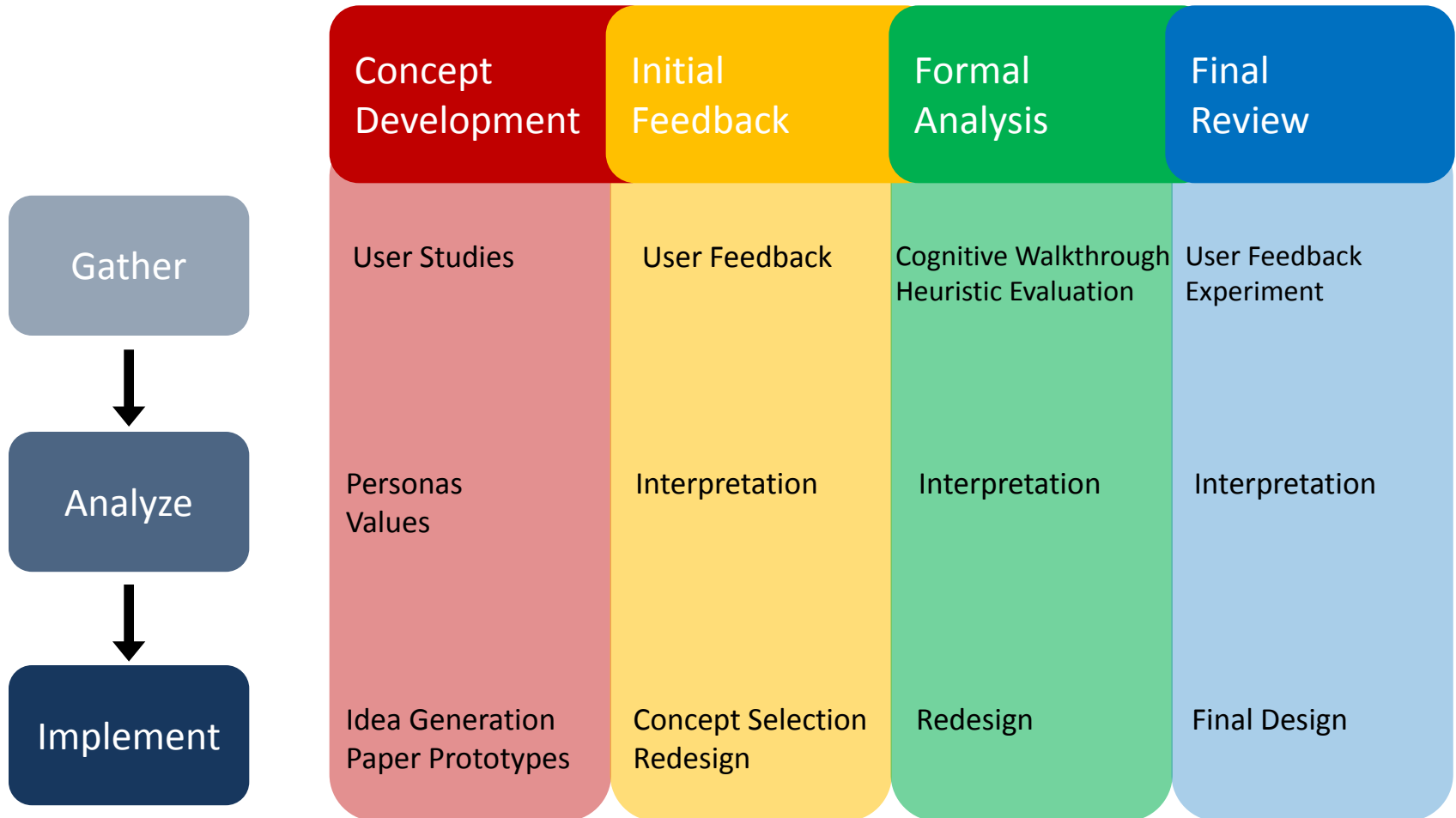

Split Bill Evenly

Split Bill by Item

A Model of Design

Design Process

	Concept Development	Initial Feedback	Formal Analysis	Final Review
Gather	User Studies	User Feedback	Cognitive Walkthrough Heuristic Evaluation	User Feedback Experiment
Analyze	Personas Values	Interpretation	Interpretation	Interpretation
Implement	Idea Generation Paper Prototypes	Concept Selection Redesign	Redesign	Final Design

Categories of Bias

Who
The Person Is

Background, Personal Preferences, Values, Technical Experience

What
The Product is Used For

Intended use of product, Context of meals, How bills are paid

Context
Of Feedback Session

Purpose of feedback, Location of session, Relations among participants, Prototype issues

PAPER PROTOTYPE

Paper Prototype

Split all items evenly

Subtotal: 48.56

Tip: [15] %

Total: 62.75

# of customers [4]

Amount per customer: $13.79

< Receipt confirm | Reset screen | Payment assigned >

- Context
  - Detailed Feedback vs General Feedback
  - Paper Prototype is "slower" than Software Prototype
- Who
  - Active Feedback vs Passive Feedback

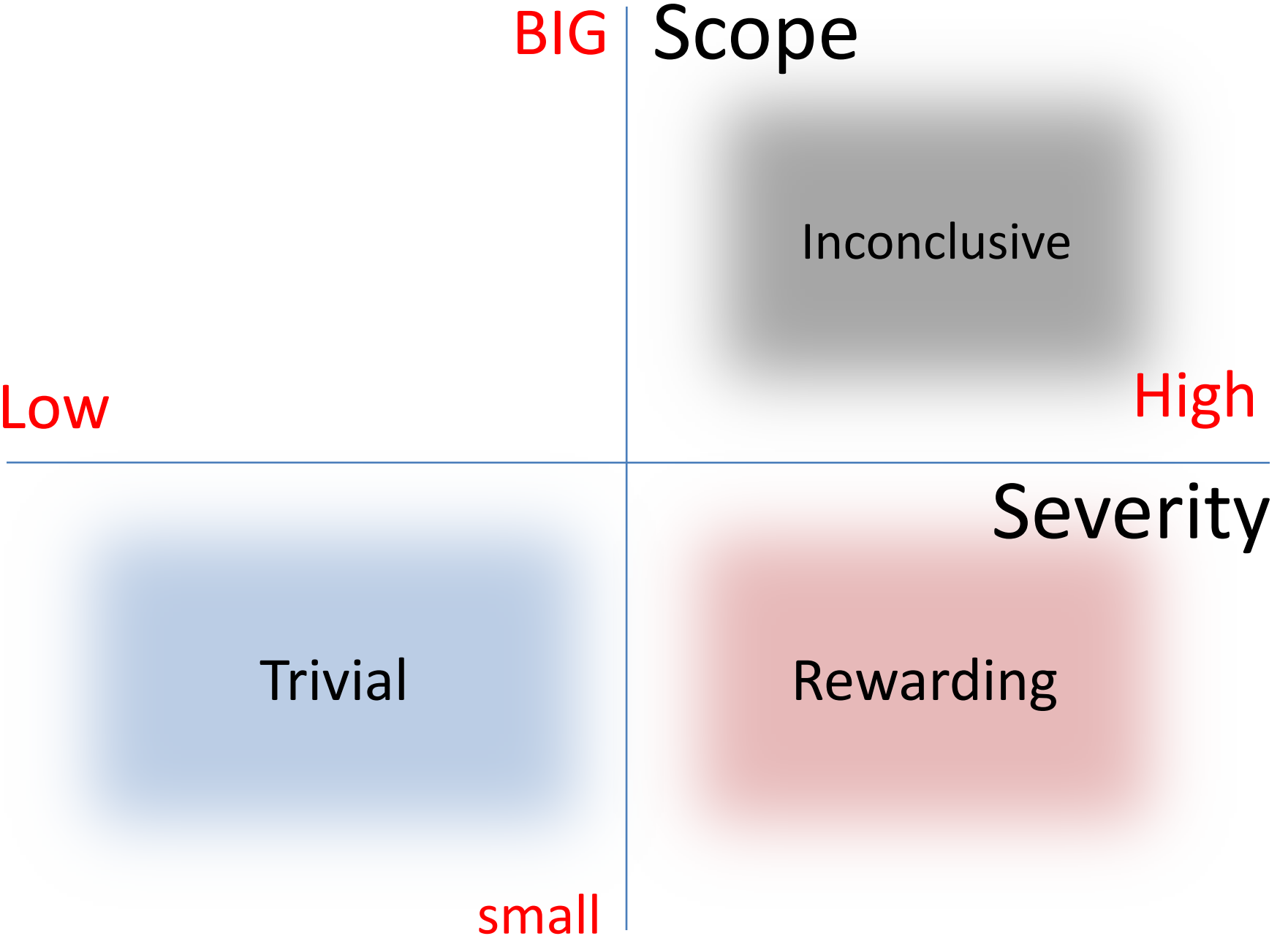# HEURISTIC EVALUATION

BIG Scope

Inconclusive
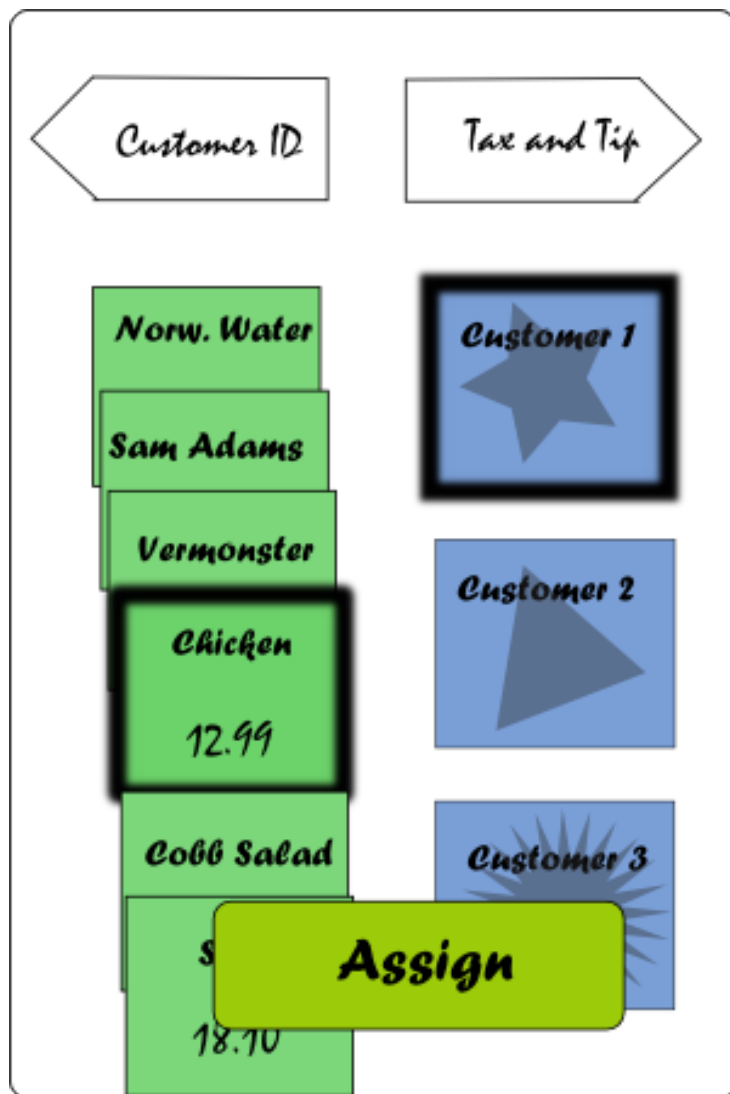
Low   High

Severity

Trivial   Rewarding

small

Left Panel

Customer ID | Tax and Tip

Norw. Water

Sam Adams

Vermonster

Chicken

12.99

Cobb Salad

18.10

Customer 1

Customer 2

Customer 3

Assign

Right Panel

Split by items

⊚ Cust #1	☀ Cust #2	☆ Cust #3
$0.00	$0.00	$0.00

⬠ Cust #4	◯ Cust #5	Add
$9.25	$0.00	Customer

Chicken Masala (2)
$ .00
⊚ ☀

Malai Kofta
$8.25
☆

Tandoori Chicken
$7.50

Soda
$1.50

Sam Ad
$4.50

Split unclaimed items

Receipt confirm | Reset screen | Tip

Split by items

� Cust #1 — $0.00 ✕
☀ Cust #2 — $0.00 ✕
☆ Cust #3 — $0.00 ✕
⬟ Cust #4 — $9.25 ✕
○ Cust #5 — $0.00 ✕
Add Customer ✕

...la (2)
$8.25
☆

Malai Kofta
$8.25

Tandoori Chicken
$7.50

Split unclaimed

Receipt confirm   Reset screen

Edit customer info

� Cust #1 — $16.95
☀ Cust #2 — $9.25
☆ Cust #... — $15.0...
⬠ Cust #4 — $18.20
○ Cust #5 — $12.40

Select customer to edit name or del...

Split by items   Reset screen

Add customer

Tip

� Cust #1 — $16.95
☀ Cust #2 — $9.25
☆ Cust #3 — $15.05
⬠ Cust #4 — $18.20
○ Cust #5 — $12.40

Tips
0%   30%
25%
$0.00 $5.25

Coupons:

[   ]
Enter Coupon   More Coupon

Split by item   Reset screen   Confirm

Sw...

FINAL REFINEMENT

Tip Selection Experiment

- Four Test Cases
  - Slider snaps to 1% increments
  - Slider snaps to 5% increments
  - Slider snaps to values that make each person's tip convenient to pay with cash
  - Slider snaps to tip values that make each person's total bill convenient to pay with cash
- Observed ability to select desired tip amount and time taken to select desired tip
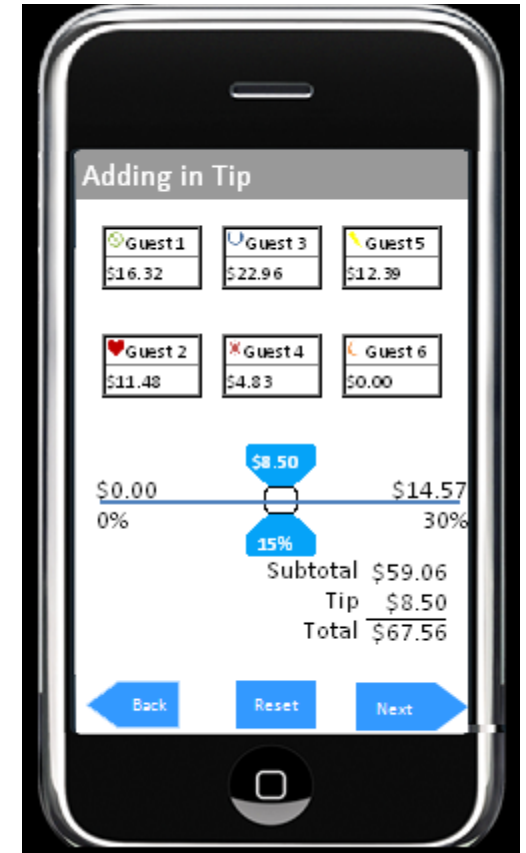
Babson Interview

Who	**What**	**Context**
The Person Is	The Product is Used For	Of Feedback Session
-Babson student	-Scenario based walkthrough of prototype	-Final Prototype
-Non Designer		-Close Friend
-Complementary Personality	- Non-Scenario based tip selection experiment	-Conducted at Babson in a friendly situation
-Non-iPhone user		

Observations

|	Usability Test	Tip Experiment
Technical Issues	**Who** Struggled with draging and keyboard layouts	**Context** Tip selector did not afford sliding on computer
Personality	**Who** / **Context** Did not suggest interface changes despite struggling	**Who** Focuses on whether it works not how well it works
Scenarios	**Context** Feedback based on what he was told to do, not what he wanted to do.	**Who** / **Context** Let user identify "What's Important"

Results
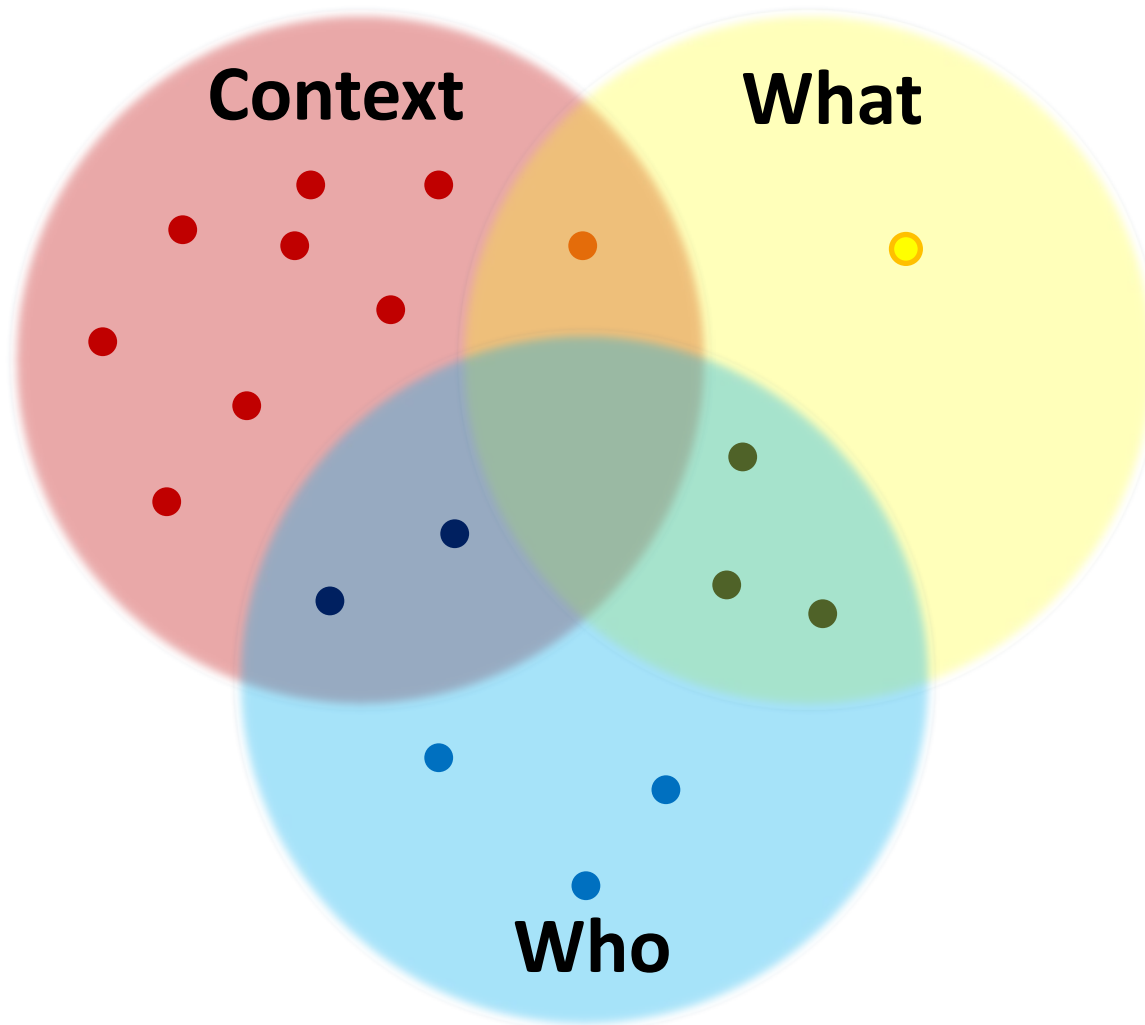
- Identified 18 instances of "Analysis of External Input"

- Categorized based on the main bias corrected for

What The Product is Used For

- 5 Instances
  - Heavily influenced by use of scenarios

- Main Sources of Bias
  - Occurred in "Tip Experiment"

- Merged results towards scenarios- based on observations

What
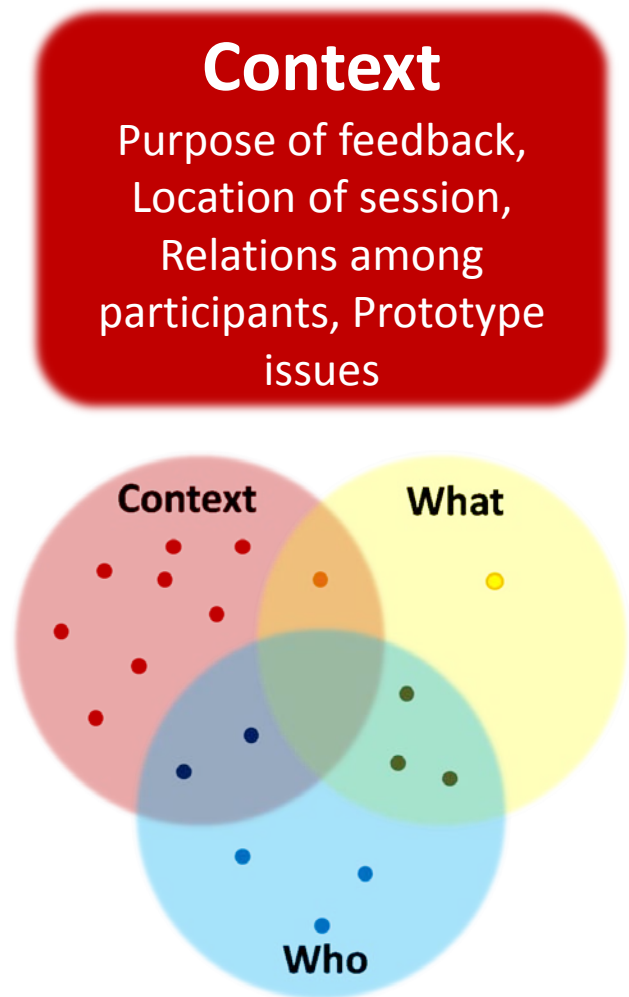Intended use of product, Context of meals, How bills are paid
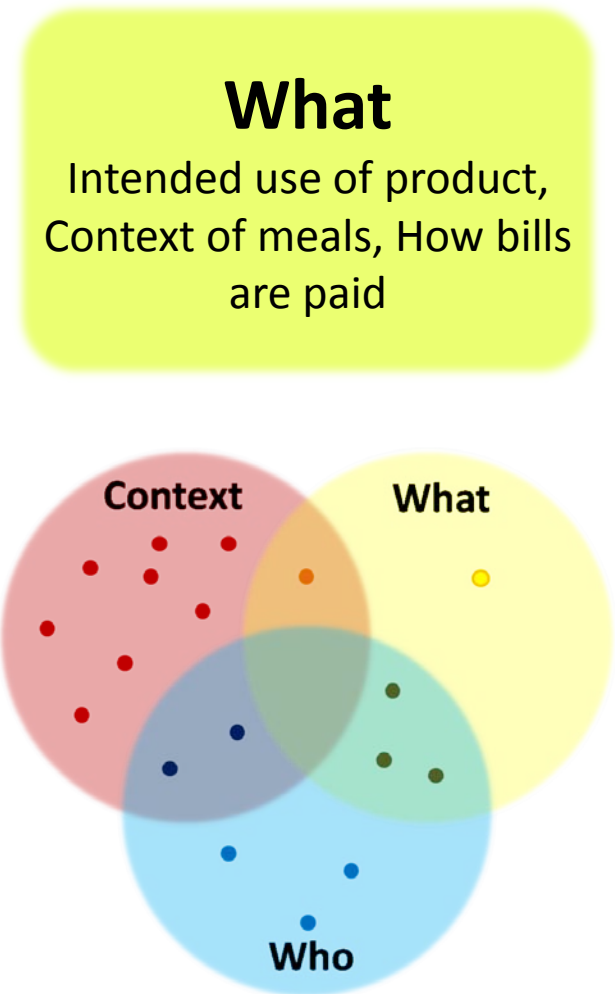
Who The Person Is

- 8 Instances
  - Influenced by use of scenarios
- Main Sources of Bias
  - Technical Knowledge (iPhone Specific)
  - Background of Individual (Designer vs Non-designer)
- Merged results towards that of personas
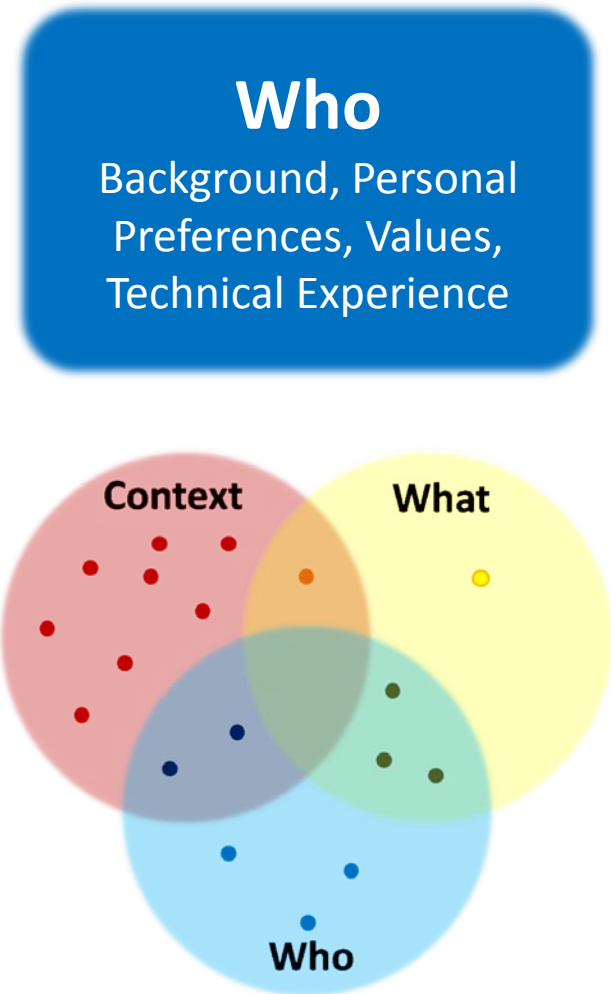
Context of Feedback Session

- 11 Instances
- Main Sources of Bias
  - Type of Prototype
  - Platform of Prototype (Computer vs iPhone)
  - Purpose of Feedback
  - Location of session

Context
Purpose of feedback, Location of session, Relations among participants, Prototype issues

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