Business Proposal

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Minimal Viable Product

The GreenBot is a household rubbish sorting machine, which aims to increase the amount of waste that is recycled, and alleviate the pressure placed on councils to efficiently sort household waste. The GreenBot means that consumers don't have to be environmental or waste experts in order to recycle effectively, with the machine making throwing rubbish in the correct bin quick and easy. This never seen before world first has been designed to be accessible to the public, with the fight against climate change starting at home. By solving the problem at a grassroots level, we're able to effectively combat the recycling issue, ultimately contributing to a positive future for our environment.

The adaptable system allows consumers to place their rubbish into a chute, which then, using a laser identification system, pushes the waste into different bins based on their materials. For example, paper and cardboard will be sent to a paper recycling bin, whereas plastic will be sent to a plastic recycling bin. Depending on the household, and the local council, the GreenBot can accommodate up to five bins, which can be programmed via a mobile app. Bins could include, paper, glass, plastic, organic, and landfill.

Being a GreenBot, the machine has also been designed to operate on self-sustainable energy, with solar panels being the primary power source. The GreenBot can be installed either inside or outside, with an adjustable solar panel with a long cable that can be positioned in a sunny environment for maximum efficiency.

The GreenBot aims to make the recycling process easy, efficient, and exciting. Taking the stress off the consumers (who may be confused by where the rubbish needs to go), and off the councils responsible for dealing with the waste. Materials shouldn't be wasted due to poor waste management facilities and processes, and consumers should feel empowered to better the environment.

It's our waste, it's our environment, it's our future.

Business Proposal

Key Partners

To ensure Thee GreenBot is a success we will need the support from a variety of partners.

We would need to work with local city councils to ensure a smooth transition and introduction of The GreenBot into their existing waste collection operations. The GreenBot has been designed to support existing waste collection systems and will ultimately make waste sorting easier and more cost efficient. Councils will also play a large role in ensuring GreenBots are implemented and supported. Their cooperation will ensure that the correct information is distributed about the GreenBots and awareness around the importance of recycling is spread.

To encourage individuals and businesses to sort waste with The GreenBot, we propose a rebate system that would benefit those using The GreenBot. These rebates would need to come from local councils or The Australian Government, meaning we would need to work closely with national and state government representatives. The GreenBot aims to alleviate financial costs associated with traditional waste sorting facilities. The money saved should end up in the pockets of eco-conscious Australians who adopt our product.

The GreenBot app and infrastructure also allows independent waste management companies to collect waste directly from the kerb, eliminating the middleman (council waste collection). Reducing management overhead and streamlining waste management, as The GreenBot knows exactly what the companies do and don't accept. These waste management companies may offer rebates to the individuals suppling the rubbish. Whilst these services may exist, The GreenBot app and infrastructure makes the collection easy, digital, and accessible at GreenBot owners' fingertips. Meaning our team will need to work closely with these existing businesses.

An integral partner is obviously the manufacturing company(s) responsible for creating The GreenBot. We will need to partner with them and develop a close relationship, ensuring our business and product needs are met.

The GreenBot also has the potential to create new job opportunities, mainly a "GreenBot Installation Expert". This person would be responsible for delivering and installing the GreenBot at the customer's address. They would make sure that Thee GreenBot is operational and teach the customer how to use it. GreenBot Installation Experts would also be available for maintenance, repairs, and updates.

Key Activities

The GreenBot setup is fairly straightforward, our main activities are:

- The creation and distribution of The GreenBot
- Working with partners, councils, and governments to ensure a smooth rollout and support of The GreenBot
- Offering ongoing maintenance and support for The GreenBot
- Educating Australians on living eco-friendly, and encouraging recycling

These activities will be explained throughout the documentation.

Value Proposition

The GreenBot creates value for a variety of different people.

The device has been designed for use in individual households and businesses, solving the problem of not knowing how or what to recycle. Rather than accidentally placing items in the wrong bins – sending valuable recyclable materials to landfill or placing undue pressure on recycling facilities, The GreenBot accurately and efficiently ensures people are recycling properly. Recycling shouldn't be hard Australians! People who on a GreenBot receive financial rewards based on the amount of recyclable waste they put through The GreenBot, encouraging everyday Australians to think and shop green.

As mentioned, The GreenBot aims to create value for city councils responsible for collecting, sorting, and managing waste. With our invention, they won't have to fund expensive and resource-hungry waste management facilities, as the waste sorting happens at a household level. The pressure to collect waste will also be reduced, as individual Australian households will now have direct and easy access to independent waste collection businesses. Ultimately reducing the amount of waste that councils need to deal with. The GreenBot has been designed to integrate with existing operations, hopefully minimising the amount of money councils will need to adapt. It doesn't interfere with any of their existing routines or equipment; it just eliminates the need for some of them.

The GreenBot also creates value and new opportunities for independent waste management companies, by creating an efficient on-going source of quality waste (recyclable or other). By partnering with them, consumers can provide exactly the right materials they're looking for as The GreenBot syncs with the waste management companies' databases, sorting materials accordingly. The GreenBot app allows our users to connect directly to the waste management companies.

The initial rollout of The GreenBot will be a trial, and the device itself will be sold as-is. However, if everything goes to plan there is potential for us to partner with solar, NBN and building companies to offer a 'Green Home' deal for new homes being built. It could include solar for their electricity, The GreenBot for waste disposal and NBN to connect the home (and The GreenBot to the web). This could be a step in the right direction for a self-sustainable home.

Customer Segment

The GreenBot is primarily aimed at Australian households, but also small-medium sized businesses.

In short, The GreenBot allows people to turn their (recyclable) waste into cash – the more you recycle, the more you earn. Partnering with local councils, governments, and waste management companies, we aim to incentivise recycling through rebates– promoting a cleaner more sustainable future for Australia. The GreenBot and its app has been designed to make people more aware of their impact on the environment, recording and displaying how much they're recycling, and how much they're sending to landfill. Providing helpful tips and tricks, The GreenBot aims to make living and buying green easy and fun.

The GreenBot has been priced to keep the average income earner in mind. Ideally, we would like The GreenBot to be in every home around Australia. To make this achievable for all income levels, we have designed a sliding price system. To purchase a GreenBot, customers will need to pay a deposit, the remainder of The GreenBot cost will be covered by rebates. So, the more you place on the initial deposit, the sooner you will begin to receive the rebates. If you owe money on your GreenBot, 100% of the rebates earned will go towards paying off the remaining balance.

To begin our rollout, we would target Australians that have an interest in sustainable technologies and working towards a greener future. They would be well educated, high earners with a relatively large family – meaning they could offer high deposits on the devices and would produce quite a large amount of waste (due to their big family).

Once the initial rollouts have commenced, we will then begin to target a wider pool of Australians, eventually opening the opportunity up to everyone.

Our partners are also our customers, and current waste management companies will be encouraged to join the platform at the beginning of the rollout. Partners who have connected to The GreenBot service have the ability to constantly update and define what waste they need.

Customer Relationship

In the early phases, our Kickstarter campaign will be the primary method of communication – posting regular updates and sending out email campaigns to our growing contact database. Interested Australians can enter their email address on our website to keep up to date with our progress, and get a notification when pre-orders begin.

When a customer signs up to The GreenBot app when they purchase a GreenBot, we collect their email address, which we can use to send them email marketing blasts, and personalised individual emails.

We can also directly use The GreenBot app to send messages out to our customers – through on demand push notifications, and through the news panel within the app.

Everything about The GreenBot has been designed to be easy to use and fairly self-service, including the website and app. Customers will be able to contact the support team directly through the app and website, which The GreenBot team will efficiently manage through a support ticket system – ensuring all customers queries are answered effectively and quickly. Customers can also update their personal information through The GreenBot app, ensuring we always have their correct contact details. Our app will have a feedback section, and will receive constant updates, ensuring customers feel listened to and have a positive experience with our service. Our customers also have access to GreenBot Installation Experts that can physically visit our customers homes to help them out with their GreenBots.

Remember, The GreenBot is more than just a device for sorting rubbish. We also aim to build awareness and educate people on how to live green. Through our website, email updates and a dedicated section on the app, customers will be able to learn exactly how they can positively contribute to the environment, aided by The GreenBot.

We will also continue to build relationships and communicate with our partners in a more traditional way. Meeting with business executives face-to-face, communicating ideas over the phone, and keeping them in the loop with partner exclusive email updates.

Distribution Channel

As mentioned earlier, our initial target audience is people who are interested in sustainable technologies. In order to reach these people, The GreenBot would need an advertising stall at a variety of sustainability events/exhibitions/shows.
With our initial marketing budget, we may also be able to some targeted digital advertising on Facebook and Google – directly advertising to those who have expressed interest in all things green. We may also be able to use real estate agents and new home builders as a method of advertising – providing brochures and advertising materials for customers to flick through. \
Our partnership with the council may also allow us to advertise on some of their publications, reaching local residents when the council sends advertising material out.

Cost Structure

We have estimated the following costs:

Design, research, prototyping & testing	$50,000
Documentation and legal processes	$5,000
Initial marketing	$10,000
Buffer	$35,000
Total	**$100,000**

Since The GreenBot concept is still in its early stages, we have added a $35,000 buffer in the case that additional funds are needed to support the launch of the first line of GreenBots. Buffer money will most likely be needed in the prototyping/testing phase, or to supplement the marketing budget. Whilst we will be frugal with the funds, we understand and will prepare for overspend (which start ups tend to do).
If there is money left over, it will go back to the consumers in the form of a $500 discount on the purchase of the first line of GreenBots. For example, if the total expenses of the launch cost $65,000, then the first 70 robots sold will only cost $4,500 instead of $5,000.

Allowing the first 70 customers to have the discounted price will be a way of saying thank you to our customers and donors and will provide customers with an incentive to quickly purchase The GreenBot in order to get the discounted price. The quick sale of these GreenBots will kick-start our revenue stream and allows us the get feedback on our product right from the start.

Design, Research, Prototyping & Testing Breakdown

The $50,000 is split into four categories - research, design, prototyping, and testing. This is the detailed breakdown:

Research There is a lot of existing material available online about recycling, and material identification sensors. However, this will allow us to conduct some physical research if needed.	$4,000
Design We aim to work with specialists in the field to put together achievable and effective blueprints. The budget will cover travel expenses for the experts, and materials/software/tools needed to effectively come up with a realistic design.	$15,000
Prototyping This will allow us to experiment with materials and parts and build a fully operational GreenBot prototype. The large budget aims to compensate for unforeseen issues, challenges, and hurdles.	$26,000
Testing An additional budget to test a GreenBot in the field – testing its waste sorting accuracy, connection to the app, durability, and general operation (e.g. do the solar panels power effectively? is it too noisy?).	$5,000

Revenue Stream

It'll cost the public $5,000 to purchase a GreenBot system. In order to make this product affordable for the average person, The GreenBot will be advertised to consumers for $500 upfront with a rebate plan to pay off the $5,000. If customers communicate with us that they cannot pay the $500 upfront we can offer a lower price to suit. The lower price will mean the outstanding amount is higher, but it allows the customer to start recycling and earning rebates straight away. Having this option ensures that we accommodate everyone and are able to sell as many GreenBots as possible.

> *For example*
> *Mr Jones is really interested in recycling and protecting the environment but doesn't know much about it and finds recycling confusing. He saw The GreenBot at a sustainability convention and has decided he wants one but can only afford $200 upfront.*
> *With our sliding price scale, we can offer The GreenBot to him at that price, which makes his outstanding amount $4,800. However, Mr Jones can start recycling today and the rebates will take care of the rest. In Mr Jones' case he would still need to pay back $4,800 but he can now do this by increasing his recycling. The more he recycles – the more rebates he will receive to pay off the device. This flexibility allows us to sell the GreenBot to the average earning household while still ensuring that our product is sustainable.*

Our main revenue stream will be the sale of The GreenBot. As we are not taking full payment upfront we will have to take on a large debt to start with.

The GreenBot Installation Experts will also generate some revenue for the business. We understand that not all users would be comfortable setting up their GreenBot for the first time, which is why we offer a setup service for $150. This would involve a GreenBot Installation Expert delivering the new GreenBot to the customer's home and installing it in a suitable place for the customer to be able to use it. Once installed, the engineer would test it and make sure the customer knows how to use it. GreenBot Installation Experts can always be called back at any time, to assist with technical difficulties if needed. These call outs will be charged at hourly rates depending on the issue.

Managing Debt

When people begin recycling without product, the debt will be slowly repaid through the recycling rebates. These rebates will only be available to customers who purchase The GreenBot. As long as our customers are using The GreenBot, each week they will receive a monetary amount depending on the amount of rubbish that is recycled. While the customers still have their debt with us, the recycling rebate will be deposited straight into our account. Once their debt to us has been paid off, the rebate will go straight into the personal bank account of the customer.

The rebate will provide an incentive for the customers to continue to use The GreenBot and recycle as much rubbish as possible. It will also allow us to sell The GreenBot to the average household while still ensuring that the full selling price of the GreenBot is repaid to our company.
There will not be a set period of time in order to repay the debt to our company and there will also be no interest. This is due to the fact that the amount of rebate that each household gets per week will differ. This means that for some households it may be difficult to repay the debt in a certain

period of time. We don't want people to make more rubbish just to repay their debt by the assigned time period.

If we do not see any weekly payments for two months from a certain GreenBot, a letter will be sent out to the customer reminding them to recycle and asking if they have any questions or issues with the GreenBot. If another month goes by with no weekly rebate going into our account, then we will send a designated person to collect the GreenBot and all money that has been paid so far will be kept by the company.

The customer will not need to worry about paying the debt off. We have built it into the operation of the GreenBot. When purchasing the GreenBot the customer first needs to select how much they want to pay upfront. Selecting the upfront cost will depend on how soon the consumer gets their rebates paid into their own account. The more a customer pays upfront, the sooner they could be getting their rebates. We would accept payment via PayPal or bank transfer for the upfront payment and allocate a Green Number to the remaining amount. This G# would then be linked with their GreenBot and whenever their GreenBot is emptied, the amount of recyclables for that GreenBot is recorded against the G#. The rebates are then paid towards that same G#. Once the G# is paid off, the customer can link their bank details or PayPal account to the G# and start receiving the rebates themselves. At any moment customers will be able to track the amount of rebate that they get each week and the balance of their debt through the app. Once the debt is fully repaid, the customer will get notified by the app and will receive a congratulations email to remind them to link their bank account, so they can start receiving their rewards for recycling.

See Figure 1.0 for a detailed breakdown on the revenue streams.

Figure 1.0

	Units Sold	Debt	Upfront $	Rebate/Wk	Rebate/Mth	Rebate/Yr	Total Rebate	Time to pay 1	Installs
Yr 1	100	-$450,000	$50,000	$9.0	$36.0	$432.0	$43,200	10.4	99
Yr 2	300	-$1,350,000	$150,000	$14.5	$58.0	$696.0	$208,800	6.5	290
Yr 3	600	-$2,700,000	$300,000	$19.0	$76.0	$912.0	$547,200	4.9	590
	1000	-$4,500,000	$500,000				$799,200		$146,850

	Average Households Rebates for Recyclables per Week				
	Paper	Plastic	Organic	Glass	Gov. Incentive
Yr 1	$1.00	$4.00	$1.00	$2.00	$1.00
Yr 2	$1.50	$6.00	$3.00	$3.00	$1.00
Yr 3	$2.00	$8.00	$4.00	$3.50	$1.50

After 3 years	
$1,446,050	Total profit
289	Units paid off
3 years	Approx. time to collect on remaining units

Current Rebate Rates			
$45/Ton	10c/Bottle		10c/Jar
$12/100 Corks			

Editable Cells

Using our 3 year goal of selling 1000 units and assuming people will start off slow with their recycling, the above table shows the breakdown of our rebate scheme and how the debit is paid off over time. In the lower table we have estimated the rebate amounts for each bin per week for an average household. From this we get a total rebate per week. Once we calculate the per week into per year and combine all the customers for that year we get the figures in the "Total Rebate" column. From that figure we can roughly determine how long it would take for each customer to pay off their debit. So, after 3 years we have calculated that we would collect all of the 1st year's sales in full and more than half of the 2nd year's sales as well. Now this is assuming everyone will do

the minimum amount of recycling and pay the $500 upfront. We could have some customers who choose to pay a higher amount upfront or actually see the benefit in recycling and recycle whatever they get their hands on. They could also make full use of our programs and get larger cash rebates from our partners.

To make Figure 1.0 a bit more meaningful, meet Mrs Smith.

> *Example*
> *Mrs Smith is not really concerned about the environment or recycling and is not fussed about changing any of her habits. She is happy to use the GreenBot to say she is 'doing her bit', and she likes the rebate incentive for simply throwing rubbish out. If Mrs Smith continues to put her rubbish in the GreenBot and it automatically sorts $9 worth of recyclables for she could earn around $432 for the year. If she does nothing more than that, she would pay her GreenBot off in just under 10 and a half years.*

Prototypes

The GreenBot

The GreenBot from a side angle. The tube connector on the left is not in use. The GreenBot tubes are designed to attach/detach from the small elevated lip on the bin (bin lids will need to be custom fitted or cut).

A view from the front, the GreenBot has been designed to be slimline and unobtrusive.

The GreenBot with no bins attached, the weighted foot keeps the device steady.

The GreenBot is solar powered, however can be connected to mains if stored inside.

The front of the GreenBot has a handy indicator screen that shows basic information at a glance.

An example photo of the GreenBot door being opened.

The App

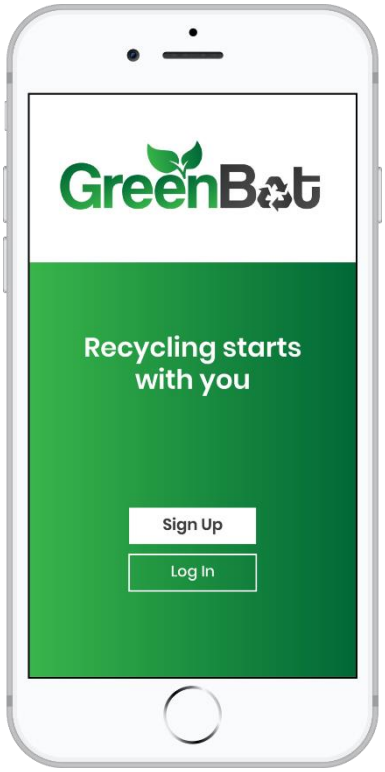
The GreenBot wouldn't really be a smart device without being connected to the cloud. With an on-board Wi-Fi chip, the GreenBot can connect to customers' existing wireless home network and can be monitored and controlled from a mobile app available on iOS and Android. Featuring a user-friendly interface, the GreenBot app can be used to:

- *Add and Remove Bins* - It's self-explanatory, but customers can add/remove/reorganise the bins that are physically connected to the GreenBot via the app. They can choose what each bin is for by scrolling through the user-friendly list of waste types. If they can't find what they're looking for they can also search through the list of independent companies that have partnered with the GreenBot service and configure their bin to their requirements.
- *View Waste Statistics* - The app will track how much waste each GreenBot is processing and how much of it is getting recycled. A cool feature for the eco enthusiasts out there! The GreenBot does all the hard calculations and presents it in an easy to read pie chart (the greener the pie chart, the better!). The app provides little reminders to try and prompt the use of recyclable materials wherever possible and will also notify the customer how full each bin is and when it needs to be put out for collection.
- *Sign Up to Programs* - Gives customers the opportunity to give their waste to an independent company. Waste management services can choose to list themselves on GreenBot, allowing them to collect customers waste at the kerb - eliminating the middleman, and saving time/money. The GreenBot app knows its location and when it's being used so it can list programs available in the same area, depending on the bins configured. Signing up to a program is as easy as ticking the checkbox! Depending on the company, they may offer additional features or perks such as rebates, or on-demand rubbish collection (your bin will get emptied when it fills up, rather than only getting emptied on a predefined schedule).
- *Track Rebates* - The GreenBot aims to work with the Australian Government to provide monetary rebates to those using the GreenBot to sort their waste, encouraging a greener future. Most of the independent companies that collect waste via our service also offer rebates. Luckily, the GreenBot app automatically keeps a track of when the waste gets collected, by who, and their rebate amount. If you have paid off your GreenBot, then the rebates go straight into your bank account at the end of each month. If you're still paying off the GreenBot, then the rebates contribute to your GreenBot loan amount until you completely own the device.
- *Manage Your Profile* - Like most digital services, customers need an account to use them. GreenBot is no different. The app will let you update your details (name, email, phone, etc), change your password, connect a bank account and connect your government information (via myGov) to receive Government rebates. You can also receive support through the app and browse the GreenBot store for accessories and more.
- *Receive Notifications* - The GreenBot app displays handy notifications on the customers phone to help them stay on track. Like a reminder when it's rubbish collection day, so they don't forget to put the bin out, no more overflowing bins! They can also easily receive important updates from local council/independent companies that collect the waste (such as a public holiday change in hours).

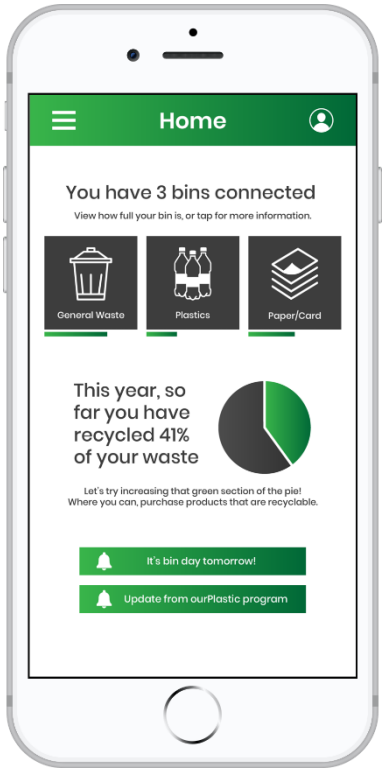
See the screenshots on the following page.

Screenshots

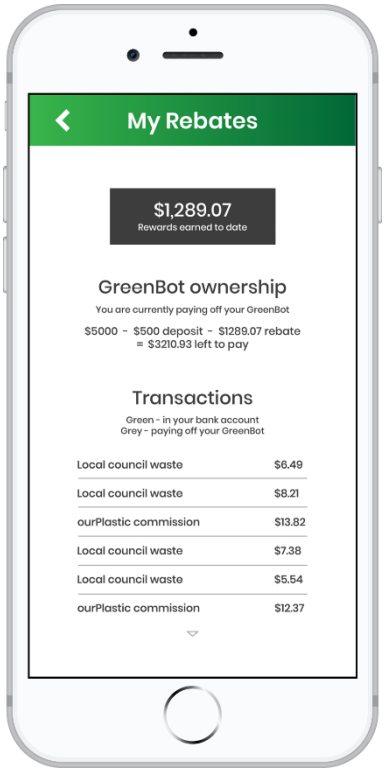
Sign in screen



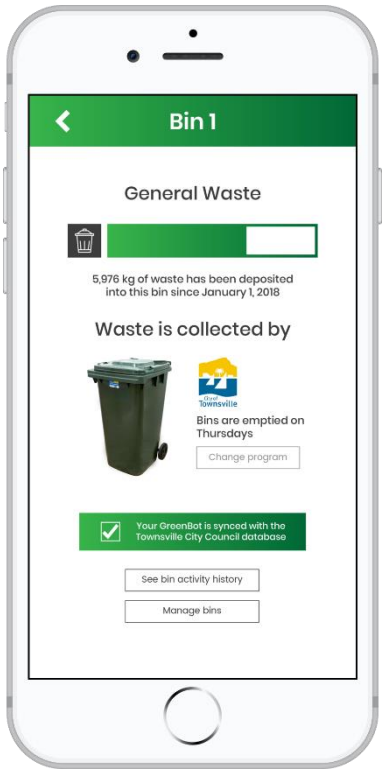
Dashboard
View waste statistics, receive updates and tips



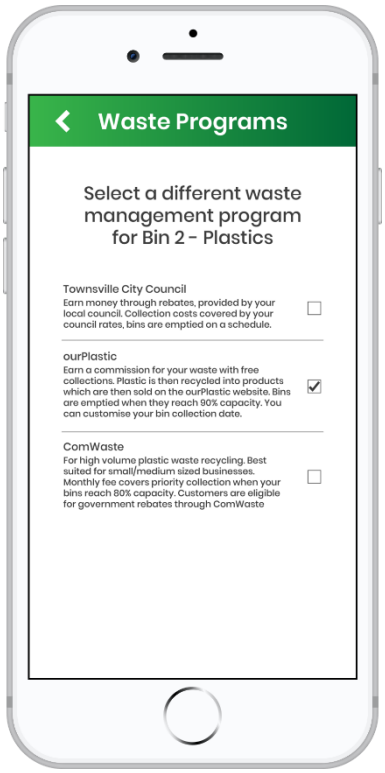
Track Rebates



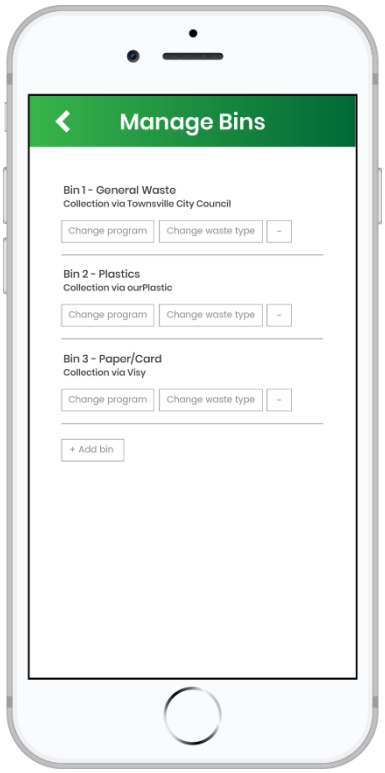
Manage connected bins



Manage connected bins
Sign up to waste programs

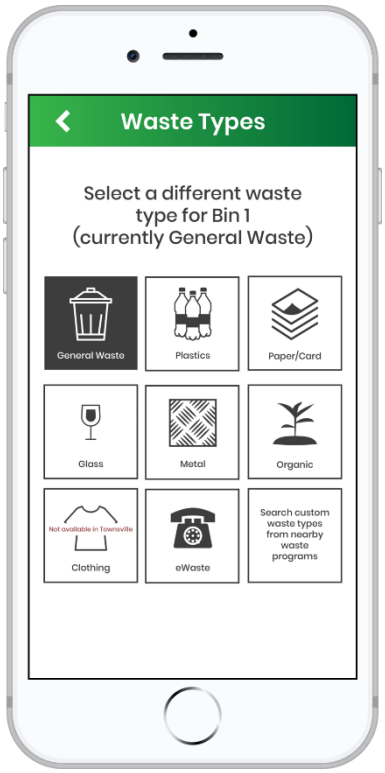


Manage connected bins
Add/remove/change bins

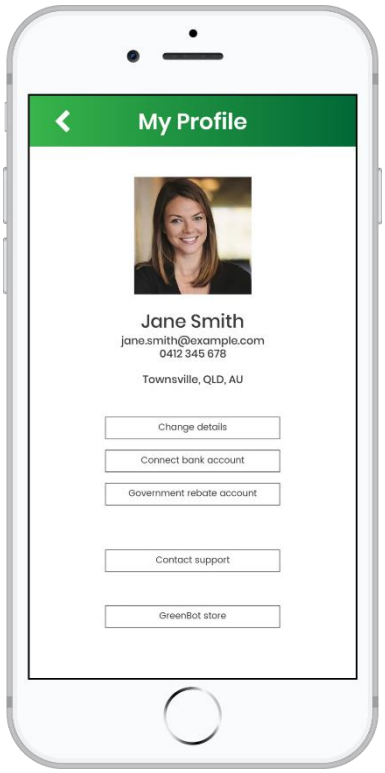


Manage connected bins

Change the type of waste going in to each bin



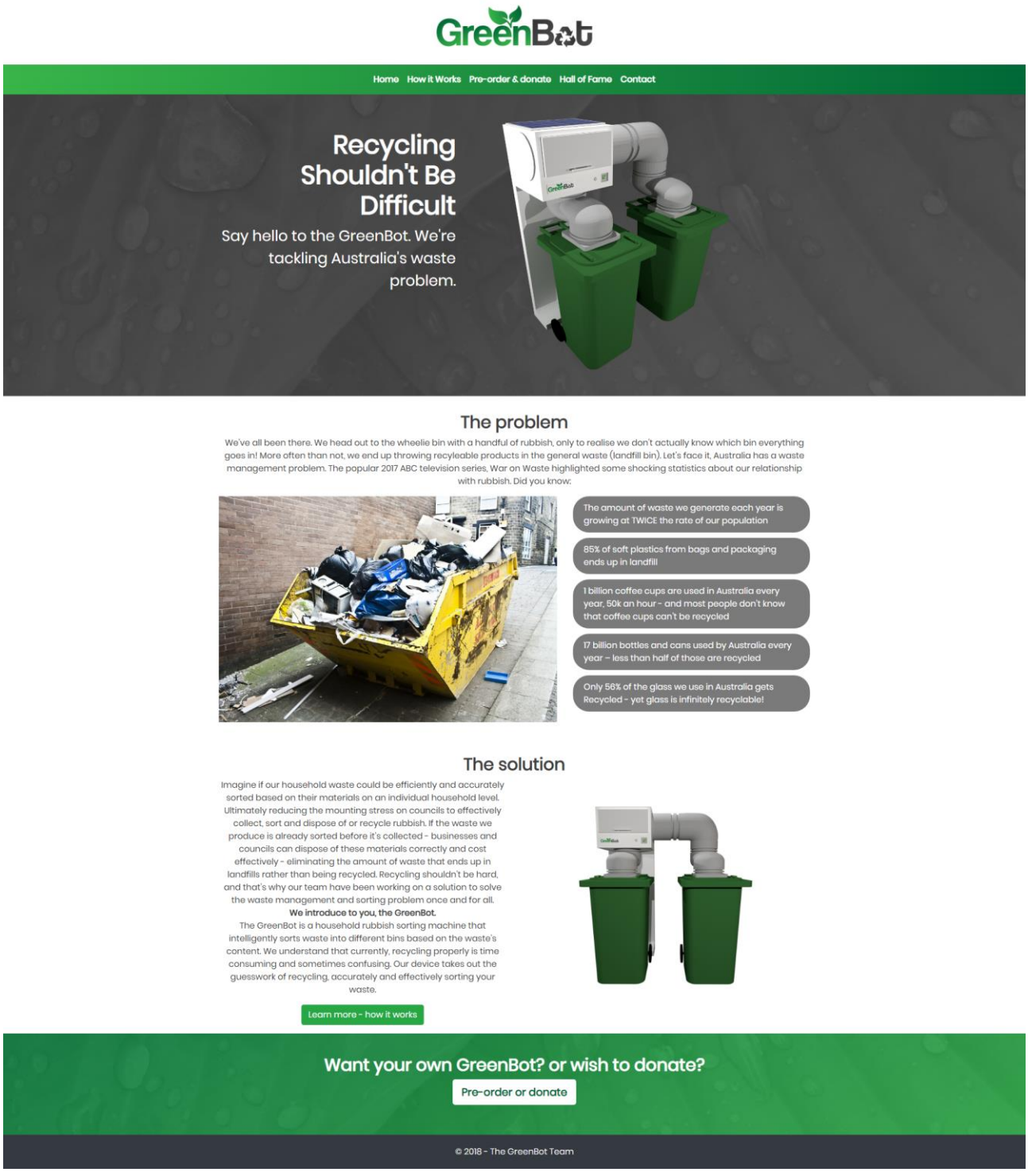
Update your profile



The Website

You can visit the website at: http://greenbot.x10.bz/
A ZIP file will also be included in the final assessment.

Screenshot – the homepage



Crowdfunding Campaign

Platform	Kickstarter.com
Engaging Explanation	How many times have you gone to recycle your waste only to realise that you don't actually know what can and can't be recycled? Introducing The GreenBot, the household rubbish sorting machine that does the hard work for you.
Call to Action	This product allows you to contribute to our environment's wellbeing and the preservation of the earth for your children, grandchildren, and all future generations. There is more rubbish in this world then there are people. Rubbish is starting to take over our world. Cities are becoming populated with rubbish, oceans are covered in it and animals are dying from it. This is an issue that can easily be resolved if everyone chips in a little and does their part. With the GreenBot you won't need to stress or worry about which item goes in which bin. The robot will do it all for you all while you play your role in helping the environment. Change begins with one person, and by purchasing the GreenBot, that person will be you.

Funding Goals	We have estimated the following costs:
	• Design, research, prototyping & testing - $50,000
	  ○ Research - $4,000
	  ○ Design - $15,000
	  ○ Prototyping - $26,000
	  ○ Testing - $5,000
	• Documentation and legal processes - $5,000
	• Initial marketing - $10,000
	• Buffer - $35,000
	Total goal - $100,000
	
	The buffer will be used to cover any unforeseen costs. If we have money left over, the funds will go straight back to the consumers in a form of a $500 discount off the first GreenBots (until the money is depleted).

What will Funding Achieve	• <u>Documentation and Legal Processes</u> This will ensure that The GreenBot team have completed the necessary legal paperwork and paid all required fees before embarking on the journey. • <u>Initial Marketing</u> This will help with print resources, digital marketing, and additional materials needed to exhibit at exhibitions/shows/events. • <u>Research</u> There is a lot of existing material available online about recycling, and material identification sensors. However, this will allow us to conduct some physical research if needed. • <u>Design</u> We aim to work with specialists in the field to put together achievable and effective blueprints. The budget will cover travel expenses for the

	experts, and materials/software/tools needed to effectively come up with a realistic design. • Prototyping This will allow us to experiment with materials and parts and build a fully operational GreenBot prototype. The large budget aims to compensate for unforeseen issues, challenges, and hurdles. • Testing An additional budget to test a GreenBot in the field – testing its waste sorting accuracy, connection to the app, durability, and general operation (e.g. do the solar panels power effectively? is it too noisy?).
Perks for Backers	• $1 to $50 - You get added to our public "Hall of Fame" on our website! • $50 to $100 - You get added to our public "Hall of Fame" on our website! And receive an environmentally friendly t-shirt. • $100 to $500 - You get added to our public "Hall of Fame" on our website! And receive an environmentally friendly t-shirt and phone case. • $500 to $1000 - Everything above, and your own plaque thanking you for your generous contribution! • $1000 to $2000 - Everything above, and a small collection of plants! • Over $2000 - Everything above, plus you get to meet the founders and take a tour of our office and be the first to see the GreenBot prototypes in action!