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# Motivation

Climate Change

Mangrove is world's **best hope to combat climate change** [1], reduce CO2 for almost 700 tonnes carbon stock/ hectar

[1] **Indonesia's mangroves one of the world's best solutions to climate change**, Down to Earth, 8 Aug 2016, <http://www.downtoearth.org.in/news/indonesia-s-mangroves-one-of-the-world-s-best-solutions-to-climate-change-55205>

Indonesia's rich ecology

Indonesia is the home to **25% world's mangrove ecosystems** [2]

[2] Indonesia's mangroves one of the world's best solutions to climate change, Conservation International, 8 Aug 2016, <https://www.conservation.org/NewsRoom/pressreleases/Pages/Indonesias-mangroves-one-of-the-worlds-best-solutions-to-climate-change.aspx>

One of Fauna & **Flora's main habitat**

The **unique habitats** Provide valuable shelter and breeding sites for fish, stabilising coastlines, **reducing erosion from storm surges & tsunamis** [3]

[3] 'Let mangroves recover' to protect coasts, Mark Kinver, 19 Sept 2016, <http://www.bbc.com/news/science-environment-37386267>



# The Team



Irmasari Hafidz  
**(Irma):**

*Responsible for user & requirement analysis, designing draft UI for mobile application & database, presentation materials*



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*Responsible for designing web service, creating web service and application*



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*Responsible for designing web service and creating mobile application*



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# Mangrove as a Habitat & Nature Conservation

# The Problem

How to **TRACK & SAVE** historical data about the mangrove's flora & fauna from time to time?

Can environmental *Community* helps the citizen in educating the importance of mangrove's habitat?

Can anyone involved in this activity?

How anyone can **crowdsource the data** together in order to submit, manage & see report about the current condition about flora & fauna **EASILY** in **REAL-TIME**?





Record historical data about the mangrove's ecosystems by crowdsourcing.

Educating the society about the importance of mangroves ecosystems.

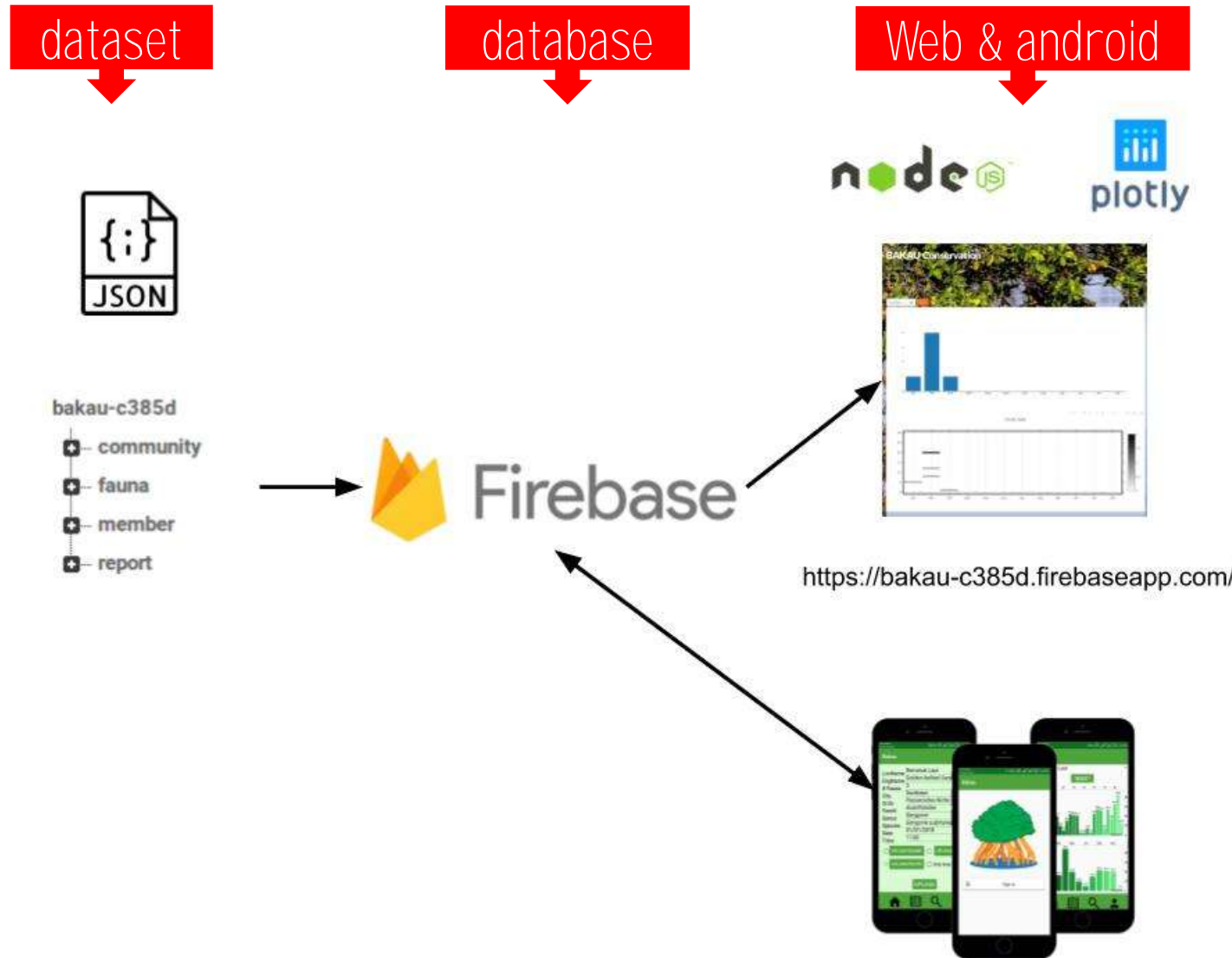
Preserving the nature as well as engaging actively to improve the quality of mangroves ecosystems.

SOLUTION

bakau<sup>tm</sup>



# Solution: Bakau framework



**Bakau** dataset format is in .json format.

**Bakau** stores its dataset into Firebase platform.

**Bakau** uses node.js and plotly library to show the analytics data about the fauna in its web app. Android is the mobile version of bakau and used libraries, such as MPAndroidChart[4].

[4] MPAndroidChart, <https://github.com/PhilJay/MPAndroidChart>



bakau

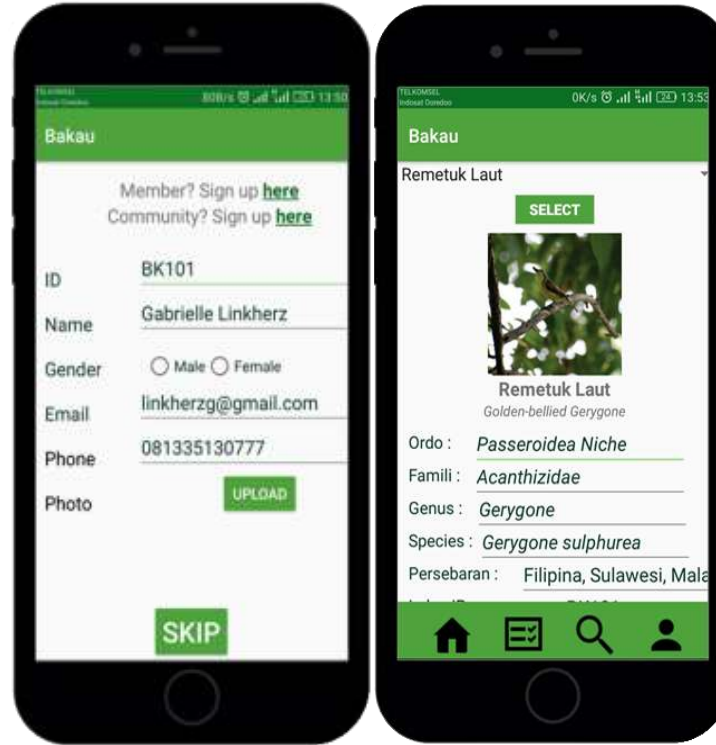
Crowdsourcing & Conserving Mangroves' Wildlife



An Citizen

submit explore

An individual can help the society by submitting fauna's data that found in Mangroves (or bakau in Indonesian) easily in real-time. Other than that he/ or she can explore more about the Mangrove's ecosystem & learn more about the environmental aspects in his/ her area.



A Community



manage community verify

A community can manage it's member and help to verify the data that submitted by anyone to Bakau app.

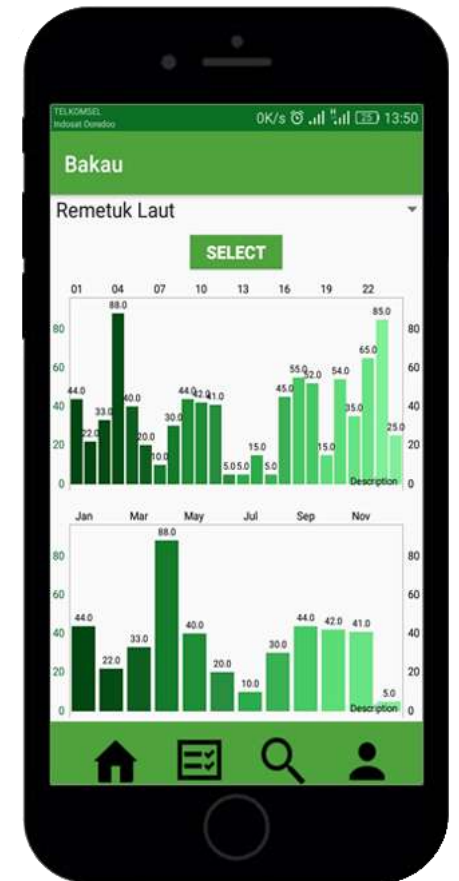
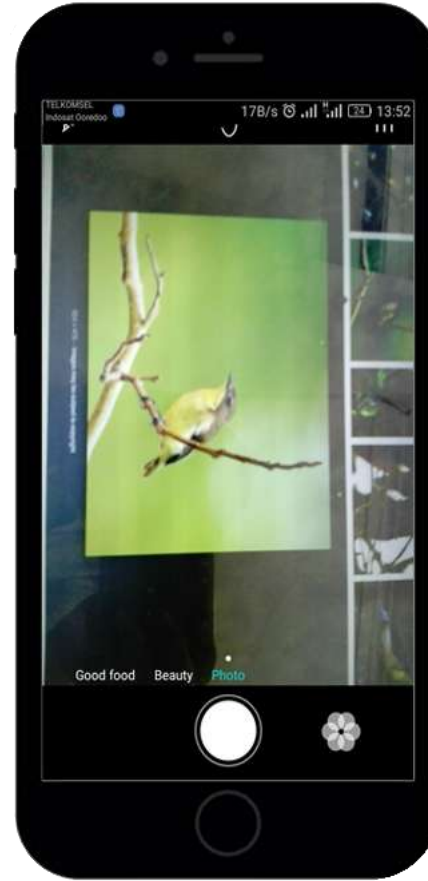
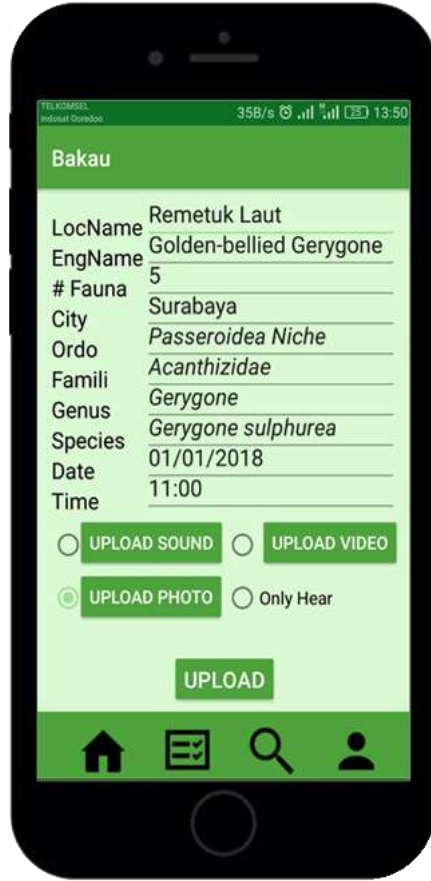
Bakau is the Indonesian word for mangroves. Bakau is an app where a citizen is able to submit, manage and report about wildlife of a Mangroves area. This tools is intended for tracking the behavior of the Mangrove wildlife. Each report will be validated by a related community.

# A Community

manage community

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verify



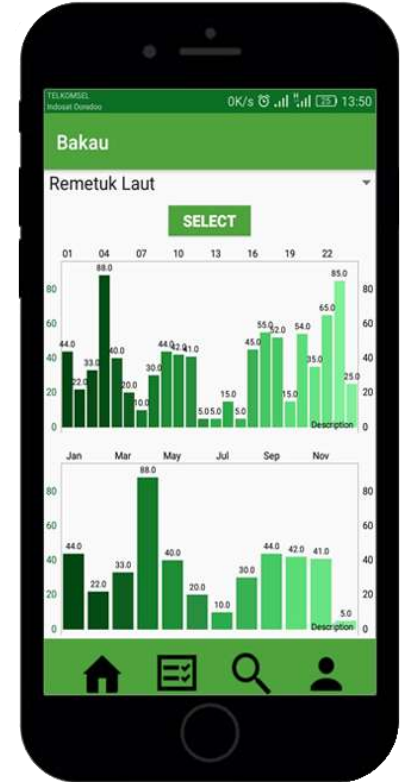
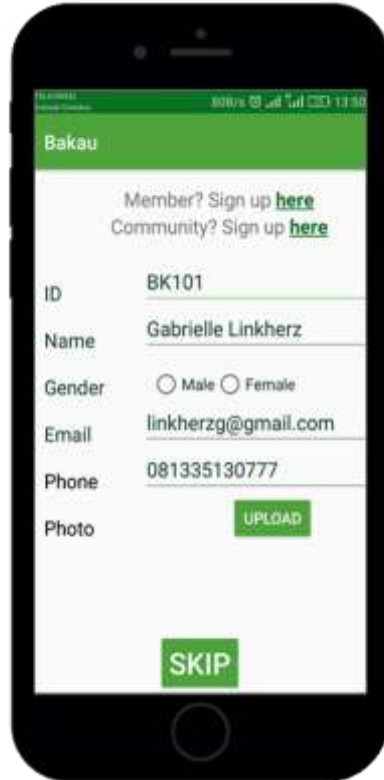
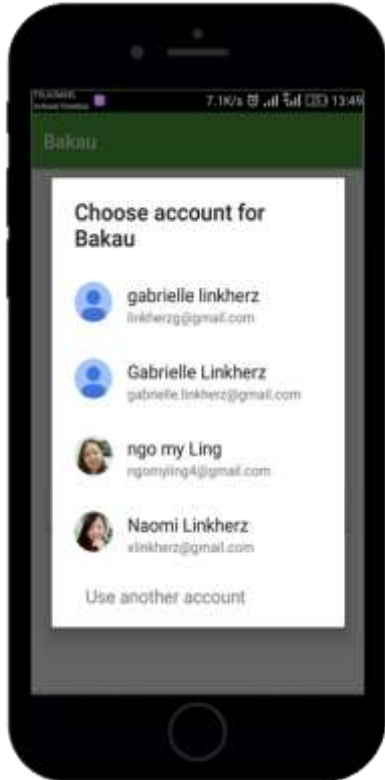


# Citizens

submit

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explore



bakau

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