

Production



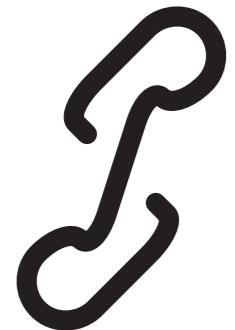
Disposal



Community



The Root to Root Campaign



Three interventions, changing the way we relate to food, to close the biowaste cycle



Root to Root is a supermarket campaign comprised of three customer touch points.

Root to Root aims to change the way customers relate to food, to close the cycle of food waste produced by bulk-purchase habits.

Root to Root involves a series of interventions with three forward facing touch points:

1) Retail

Changes to production mean as much fruit and vegetables as possible come 'as-is', with foliage and roots intact, a lack of pre-processing and sorting and minimal packaging.

2) Disposal

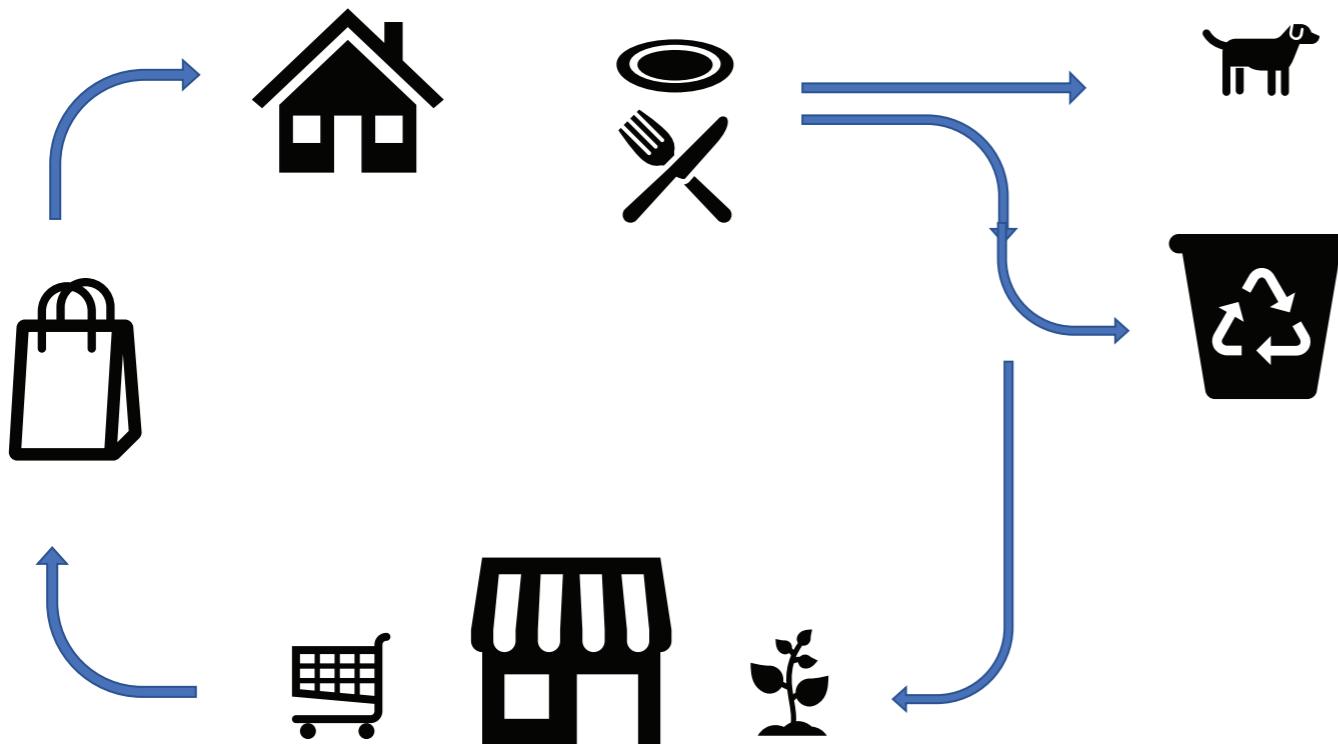
Participating shops will host compost collection bins, to allow users (who do not already have access to composting methods) to drop off food waste which would then be put through a process of separated source organics and reused in the production process.

3) Community Engagement

To drive community interest and 'close the loop' on the use-cycle of food, a mini community market would be hosted in participating stores, encouraging customers to take an interest in horticulture.

Root to Root is a campaign with multiple systemic design interventions and three primary consumer touch points.

Root to Root (RtR) focuses on the issue of food waste from a psychological perspective, examining the way we over purchase, incorrectly store and dispose of food and the perception of food as a commodity.



RtR seeks to close the biomass cycle of waste, connecting consumers to the source of food.

It is envisioned that this would have the effect of:

- 1) Increased mindfulness while shopping
- 2) Make shopping more of an 'experience'
- 3) More options for purchase
- 4) More sustainable disposal

Problem Definition

This project focuses on the demographic of suburban working families with some amount of disposable income, statistically the worst for food waste.



- Suburban layout makes transportation without an automobile difficult
- Fast paced busy lives increase time constraints with little mindfulness
- Large areas being served by a few large superstores leads to bulk purchase
- This “weekly shop” also leads to more impulse purchase and;
- Food’s value is often entirely defined by purchase value, not actual usefulness
- Superstores try to maximise packaging ‘efficiency’ leading to improper portions and lots of binned packaging

Compare this to other people I interviewed, and the effect is striking. With more time taken, more frequent shopping trips, and more thought put into meal planning the amount of food waste can be brought to near zero.



- Bulk purchase and impulse purchase
- Lack of pre-planning what to make / buy



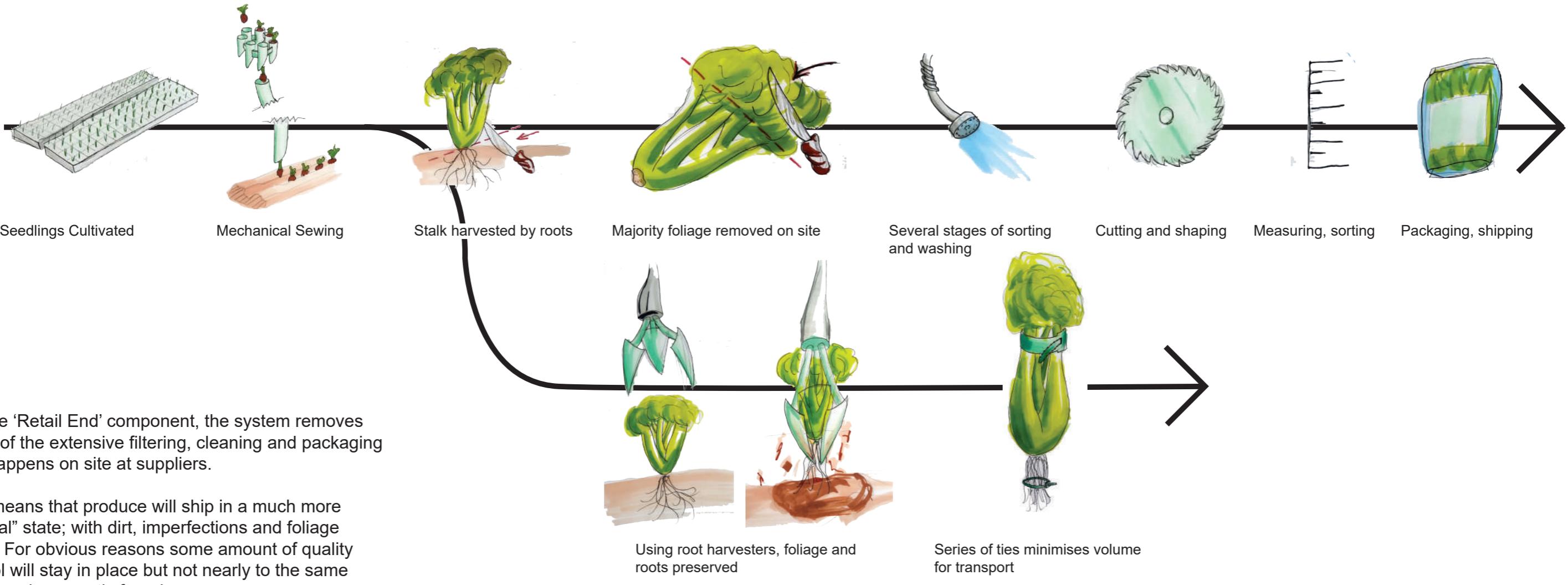
- Large space leads to long term storage which leads to spoiling
- Infrequent trips lead to over purchase



- Only valuing food by price not usefulness, being ready to throw out usable food

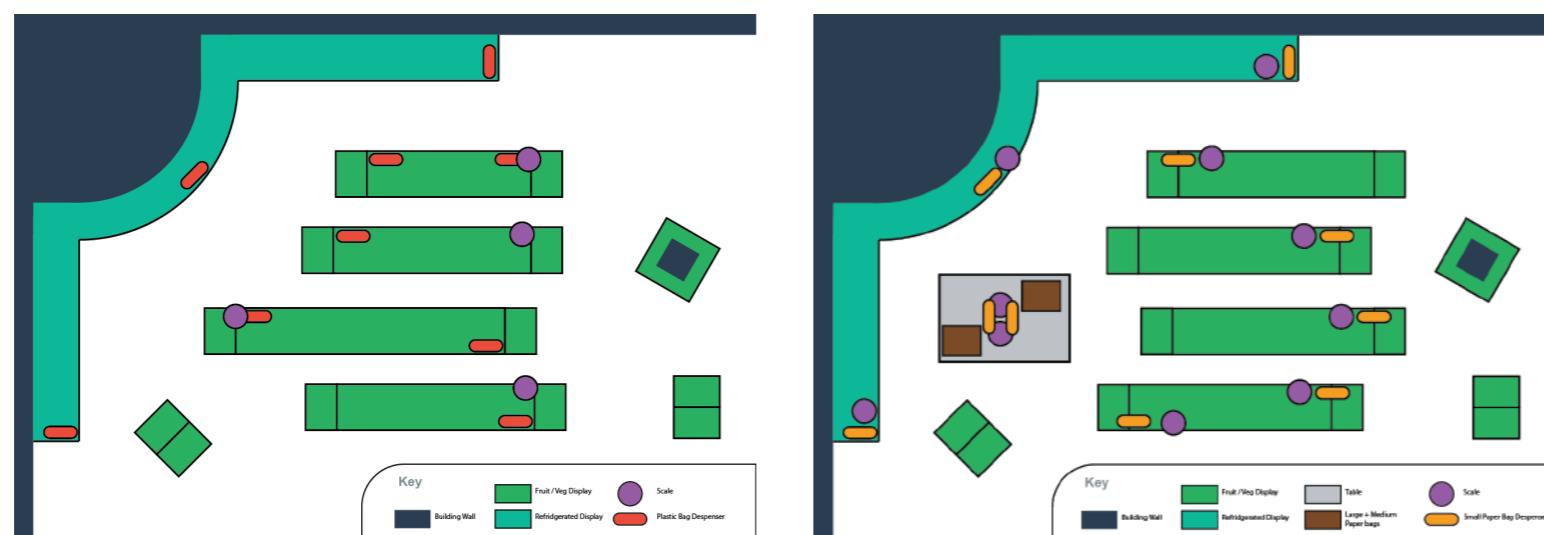


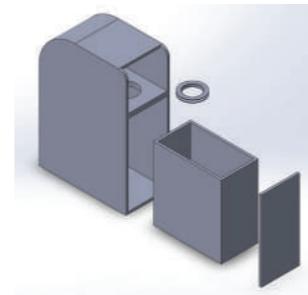
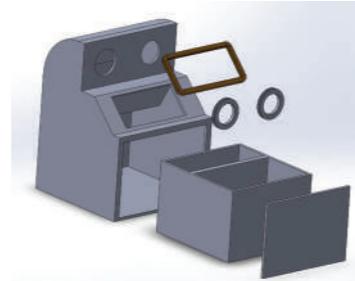
- Many areas still do not have municipal composting or have had it discontinued



In store, this means that fresh produce will take a 'farmers market' appearance, customers will see the same produce in a state that feels closer to the source.

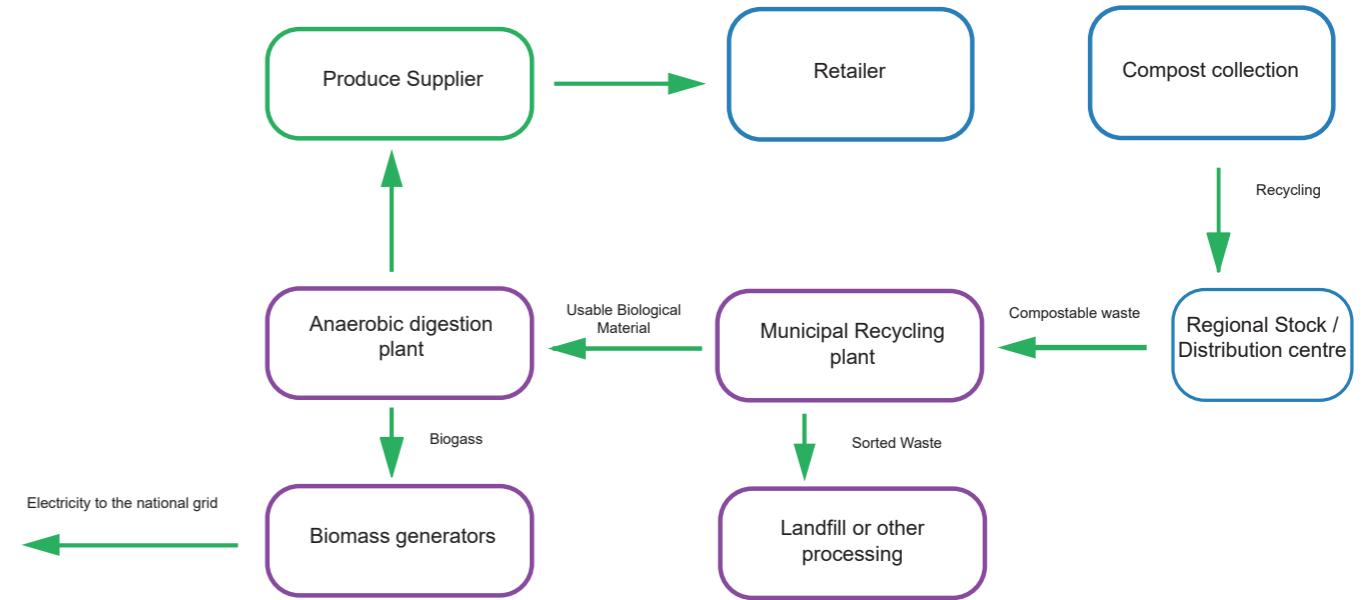
The lack of plastic packaging will be replaced with multiple sizes of paper bags and boxes to encourage people to take the correct amount.





The next phase involves a scheme whereby participating supermarkets will host compost recycling points, much as they do now with bottles, clothes, paper etc.

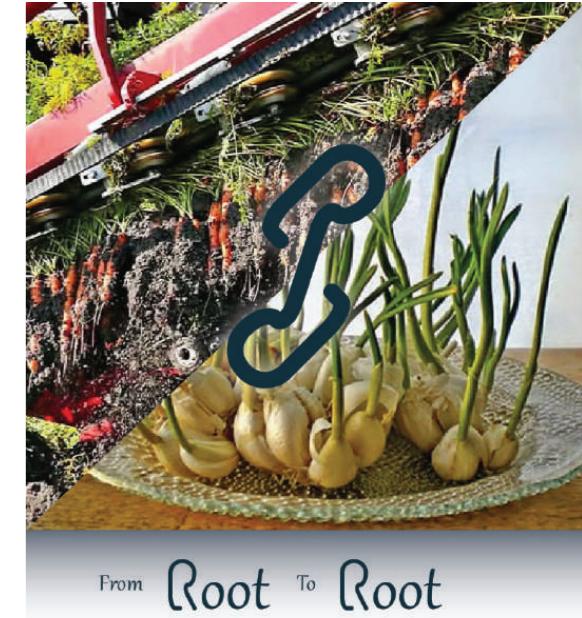
A modular collector was designed, one unit for larger boxes of waste, another for smaller individual items.



The last component also exists at the end-of-life stage, a mini community market to be hosted in participating stores.

The idea is that, if a customer has material which has sprouted or offcuts growing, they can plant them in the paper boxes to be resold.

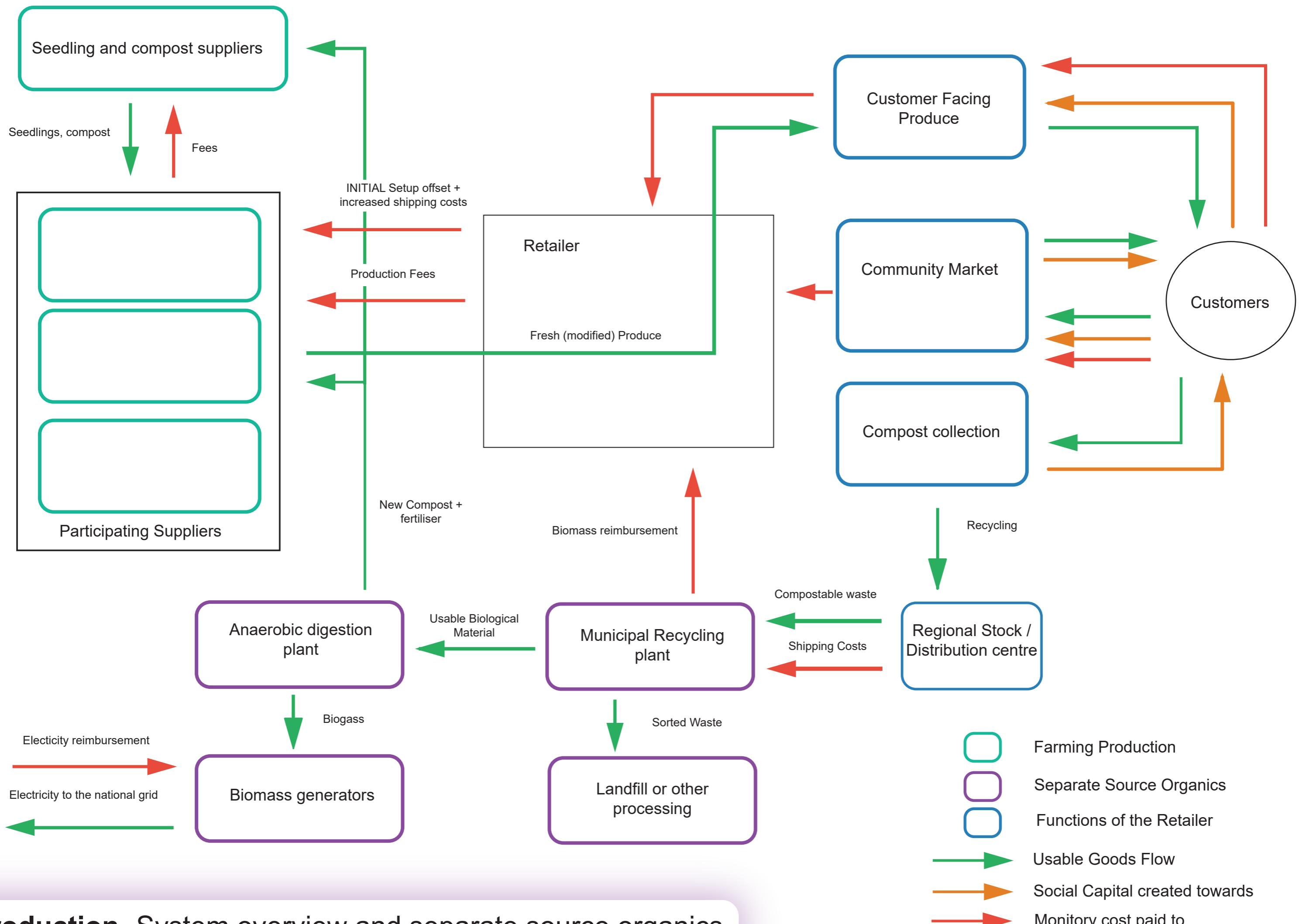
This is intended to create a community focal point and to generate an interest in the growing of food.



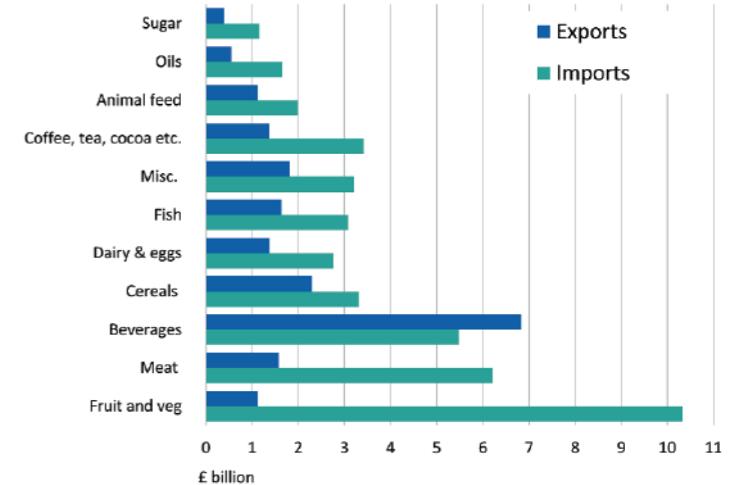
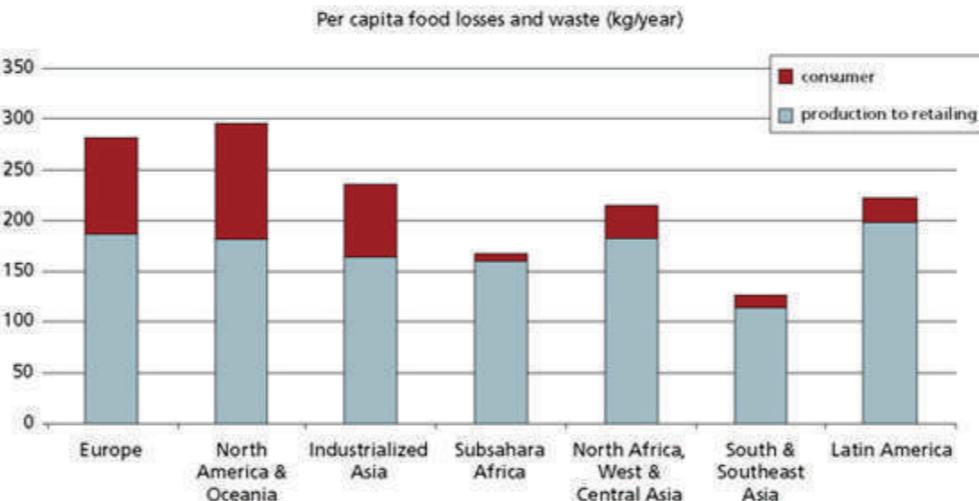
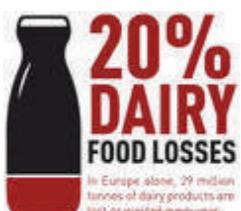
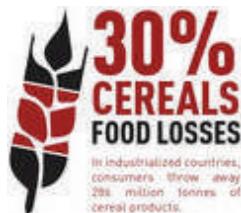
From Root To Root

Closing the cycle of food waste. Saving you money.

More options when buying
Under Root to Root more fresh fruit and vegetables than ever will be free of restrictive packaging, allowing you to decide exactly how much you buy.
The produce is also more natural, less processed, keeping the natural properties of the food.
Also, did you know that, with most of the things we make, that they can be reused and composted in your garden? Find out more on our website.
No such thing as waste
Even with more control over buying, you can't plan for everything. So what do you do with rotten leftovers and sprawling potatoes?
If you don't have access to composting, just bring them in a bag to all reporting sites and they will be composted and reused where possible.
Or you could try planting it in our community market! Plantable items can be planted in our biodegradable containers and used by your local community.



Introduction -System overview and separate source organics



My personal focus in design tends to centre around the analysis of systemic issues in order to tackle large problems.

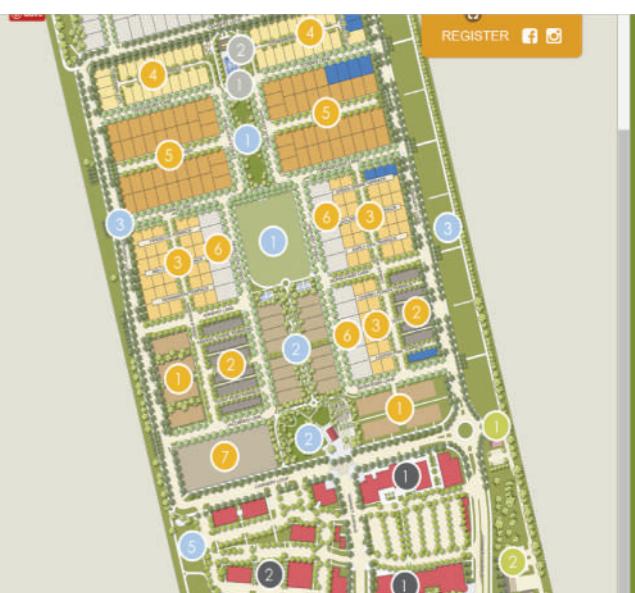
My research naturally gravitated towards an analysis of how stratified systems in our lives cultivate wasteful patterns of behaviour.

When examining statistics, we find that in unindustrialised (exploited) countries massive amounts of waste is lost at production with nearly nothing wasted at home. While in industrialised countries, the opposite is true, and most waste is done domestically.

I was particularly interested in Fruit, Vegetables and Roots / tubers as they are almost completely imported at staggeringly high rates with almost 50% wasted.

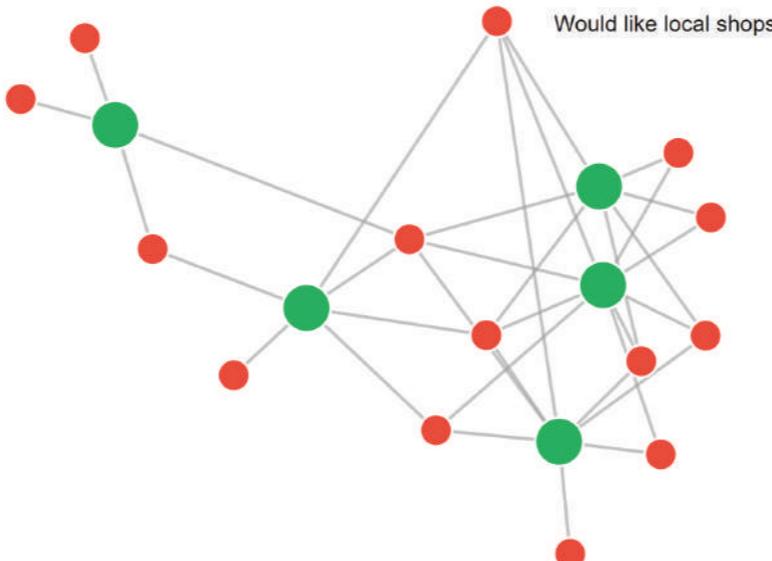
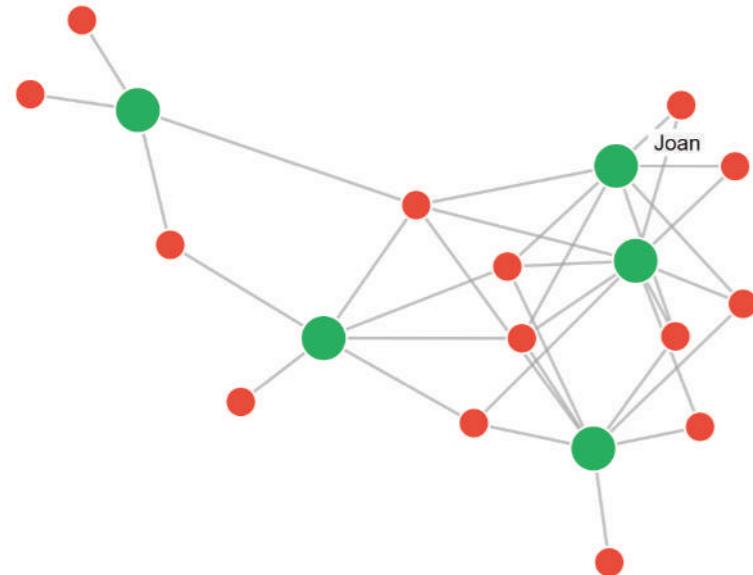
An interesting case study is that of The Cannery, Davis Ca, USA; a new village development built around sustainable practices and community agriculture. Their huge, community run farms act as a social bonding point while being self-sufficient.

Residents stroll down, do (for example) an hour of work, similar to how they might garden at home, take fresh produce and socialise with their neighbours. The food provided is highly ecological and is valued by the local community.



My primary research involved seven long form interviews across three main demographics:

- Student city dwellers
- Village dwelling retirees
- Working suburban family units



Typical pattern of large weekly shop in one area is largely structural and creates waste. -Bulk purchase and storage

Packaging methods and size are a detriment -Great benefit to the 'Village Model' and loose items

Municipal Recycling is always under funded

If shopping were more of an 'activity' people would be more inclined to buy smaller and more mindfully

There is great benefit in community agriculture

People are very aware of sustainability but cannot act on it.

Out of interest about common themes from my interviews, I drew up a D3.js force directed graph and found the nature of the concurrences fascinating.

(View at: <https://oddert.github.io/msc/root-to-root/survey>)

Common themes kept repeating such as the desire to move away from the centralised supermarkets yet unwillingness to put more time in and renounce the efficiency, desire for 'wonky veg' to come back and the de-funding of municipal food collection.

Green is person / group

Red is topic issue / interest



"I try to plan ahead carefully but its difficult to know what Archie or Ross will want by mid-week, it's frustrating that packets come in twos and fours when there's three of us" -Joan, trying to plan meals



"I'll get a craving for fish, buy loads, stick it in the freezer and forget about it. By the time I find it, I'm no longer interested, and it goes in the bin" -Alan, describing storage



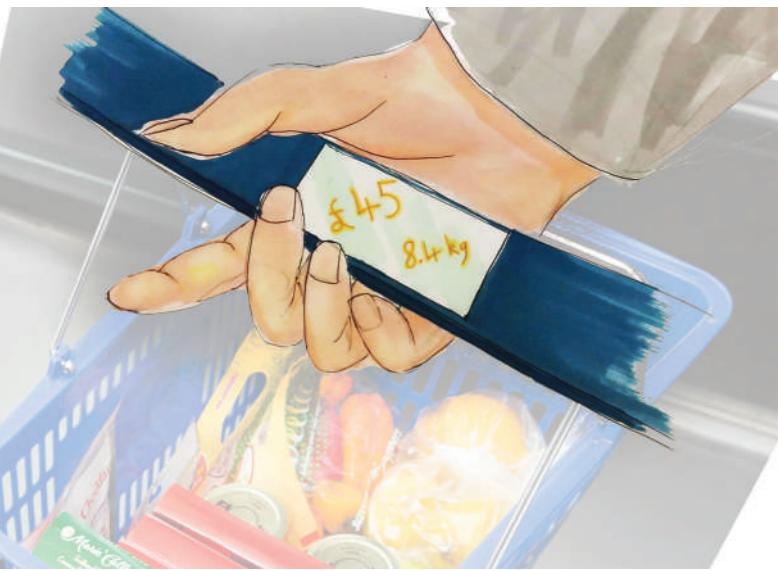
"We used to have a compost heap but didn't maintain it. Now we produce a lot of fruit / veg waste and it just goes in the bin" -Sandra



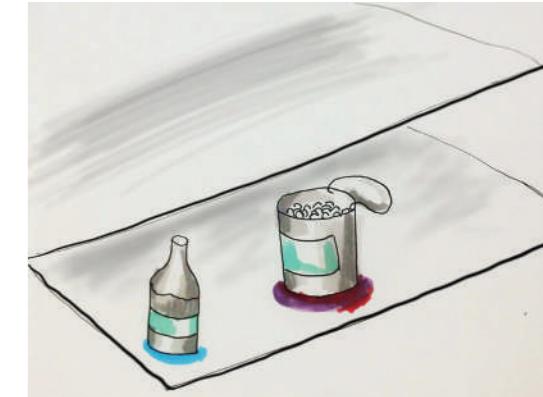
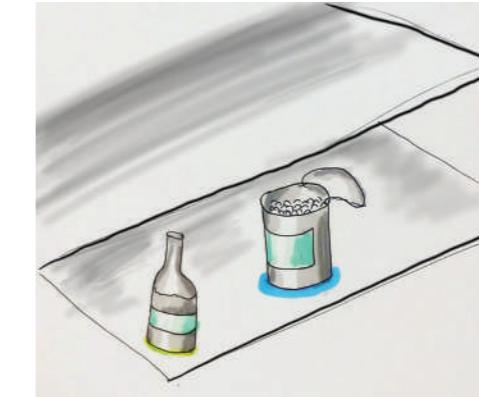
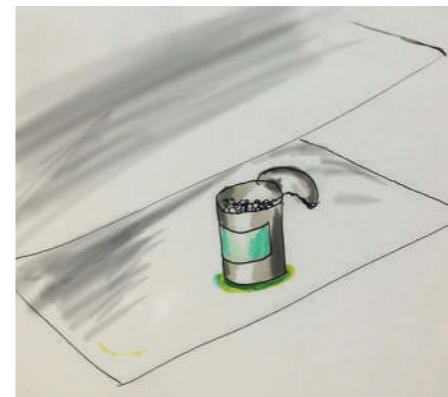
"That would be a utopia for us, if we could do all our shopping at an equivalent of Borough market, or even if we had smaller shops that would make a difference." -Kirsten



"With so many of us there's no issue eating all the food but I hate having to buy four or five packets, it just seems like such a waste of packaging that goes straight in the bin" -Bernie, on buying for a large household



- Day 1
- Day 7
- Day 14



Initial ideas generation included variations of a digital tracker to monitor food expiration for items in storage.

Another introduced embedded technology to show a running total of what a customer was purchasing to create awareness and stop over-purchase and impulse buying.

Notice: You bought eggs on 23/04/18, they're gonna go off soon!

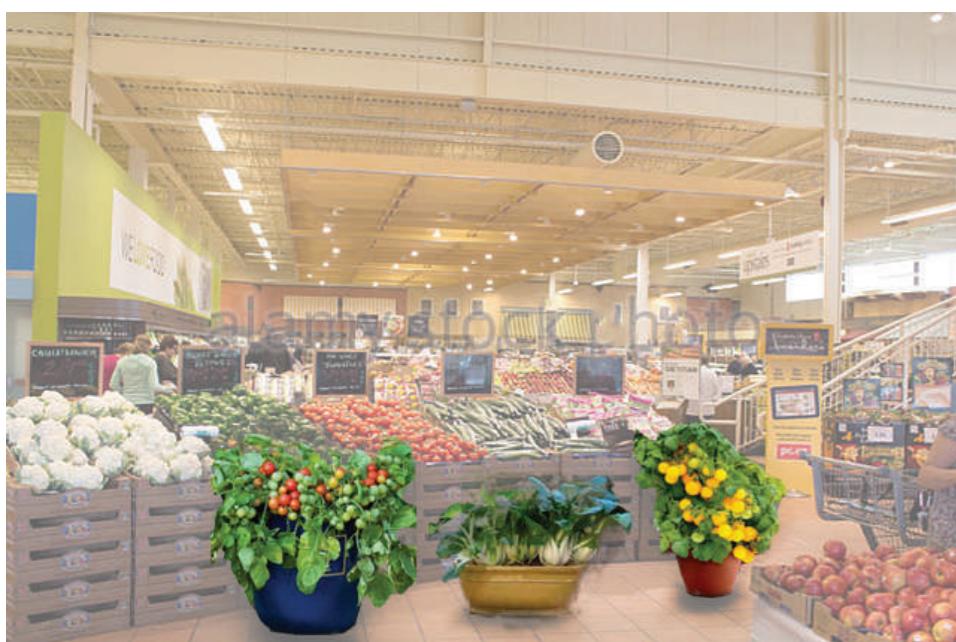


[Plan Meal](#) [I used them](#) [Dismiss](#)

“ I definitely do less impulse buying when I’m shopping bulk online. It’s the constantly ticking price in the corner that keeps me focused” -Bernie

I eventually decided to focus on the idea of creating a system / branding campaign because I felt it could best combine these themes whilst not creating a ‘gadget’.

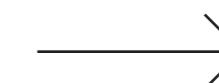
Thus the idea to connect consumers to the growing process, as well as to offer new modes of storage was realised through a change in the way food is sold.



A blue-sky starting point came from hypothesising about whether selling produce could be swapped with selling the entire plant.

After all, what better way to preserve a vegetable than to keep it attached to a plant and alive?

This proved infeasible as a direct intervention, but the idea evolved to ‘selling parts of foliage’. In a sense, removing the pre-processing of fruit and veg and selling produce ‘as-is’.

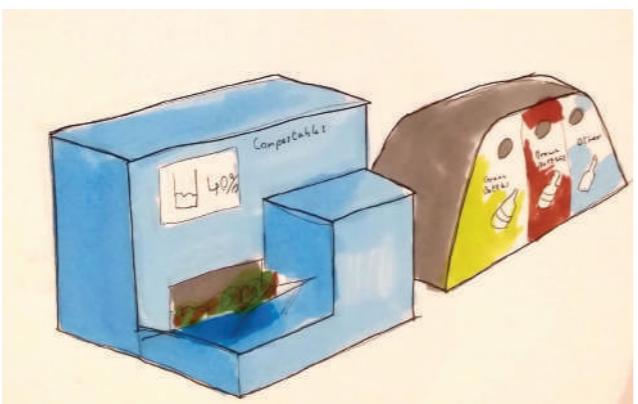


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8. Roots, greens, lettuces, and herbs can be shocked in ice water and quite literally, revived.

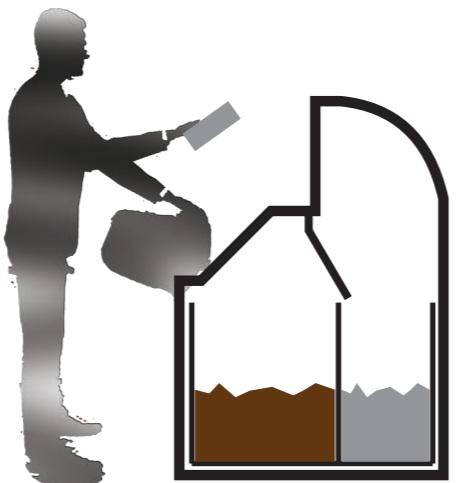
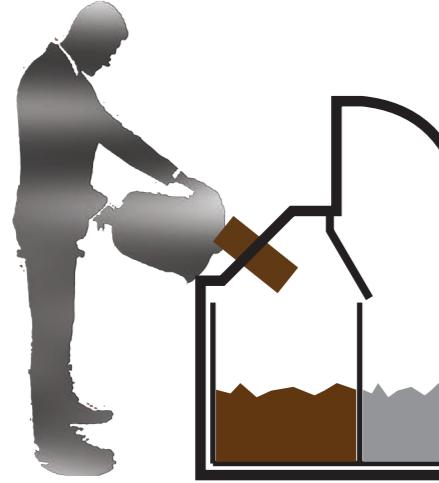
Fill a bowl with ice water and place veggies in the bowl for about 10 minutes. For vegetables that aren’t too far gone, you will be amazed at the results. You can also cut stems and place them upright in water, like flowers. Place them, covered with a plastic bag or kitchen towel, back in the fridge.



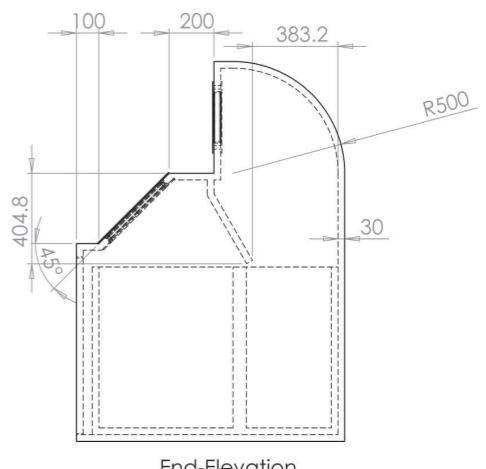
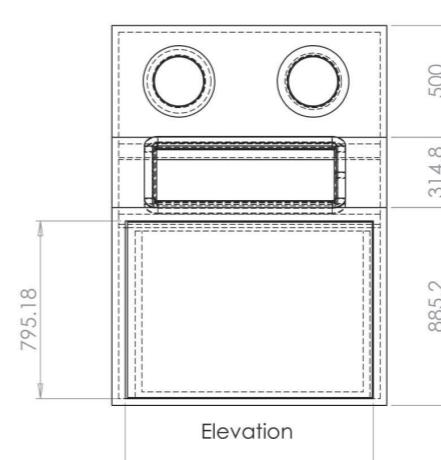
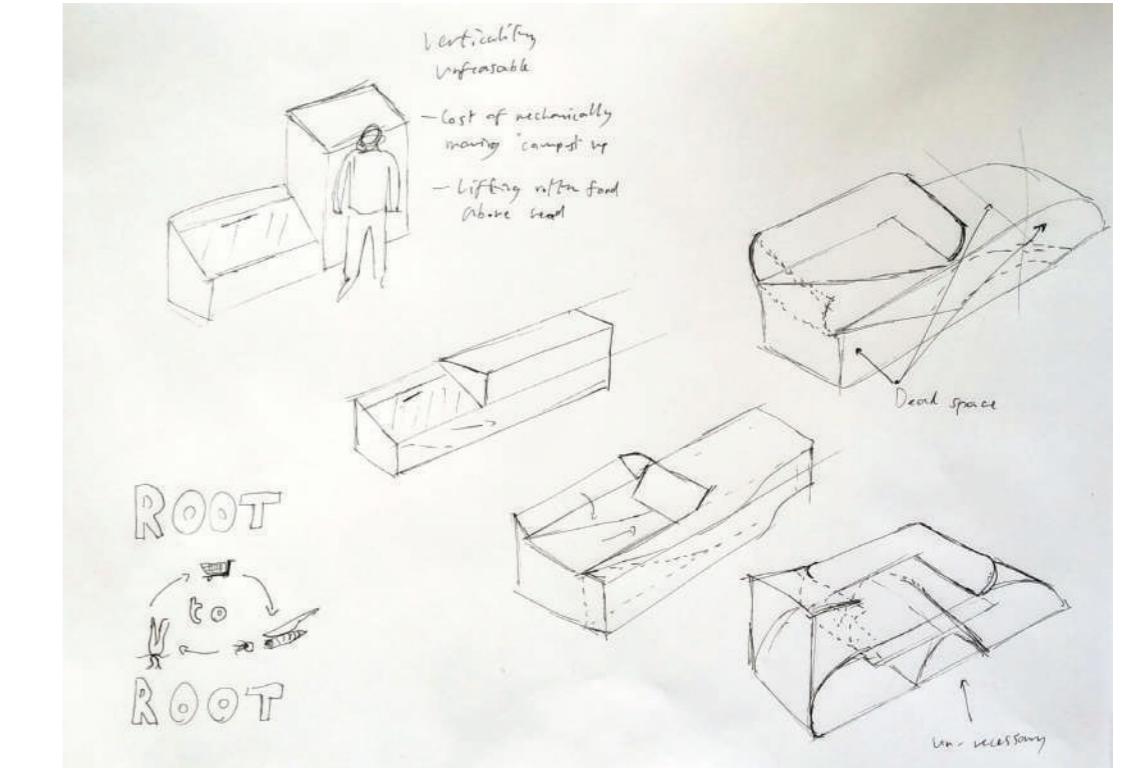


At the other end of the food 'life cycle', I wanted to act on the insight that municipal recycling is often underfunded and thus not available to everyone.

Taking direct inspiration from the commonplace 'bottle bank' I decided to incorporate a biomass bin in participating stores.



The bigger unit has a large accessible port to allow user to easily tip a container. Two smaller holes can be used for bottles or plastic, allowing users to dispose of other waste at the same time.



The target supermarkets for this scheme are large suburban stores but a smaller unit was designed for smaller stores as well.

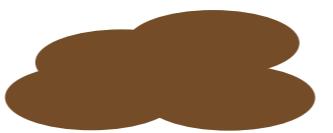
The two units are modular and can be chained together.



Growing



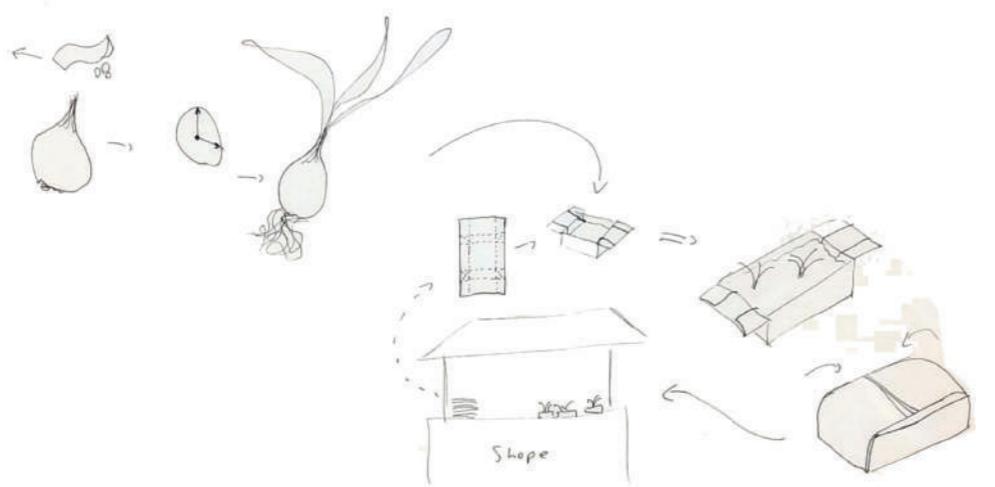
Retail



Composting

Up until now the initiative engages the customer at the middle and end of the 'life-cycle'.

To properly create an idea of a closed loop and engage customers with the whole process of food production, I decided to keep the community market idea which I previously thought obsolete.

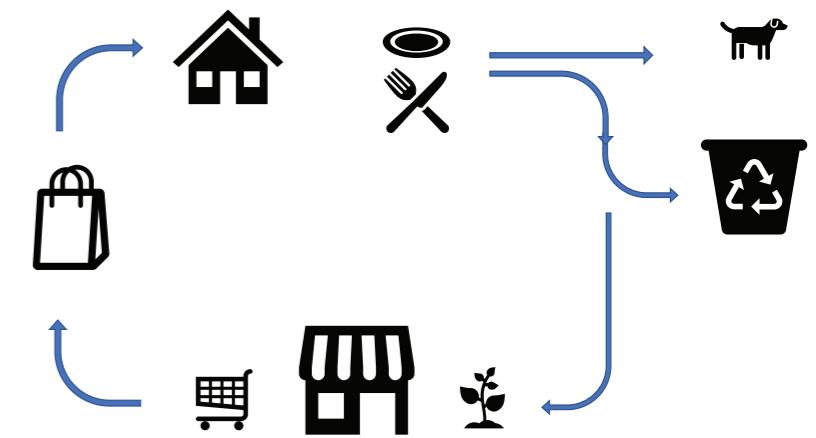


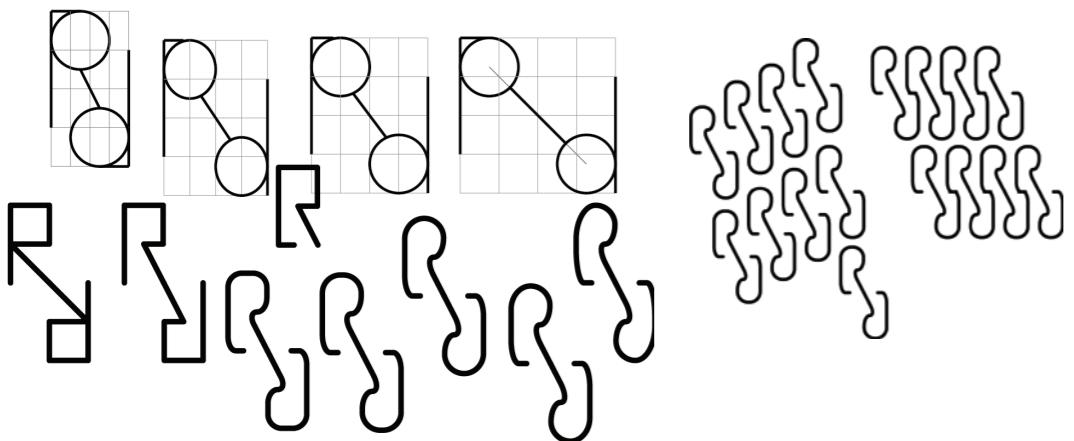
Many fruits and vegetables can be regrown from their offcuts, often users find they have bought an item too early or incorrectly stored it, causing it to sprout.

The community market involves the same paper boxes used at the selling end to allow users to plant their usable material and let it be used by someone else in the community.



In the consumers mind this 'closes the loop' on food.





Light
Dark



A calming colour scheme was devised based around these primary bock colours and secondary details.



Given that the individual components are largely systems based, a tangible brand identity was needed to connect them in the customers mind.

The name 'Root to Root' takes direct influence from the book 'Cradle to Cradle', evoking the idea of creating a closed loop of production. The primary logo uses the two 'R's to form an infinite loop.

The logo would be used on the generic paper packaging, compost collectors, and promotional material alike, often tiled for subtlety.



These simple posters take inspiration from recent supermarket advertising trends and propose a simple 'problem – solution' dichotomy to transmit the core idea of each of the components to the customer.

This promotional leaflet, folded on the horizontal and then vertical axis, gives an overview of the campaign in language the customer can understand.

It communicates:

- The idea behind the campaign
- Overview of food waste and systemic issues
- What need RTR fills
- How customers can act on their desire to help
- What Separate Source Organics is
- Faux details of a HQ, links to real website

On the rear side an index is given with ideas of how to reuse waste and grow vegetables at home, intended to inspire action amongst interested users.



From Root To Root

Closing the cycle of food waste. Saving you money.

More options when buying
No such thing as waste

Under Root to Root more fresh fruit and vegetables than ever will be free of restrictive packaging, allowing you absolute control over how much you buy.

The produce is also more natural, less processed, keeping the natural preservatives of the soil intact.

Also did you know that with most of the fibre and roots intact, fruit and veg can be revived and preserved in water? Find out more on our website!

Or you could try planting it in our community market! Flexible items can be placed in our biodegradable containers and used by your local community.

What is the food waste cycle?

Over 45% of all food is wasted
In industrial nations there is an ever-growing problem of food waste, due to a number of factors. We are lucky to enjoy nearly un-interrupted food supply and have become accustomed to certain patterns of behaviour that contribute to this waste.



We all try to be good

But sometimes being good is impossible no matter how hard you try to change our habits. At RTR we recognise this and want to work with you to match these good intentions with the ability to actually change this problem.

So what is Root to Root?

Root to Root is a campaign aimed at changing aspects of how we shop, think about, and dispose of food waste.

By implementing our three-step plan, we seek to bring consumers closer to where food comes from and to find a way of reusing waste with only a small change in the way we throw it out. Find out more about the three-step plan across the page.

Three small changes for a closed loop
Retail
Waste Food
Mini Community Plant Market

Over 45% of all food is wasted
In industrial nations there is an ever-growing problem of food waste, due to a number of factors. We are lucky to enjoy nearly un-interrupted food supply and have become accustomed to certain patterns of behaviour that contribute to this waste.

Under Root to Root, food is sold in amounts from mini size to full size. Look inside the store for more information about how to keep your food fresher for longer.

No more food in waste. As part of RTR, we allow food waste recycling points for compostable food waste.

Wash like trolly and shopping bags, bring in your trolley, pens and shopping bags, don't put it in the bin. Wash like trolly and shopping bags, compost down, and use it to support your plants to grow.

It is encouraging a connection to food, the in-between space between consumers and the food they eat.

If you have an onion shell separated in the trolley or a perfectly pliable piece of something, why not bring it in? We'll cut it off and compost it for you. Many people that are getting into home composting, you can help them by cleaning your plant material. And if they don't get used? No problem, the onions are biodegradable and can be composted the compost for reuse.

With only a few days of exposure to sunlight and water, garlic and onion sprouts can be eaten raw or pickled. If you like the smell of garlic and onions, you can plant them in the ground where they will last and grow for quite some time. Alternatively, gadgets such as this exist to help you keep them fresh until next time.

Celery is remarkably easy to regrow. Take the cut off bottom of a stalk, place it in water and it will fully regrow.

With only a few days of exposure to sunlight and water, garlic and onion sprouts can be eaten raw or pickled. If you like the smell of garlic and onions, you can plant them in the ground where they will last and grow for quite some time. Alternatively, gadgets such as this exist to help you keep them fresh until next time.

Herbs are notorious for being short lived after being harvested. Herbs can be easily planted in the ground where they will last and grow for quite some time. Alternatively, gadgets such as this exist to help you keep them fresh until next time.

You likely already be familiar with twisting the top off a pineapple, did you know that you can plant the top?

The planted top will grow into a new plant and produce a new pineapple on top.

Even if you don't want to grow anything, simply soaking roots and tubers in a bowl of tap water for as little as 10 minutes can revive them, even when the plant looks long gone. This applies to almost any fruit and veg with the foliage still attached.

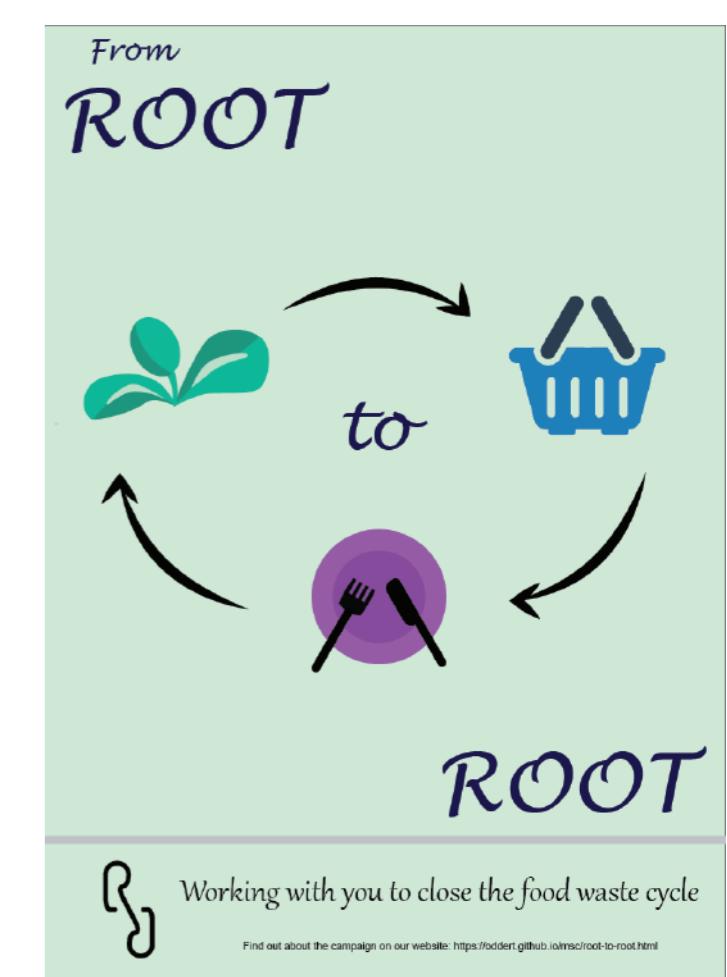
Tomatoes can be grown but the seeds require rinsing first. Once the seeds are rinsed, plant in fertile soil and choose a spot where they have appeared, then replant them outside, weather permitting. If the weather is sub-optimal, you can grow them in a pot indoors.

Splicing of seeds, with a bit of patience you can be successful.

Now you can grow your own sprouts in a jar. Soak the beans in water, rinsing and repeating every 24 hours but before too long you'll have a jar of sprouts ready to cook with.

These are only some of the great many possibilities for using fruit and veg beyond cooking and purchase.

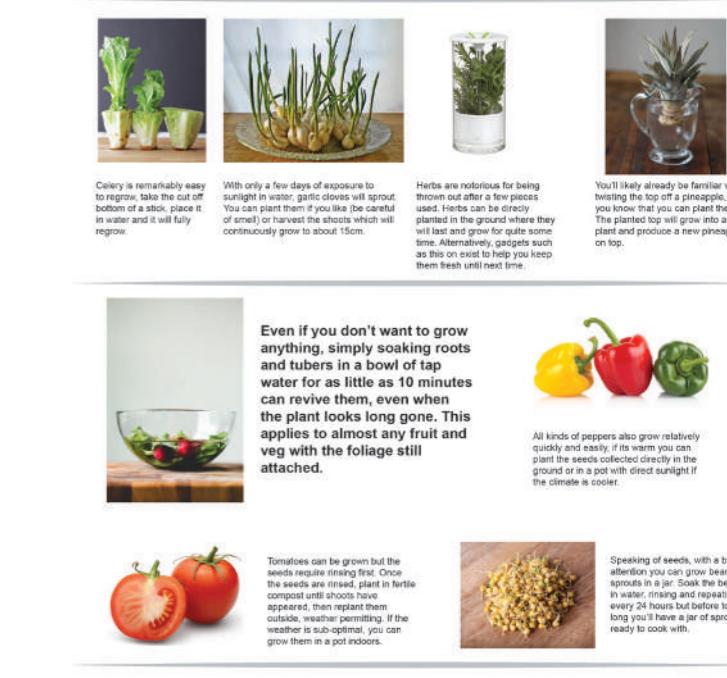
If you want to try them out but don't have the space or time, why not bring them to our community market! For more ideas and further reading, see our sources.



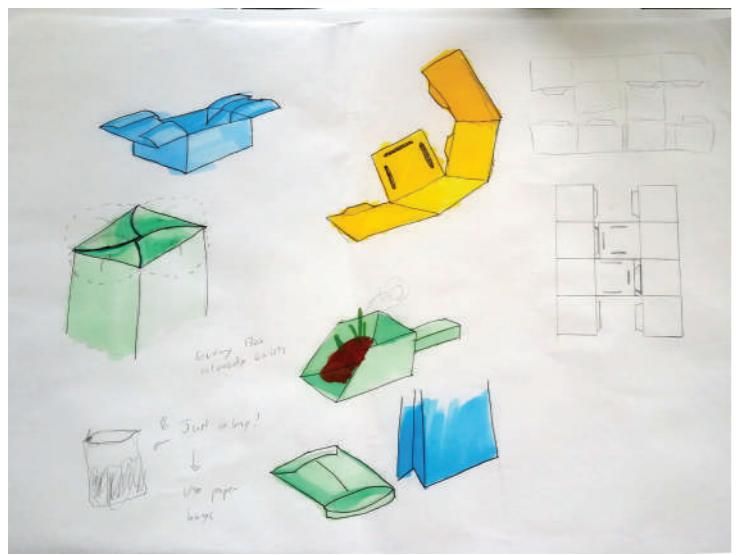
A new take on old vegetables

A great many fruit and vegetables can be revived, regrown, preserved and stored long after you might think.

Some can be completely regrown, others produce new types of food. To give you some culinary and agricultural inspiration, here are some interesting cases to start with...



Vivienne Beatty (2014). 25 Foods You Can Re-Grow Yourself from Kitchen Scraps Available at: <https://www.diygalaxy.com/4731top-25-foods-you-can-re-grow-kitchen-wastes> [Accessed: 16/5/18] <https://www.buzzfeed.com/17-ways-to-give-your-vegetables-a-long-and-happy-life-the-vegetable-bucket-320000> <https://www.buzzfeed.com/17-ways-to-give-your-vegetables-a-long-and-happy-life-the-vegetable-bucket-320000> <https://www.southernliving.com/2016/07/the-best-ways-to-grow-sprouts-in-a-jar/> [Accessed: 15/5/18]



With the removal of the majority of processing and packaging, it was necessary to consider how produce would be shipped and picked up by customers.

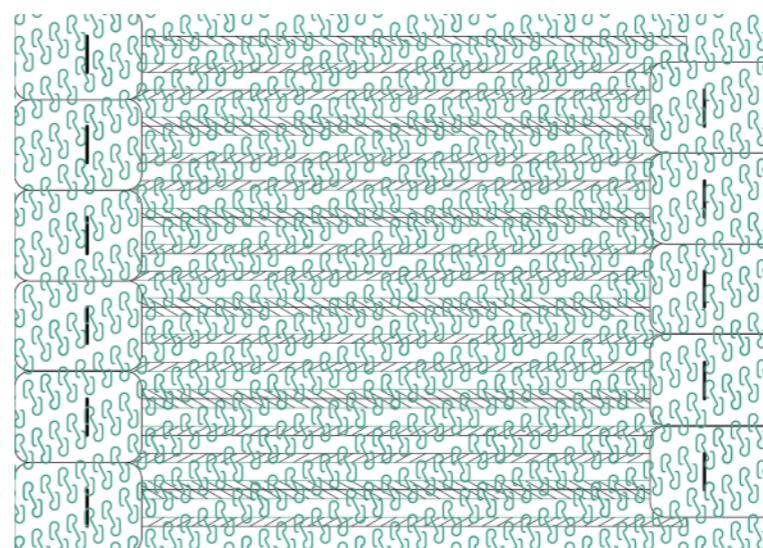
I experimented with ideas for modular packaging but these concepts quickly became over complicated. In addition, to roll out this scheme on a large scale, the production costs of custom packaging would go through the roof.

I opted instead to use generic paper bags, in the sizes shown below, these would be available like plastic bags are now.

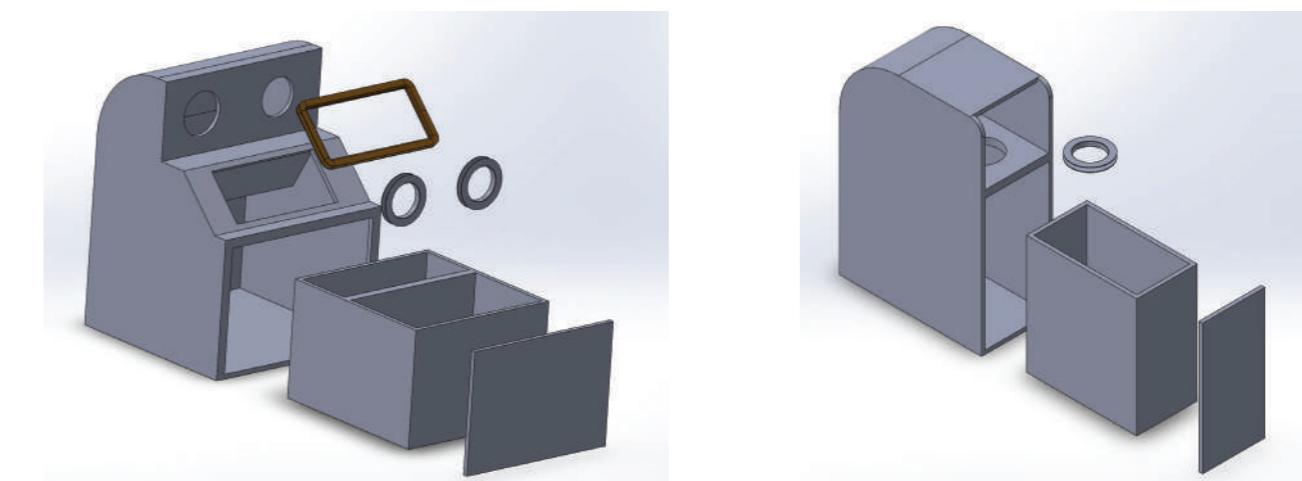
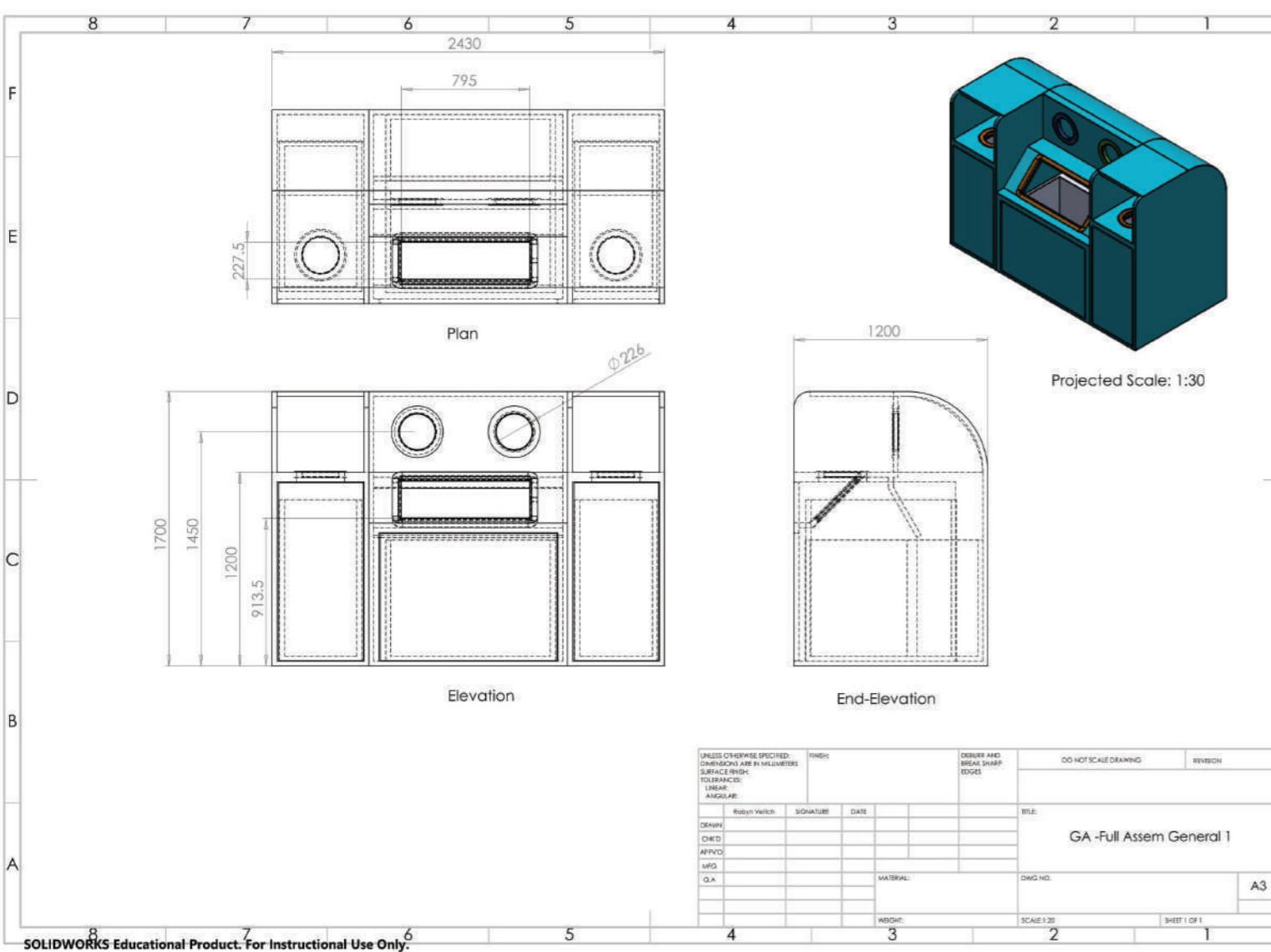


This would also employ the use of boxes, like these takeaway boxes, to protect more fragile items.

These boxes would also prove useful in the community market component, standing in as plant pots.

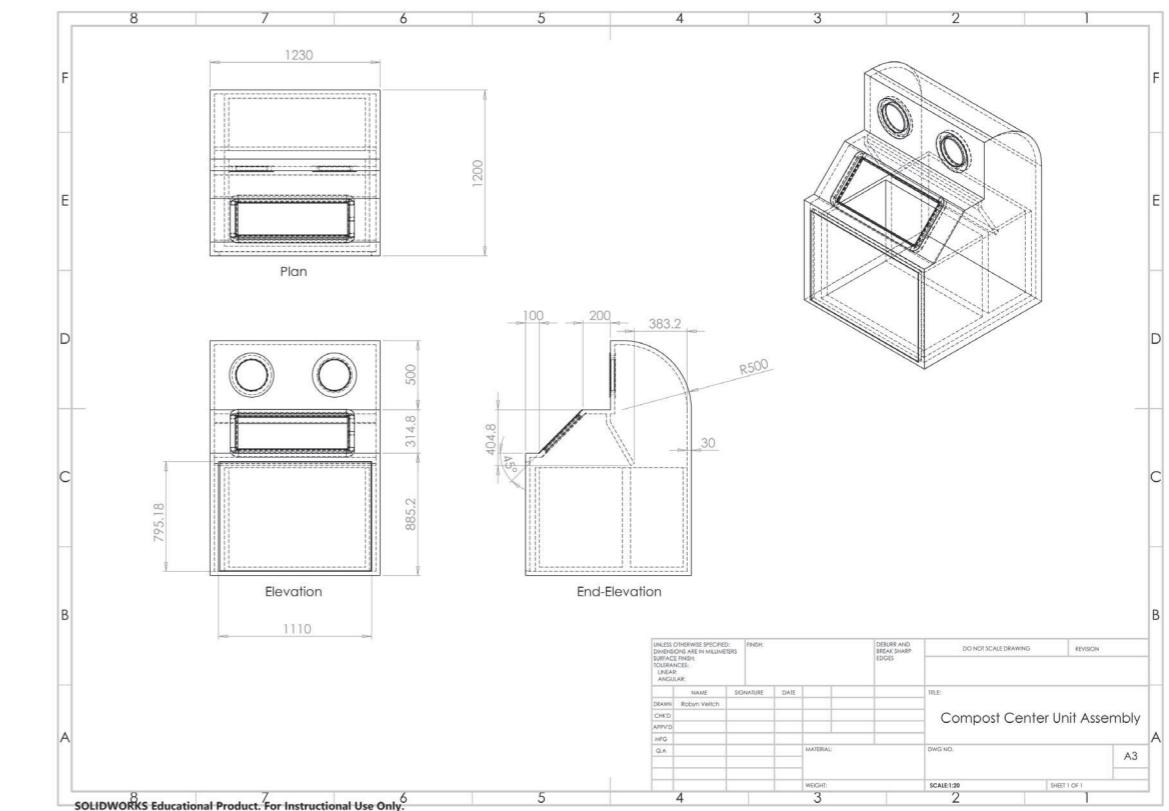
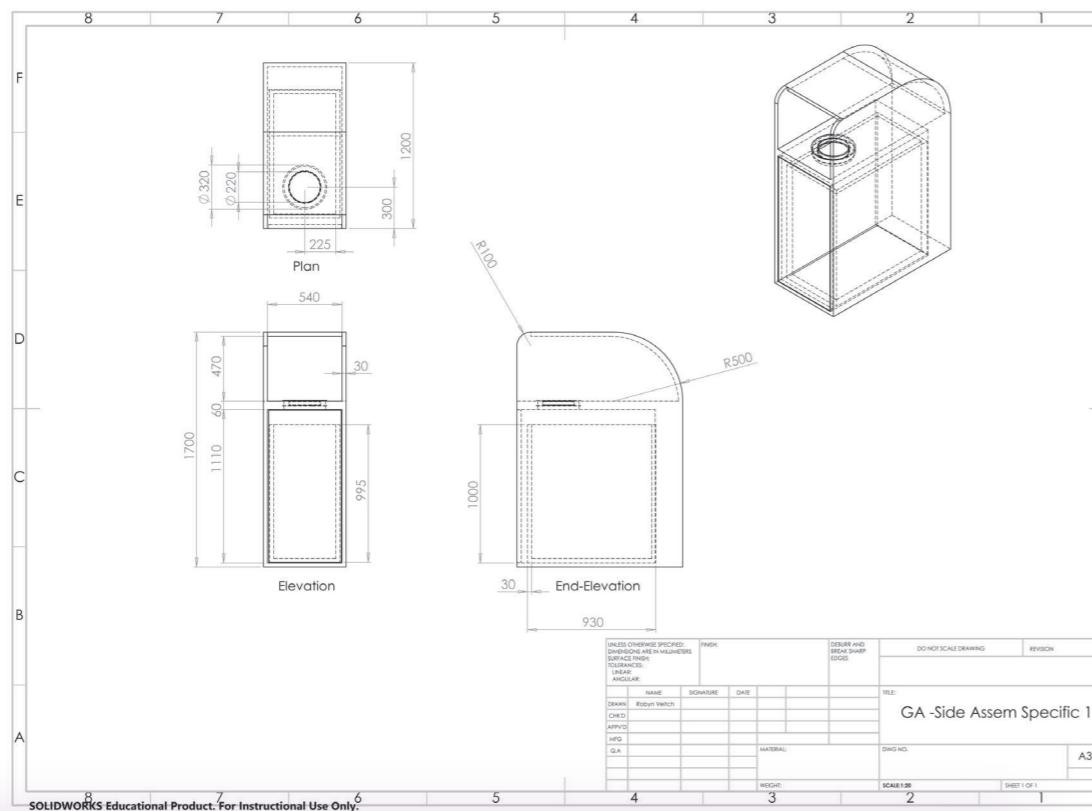


To maximise efficiency in transport I elected to use a series of cable ties, designing these paper ties to minimise produce volume and offer protection.



The casings would be rotational moulded in polyethylene for its weather and UV resistance as well as relative light weight, allowing it to withstand continuous outdoor use and machine pickup.

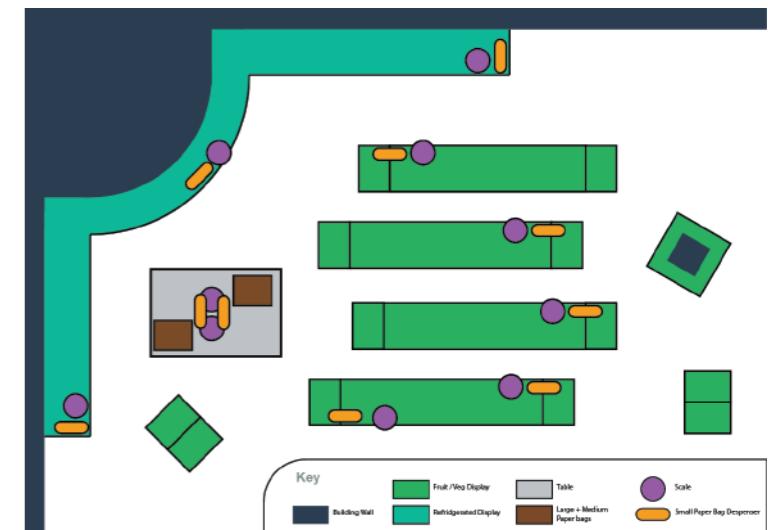
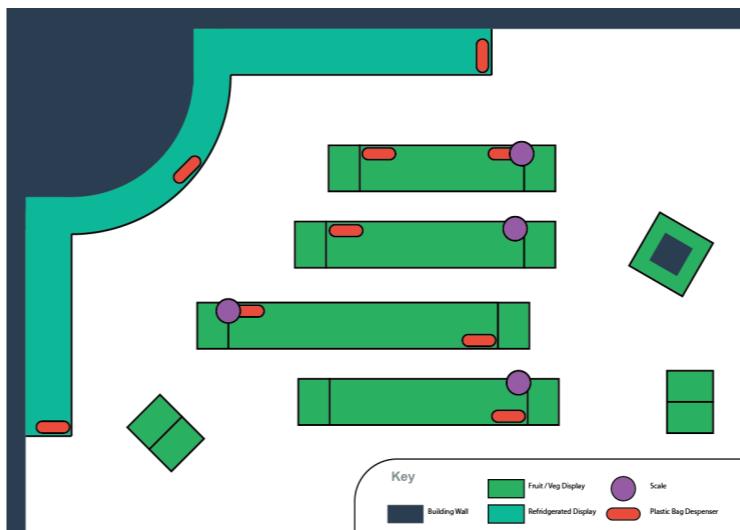
To protect against scratching and denting, and to allow better grip on pickup, the surface will be laser rastered, giving it a coarse texture.



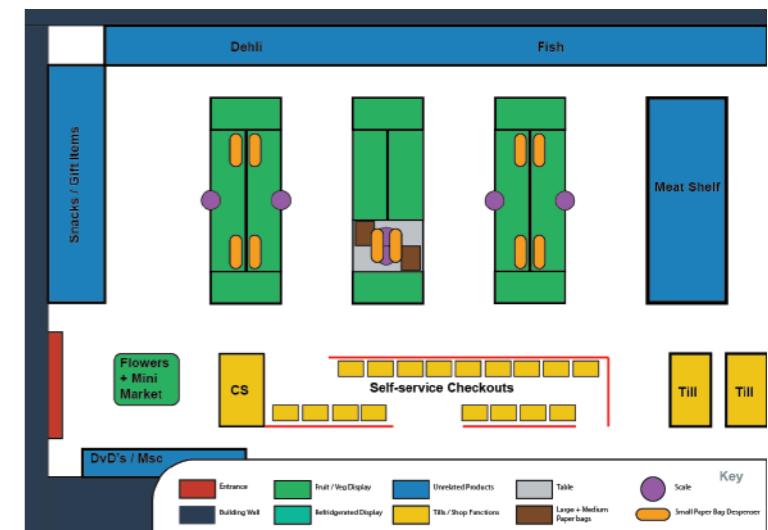
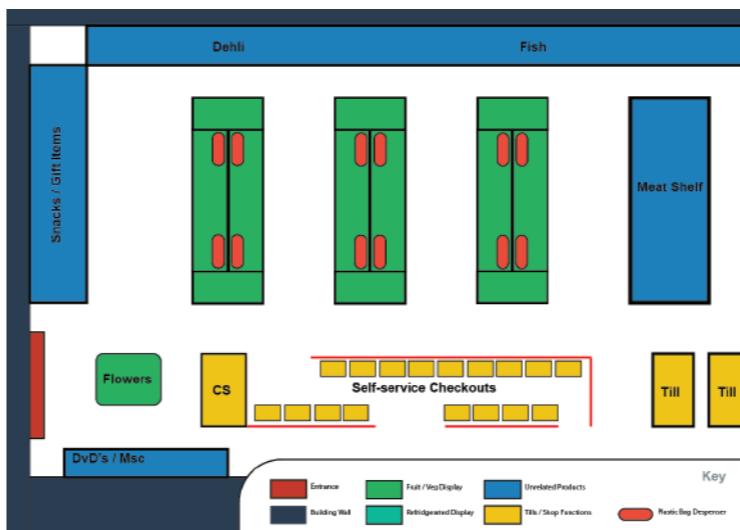
Technical Details -Waste Collection Bin



Large Display Store



Typical Mid-size Supermarket



These diagrams show the ‘before’ and ‘after’ for three types of shops for which I redesigned the base layout to accommodate the changes in production.

The main differences are the reclamation of some space for a dedicated packing area as well as increased scales and swapping out plastic bag containers for paper ones.

Small ‘Express’ Store

