BILLY - BIN IT HAPPILY

OUR DECK

Daniel - Khairul - Agus

Have you ever strolled around your neighborhood, try to enjoy the scenery,

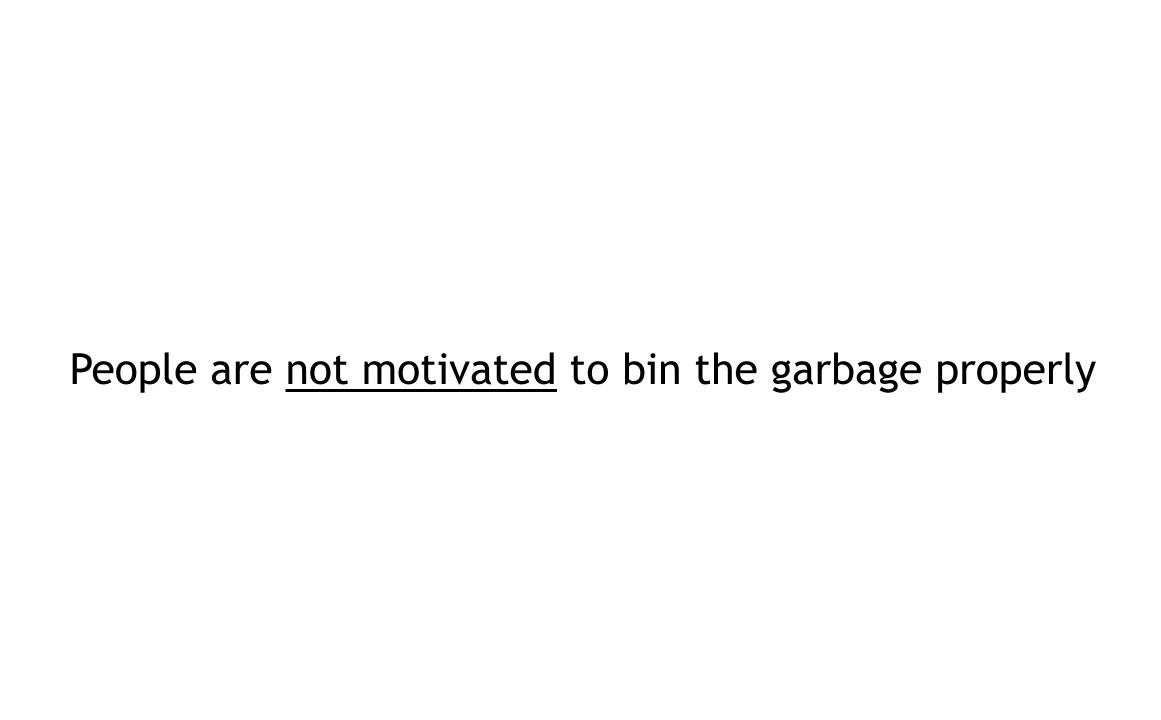
BUT then you saw this



Garbage collection with <u>one schedule fits all</u> has failed, and leave us with scattered trash

Perhaps you might have also seen this <u>irony</u>





What should we do?

Fear Not!

It's time to meet Billy.

Billy / Bin It Happily

Waste management unlike any other

Notify related parties for garbage collection from lesser collection points

 Put a smile on our face with <u>rewards</u> to be a better person everyday in keeping our environment clean

Global Waste Management Market / Overview

• Expected to grow to \$435 billion by 2023. Compound annual growth rate (CAGR) of 6.2 percent from 2017 to 2023

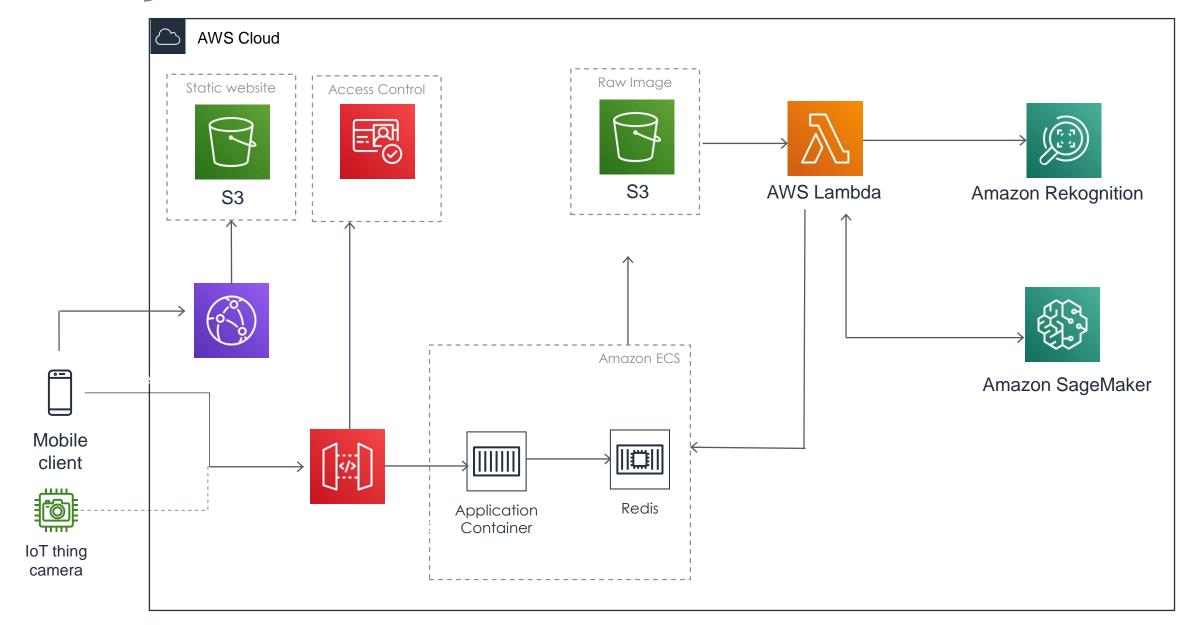
The majority of the growth in the emerging regions of Asia-Pacific

 Rise in environmental concerns along with inevitable increases in non-hazardous waste from rapid economic growth

It is all started with **Embryo Billy**

Embryo Billy / Detail Architecture

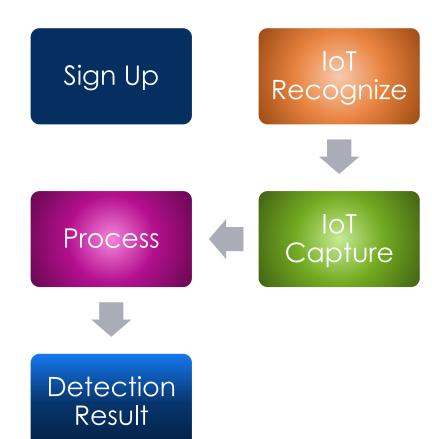




How do we nurture Billy moving forward?



Baby Billy



- Mobile application & IoT devices
- Allow general public to register and upload profile photos for Face ID authentication purpose
- IoT devices will capture garbage photos and recognize registered users while depositing garbage
- IoT devices will post the photo to the backend API together with a specific location ID
- Return the detection result for statistics display
- Notify relevant parties based on certain criteria, such as bin's volume, etc.



Toddler Billy

Recognize & Open Bin



Analyze Garbage

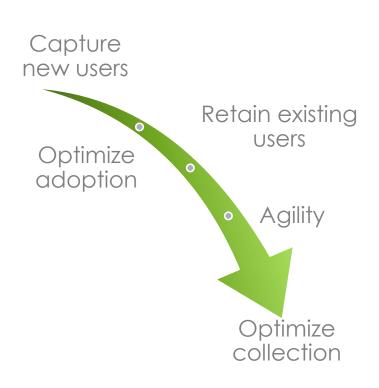


Points & Rewards Management

- Mobile application & IoT devices
- Locked bin accessible only by registered users
- Mechanism to deposit points and redeem rewards
- Embrace partnerships for extensive list of rewards
- Registered users will be recognized by IoT devices and open the bin
- The deposited garbage will be analyzed and points will be added to accordingly to registered users
- Allow registered users to redeem rewards



Kid Billy



- Mobile application, IoT & robotic devices
- Recognize unregistered users and offer on-the-spot registration
- Able to offer rewards redemption on time-limited offer items
- Motorized bin that can move to collection points once reaches its threshold
- Embrace opportunities to partner with property
 management companies or government agencies to
 optimize garbage collection from lesser collection
 points



Teen Billy



- Mobile application, IoT, and robotic devices
- Multi compartment bin to support recycling
- Recognize recyclable garbage and perform separation
- Able to have a chat to offer recycling advice before depositing the garbage
- Deposit more points for users who are more aware of recycling the garbage
- Notify different parties related to recycling different types of garbage

Who will nurture Billy?

Our Team / Overview

- Daniel is an AWS Certified Professional with 17 years experiences in software development. Daniel has
 accumulated most of AWS certification in the past one year and has since been working with AWS
 services with the main interest in enterprise integration and machine learning.
- Khairul is a developer with 8 years of experience in software development. Khairul has been utilizing some of AWS services with the focus in microservices implementation for supporting high volume transactions.
- Agus is a techno-functional person equipped with 15 years unique combination of technical and management experiences. In the past 7 years, Agus has developed business solutions for restaurant order management, clinic record management, etc. by leveraging AWS serverless and PaaS services.



THE FUTURE IS BRIGHT

and by the way...... Billy says Hi! DEMO + Q&A