

Appendix A

Interview guide for event organizers

Can you briefly introduce the event? Living fair

Waste generated during the event

1.What are the main categories of waste(waste streams) generated from events?

2.What are the sources of the waste? From what kind of activities?

- Do you notice any phenomenon that leads to waste during the event?

3.What are the main difficulties you have when dealing with the waste problems?

Current waste management approach

1.Can you describe the main strategies of waste management?

- Who are the target groups and stakeholders?
- Any collaborations with third-party partners in the process?
- How was the effect of the strategies?

2.Are there any specific actions/initiatives regarding waste management?

- How did you manage activities such as waste separation, collection and recycling?
- What are the actions you took on waste preventing and reducing?
- Any support (facilities/product/service) you offer to participants on waste disposal? Can you describe the relevant processes of how they work?
- How is the effect of these actions and support?
- Any feedback you got from participants?

3.How was the involvement of visitors&exhibitors in waste management activities?

- Which activities do they participate in waste management? And what are the responsibilities?
- How was the performance of participants in waste management activities? Any problems you noticed?
- Any feedback you got from participants?

Obstacles&Opportunities

1.What are the main obstacles you face in the implementation of waste management?

- What are the most difficult part?
- What are the causes & key factors?
- Are there any solutions?

2.From the organizer's point of view, what do you think can be improved in current waste management?

Closure

Anything else you want to add to the topic?

Interview guide for exhibitors

Waste generated during the event

1. What are the main categories of waste generated from your stand during the events?

- Plastic/Paper/Organics/Glass/Wood/Cardboard...

2. During the events, what kind of activities of you generate waste?

- Among these activities, do you think anything can be improved to reduce the waste generated?
- How much do you willing to make the change? What are the challenges for you?

Current waste management activities

1. What kind of waste management activities did you involved?

- What are the actions you took on waste prevention/reduction/collection/separation?
- Can you describe your responsibilities regarding waste management?
- Any difficulties you came across in waste preventing/reducing/collecting/separating? What are the solutions?
- Any aspects you think need to be improved?

2. Is there any support (facilities/product/service) you got from the event organizer regarding waste management?

- Can you briefly describe the relevant processes of how they work?
- How is the effect of these actions and support?
- Any feedback/comments? What do you like&dislike about the support?
- Any improvements you think can be made to the current support?

Motivation & Ability & Pain points on waste management activities

1. How much do you feel motivated to participate in waste management activities such as prevention/reduction/collection/separation?

- What motivates you to take action on waste prevention/reduction/collection/separation?
- Why do you feel not motivated enough? What are the concerns?
- How do you think the influence of your action?
- How do you feel when completing your waste management tasks?

2. How much do you think you are capable to manage waste correctly?

- Do you experienced any lack of knowledge in waste management?
- How difficult do you think it is to fulfill your responsibility in waste management?
- What are your biggest concerns/pain points? (Time/Financial/Physical effort/Brain cycles/Social norm/Non-routine behavior)
- How would that affect your behavior/decision?

3. Any other pain points you have regarding the waste problem during the event?

- How would that affect your behavior/decision?
- Are there any solutions?

Closure

- Do you have any suggestions to improve waste management during the event?
- Anything else you want to add to the topic?

Interview guide for visitors

Waste generated during the event

1. What are the main categories of waste you produced during the events?

- Plastic/Paper/Organics/Glass/Wood/Cardboard...

2. What kind of activities of you during the events that generate waste?

- Among these activities, do you think anything can be improved to reduce the waste generated?
- How much do you willing to make the change? What are the challenges for you?

Current waste management activities

1. What kind of waste management activities did you involved?

- What are the actions you took on waste prevention/reduction/collection/separation?
- Any difficulties you came across in waste preventing/reducing/collecting/separating? What are the solutions?
- Any aspects you think need to be improved?

3. What is the support (facilities/product/service) you got from the event organizer regarding waste management?

- Can you briefly describe the relevant processes of how they work?
- How did they affect your behavior? (Positive influence or negative influence)
- Any feedback/comments? What do you like&dislike about the support?
- Any improvements you think can be made to the current support?

Motivation & Ability & Pain points on waste management activities

4. How much do you feel motivated to participate in waste management activities such as prevention/reduction/collection/separation?

- What motivates you to take action on waste prevention/reduction/collection/separation?
- Why do you feel not motivated enough? What are the concerns?
- How do you think the influence of your action?
- How do you feel when completing your waste management tasks?

5. How much do you think you are capable to manage waste correctly?

- Do you experienced any lack of knowledge in waste management?
- How difficult do you think it is to fulfill your responsibility in waste management?
- What are your biggest concerns/pain points? (Time/Financial/Physical effort/Brain cycles/Social norm/Non-routine behavior)
- How would that affect your behavior/decision?

6. Any other pain points you have regarding the waste problem during the event?

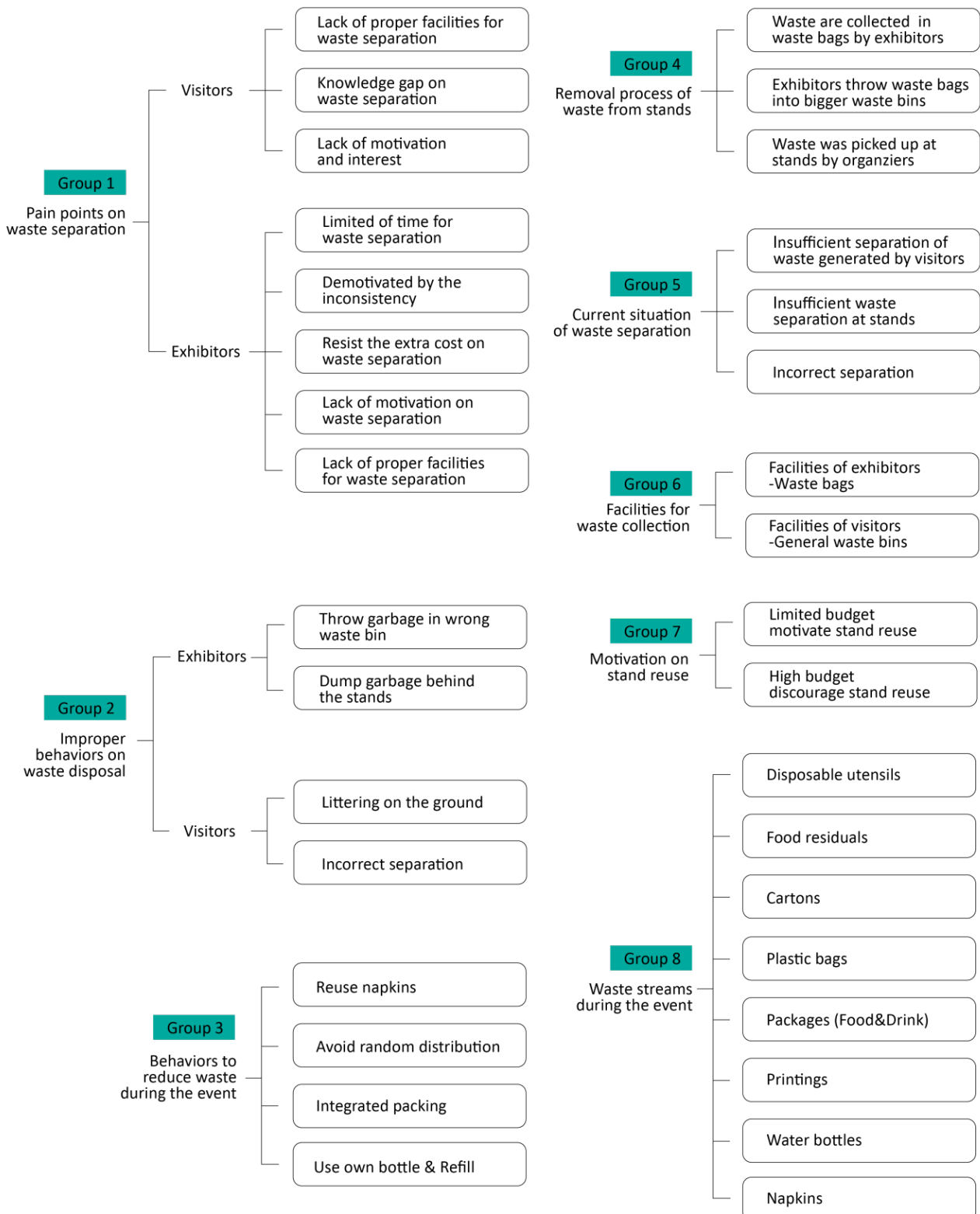
- How would that affect your behavior/decision?
- Are there any solutions?

Closure

- Do you have any suggestions to improve waste management during the event?
- Anything else you want to add to the topic?

Appendix B

Qualitative analysis---Interview code tree



Appendix C

Ideas from brainstorming session



Ideas from brainstorming session



Waste Reduction

Reduce the use of printing marketing materials at event.

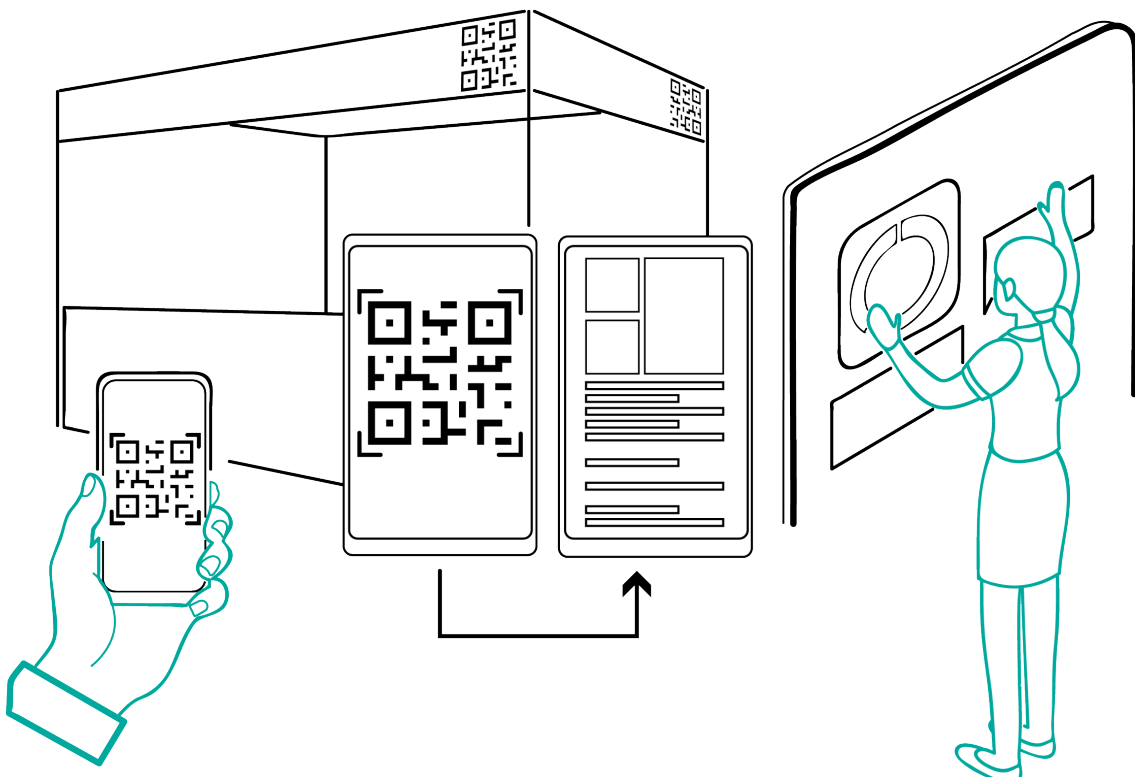
Digital brochures

Facilitate touch screens at stands

Limit the use of disposables

Reuse utensils with cleaning system

Use biodegradable disposables



Scenarios of the ideas

Waste Sorting at exhibitors at stands

Support exhibitors to collect and sort out waste at stand

Online system
"Waste Management"

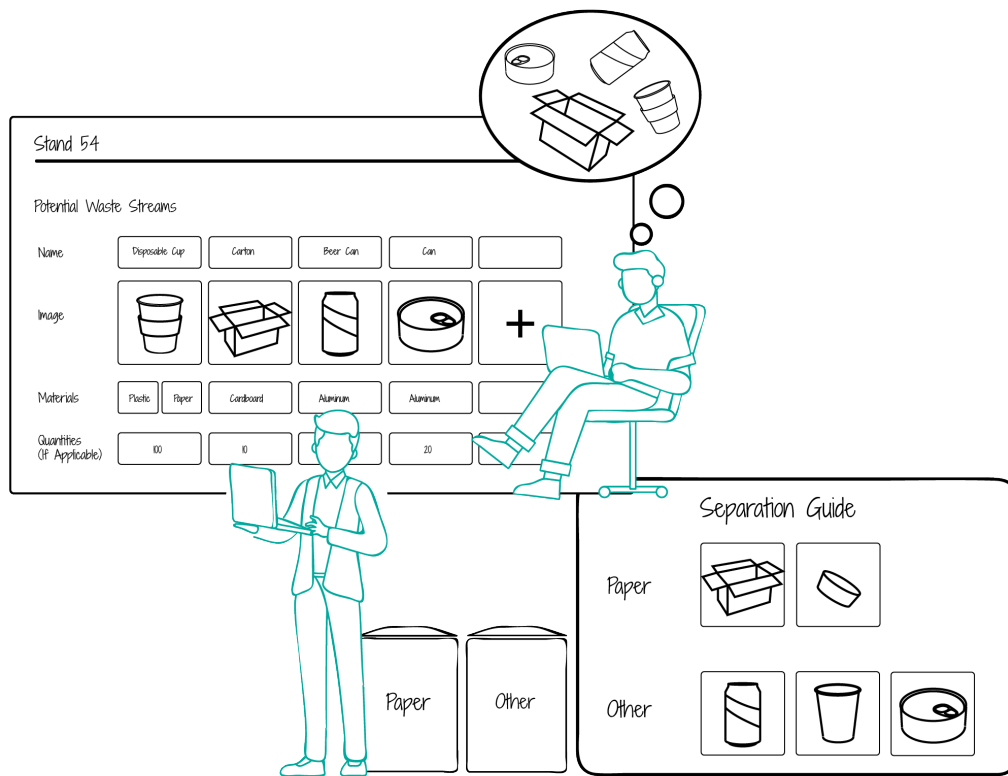
Lower the required time and effort on waste sorting.

Tailor waste sorting categories for event

Enhance the interest/motivation on waste sorting.

Customized waste management schedule

Incentive---Reward proper waste sorting behavior



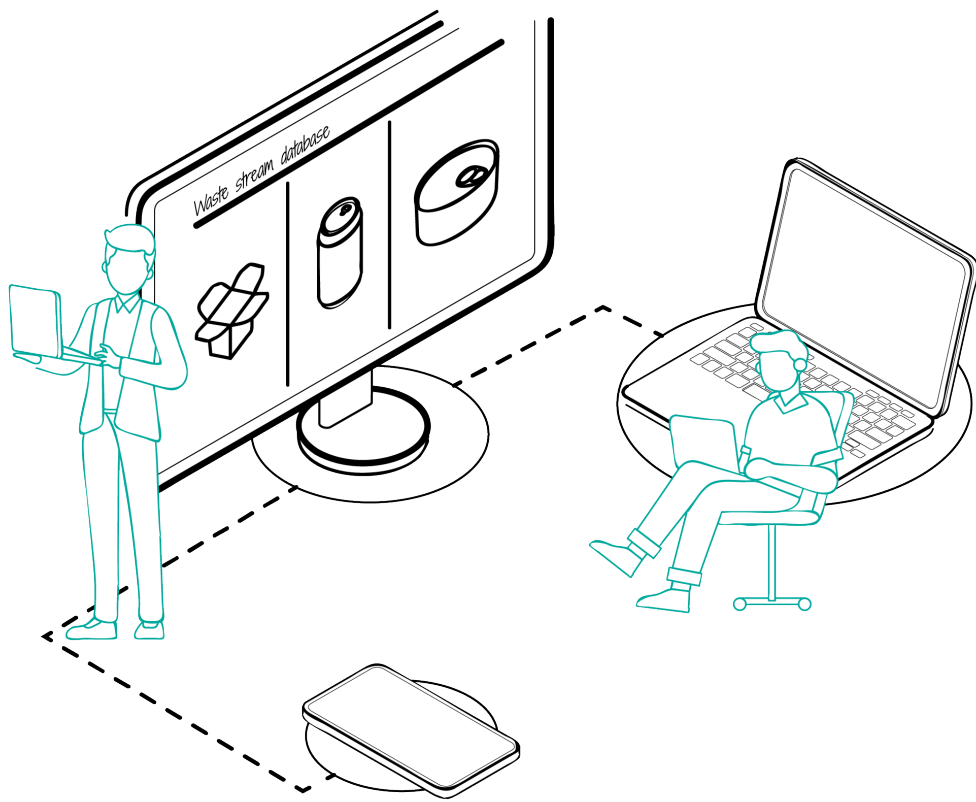
Scenarios of the ideas

Waste Sorting of visitors at event

*Eliminating knowledge gaps
on waste sorting*

Build a database of
waste streams

Set signs for
waste sorting



Scenarios of the ideas

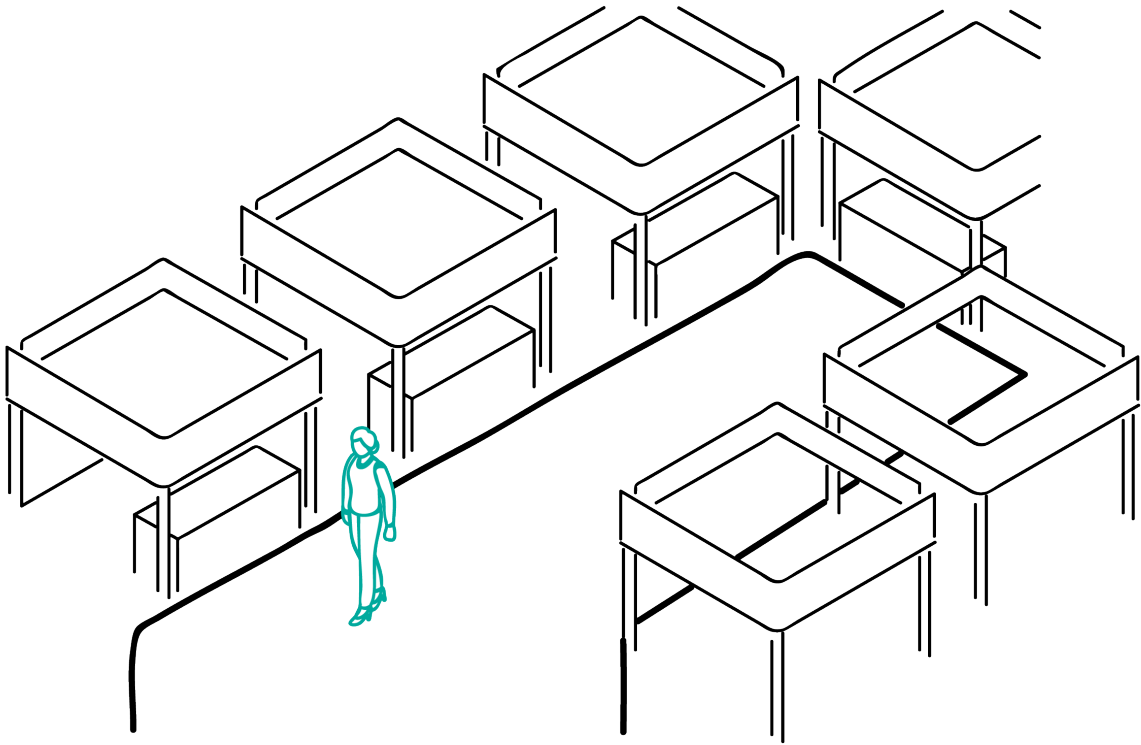
Waste Collection

Collect the complex waste streams from food stands

Centralize the food stands & Gather information of specific waste

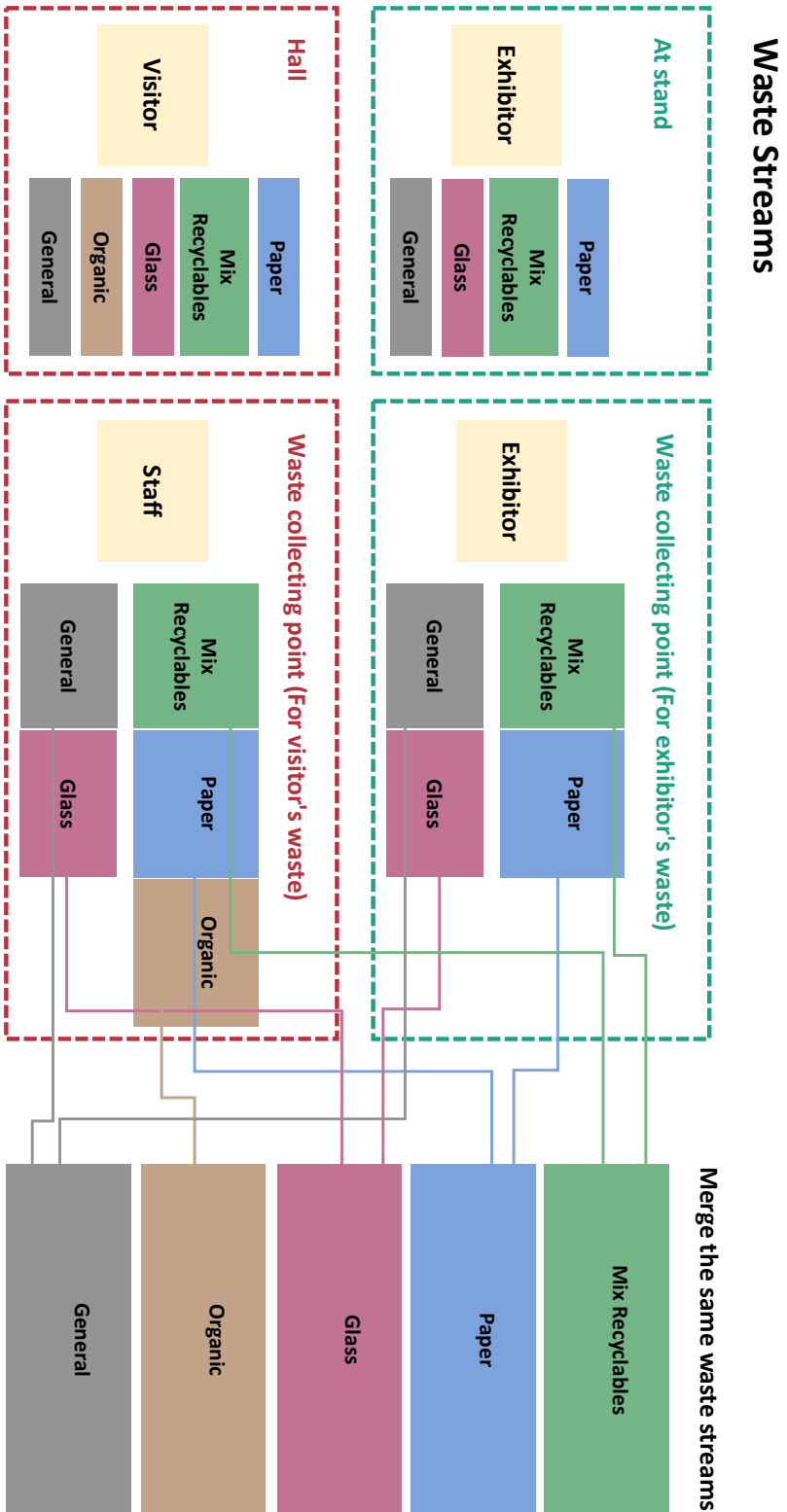
Avoid recyclables being contaminated

Collect paper/ cardboard separately



Appendix D

Concept development & iteration



Service Blueprint Waste sorting of Exhibitor—During the exhibition day (Service: Plan & Reminder) Part 1

	Normal Hours		Busy Hours	Extreme Busy Hours
Exhibitor's Action	<ul style="list-style-type: none"> ➤ Set up waste sorting Plan ➤ Start the waste sorting Reminder 	<ul style="list-style-type: none"> ➤ Generate waste ➤ Try to sort out all types of recyclables to the corresponding bins. ➤ Throw the non-recyclable waste into General bin. 	<ul style="list-style-type: none"> ➤ Get notification from Reminder about the changing of busyness. ➤ Reduce the categories of waste sorting based on the current waste sorting Plan, due to the increase busyness. ➤ Sort out recyclables as planned 	<ul style="list-style-type: none"> ➤ Get notification from Reminder about the changing of busyness. ➤ Further reduce the categories of waste sorting based on the current waste sorting Plan, due to the increase busyness. ➤ Sort out recyclables as planned
Touchpoint Digital	Event Waste Sorting App			
Touchpoint Physical	Waste bins			
Backstage System's Operation	<ul style="list-style-type: none"> ➤ Show the categories of the current waste sorting based on the plan. ➤ Notify the upcoming variation in waste sorting categories & busyness 10 minutes in advance. 	<ul style="list-style-type: none"> ➤ Show the categories of the current waste sorting based on the plan. ➤ Notify the upcoming variation in waste sorting categories & busyness 10 minutes in advance. 	<ul style="list-style-type: none"> ➤ Show the categories of the current waste sorting based on the plan. ➤ Notify the upcoming variation in waste sorting categories & busyness 10 minutes in advance. 	
	<ul style="list-style-type: none"> ➤ Monitor the data of Visitor flow 			

Service Blueprint Waste sorting of Exhibitor—During the exhibition day (Service: Plan & Reminder) Part 2

	Busy Hours	Normal Hours	
Exhibitor's Action	<ul style="list-style-type: none"> ➤ Get notification from Reminder about the changing of busyness. ➤ Increase the categories of waste sorting based on the current waste sorting Plan, due to the decrease busyness. ➤ Sort out recyclables as planned 	<ul style="list-style-type: none"> ➤ Get notification from Reminder about the changing of busyness. ➤ Try to sort out all types of recyclables to the corresponding bins, due to the decrease busyness ➤ Throw the non-recyclable waste into General bin. 	<ul style="list-style-type: none"> ➤ Get notification from Reminder about the upcoming waste collection of recyclables. ➤ Attach the label with stand number on the waste bag ➤ Place the corresponding bag of recyclables in front of the stand for staff to collect.
Touchpoint Digital	Event Waste Sorting App		
Touchpoint Physical	Waste bins/bags		
Backstage System's Operation	<ul style="list-style-type: none"> ➤ Show the categories of the current waste sorting based on the plan. ➤ Notify the upcoming variation in waste sorting categories & busyness 10 minutes in advance. 	<ul style="list-style-type: none"> ➤ Show the categories of the current waste sorting based on the plan. ➤ Notify the upcoming variation in waste sorting categories & busyness 10 minutes in advance. 	<ul style="list-style-type: none"> ➤ Show the categories of the current waste sorting based on the plan. ➤ Notify the upcoming waste collecting for certain recyclables.
	<ul style="list-style-type: none"> ➤ Monitor the data of Visitor flow 		

Service Blueprint Waste sorting of Exhibitor—Before the Event (Introduction & Survey)

Exhibitor's Action	<ul style="list-style-type: none"> ➢ Download the app Event Waste Sorting 	<ul style="list-style-type: none"> ➢ Read the Introduction and learn the following content: <ul style="list-style-type: none"> • Benefit for exhibitors on waste sorting • Recyclable waste streams during the event • The process of waste sorting during the event. 	<ul style="list-style-type: none"> ➢ Complete the Survey <ul style="list-style-type: none"> • Recyclables at stand Identify the recyclable waste streams from exhibitors' waste, to provide corresponding bins. • Recyclables from sample distribution Identify recyclable package waste from sample distribution activity. 		<ul style="list-style-type: none"> ➢ Fill in the stand number on the waste bins.
Touchpoint Digital	<ul style="list-style-type: none"> ➢ Email ➢ Exhibitor's portal 	Event Waste Sorting App			
Touchpoint Physical					Waste bins
Backstage System's Operation		<ul style="list-style-type: none"> ➢ Collect the data of recyclable waste streams from exhibitors: <ul style="list-style-type: none"> • Recyclable waste streams generated by exhibitors at stand. • Recyclable waste streams from sample distribution activity. 	<ul style="list-style-type: none"> ➢ Forward the data of recyclable waste streams to event organizers 		
Organizer's Action	<ul style="list-style-type: none"> ➢ Inform exhibitors to download the app before the event. 		<ul style="list-style-type: none"> ➢ Prepare waste collecting facilities <p>Facilitate the recyclable bins placed at stands and on the hallway based on the data.</p>	<ul style="list-style-type: none"> ➢ Provide the waste bins to each stand ➢ Facilitate waste bins in the exhibition hall 	

Service Blueprint Waste sorting of Exhibitor—After the exhibition day (Service: Collection & Result)

Exhibitor's Action	<ul style="list-style-type: none"> ➢ Pick a trolley on the hall way ➢ Place waste bags on the trolley ➢ Bring waste bags to the Waste collecting point 	<ul style="list-style-type: none"> ➢ Put the waste bag on the weighing scale. ➢ Fill in the information of Stand number and waste category on the screen. ➢ Print out the label and attach it to the waste bag. 	<ul style="list-style-type: none"> ➢ Throw the waste bag into the corresponding waste container 			<ul style="list-style-type: none"> ➢ Check the evaluation Result of waste sorting
Touchpoint Digital	Trolley	<ul style="list-style-type: none"> • Screen of the Weighing scale 				Event Waste Sorting App
Touchpoint Physical		<ul style="list-style-type: none"> • Lable • Waste bag 	Waste container			
Backstage System's Operation		<ul style="list-style-type: none"> ➢ Save the data on the printed out label 			<ul style="list-style-type: none"> ➢ Calculate the cost saving for each stand based on the evaluation result 	
Organizer's Action			<ul style="list-style-type: none"> ➢ Transport the waste bag container to the evaluation site. ➢ Loose the recyclables and evaluate the content inside. 	<ul style="list-style-type: none"> ➢ Record the evaluation result of each stand to the system 		

Concept development & iteration---Service structure



Concept development & iteration---Service structure

