

目覚(MEZA) : AN EXPLORATION OF THE MODERN ALARM CLOCK

ADAM KROG '17

ADVISOR: DR. EWA SYTA

DEPARTMENT OF COMPUTER SCIENCE, TRINITY COLLEGE

Motivation

Streamline and compile data a user would normally gather from their smartphone in the morning.

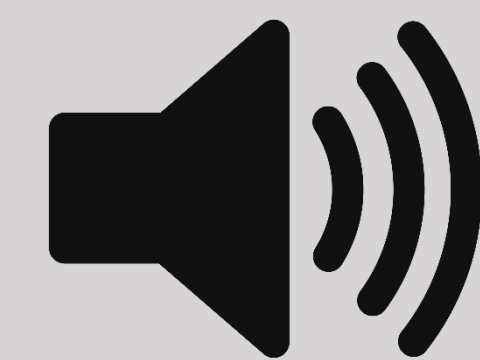
Allow for the same information to be collected without the unhealthy usage of screens after waking up.

“Functionality for the future, with familiarity from the past”

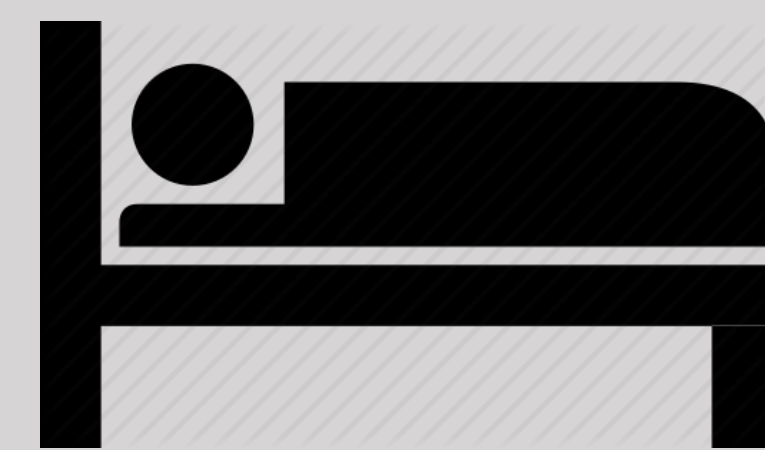


Features

Text-to-Speech : Data parsed from the Internet relayed to the user via speech produced by the system



Smart Sleep : Set accurate and natural alarms based on user-reported sleep cycles



Weather Module : Retrieve real-time weather data at the user's location

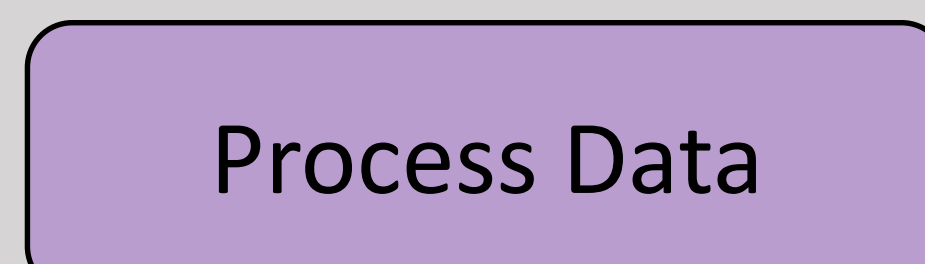
News Module : Parse news article summaries from major news outlets

Smart Sleep Algorithm

1. Calculate duration of sleep with user reported sleep data.



2. Average data over a two week period.

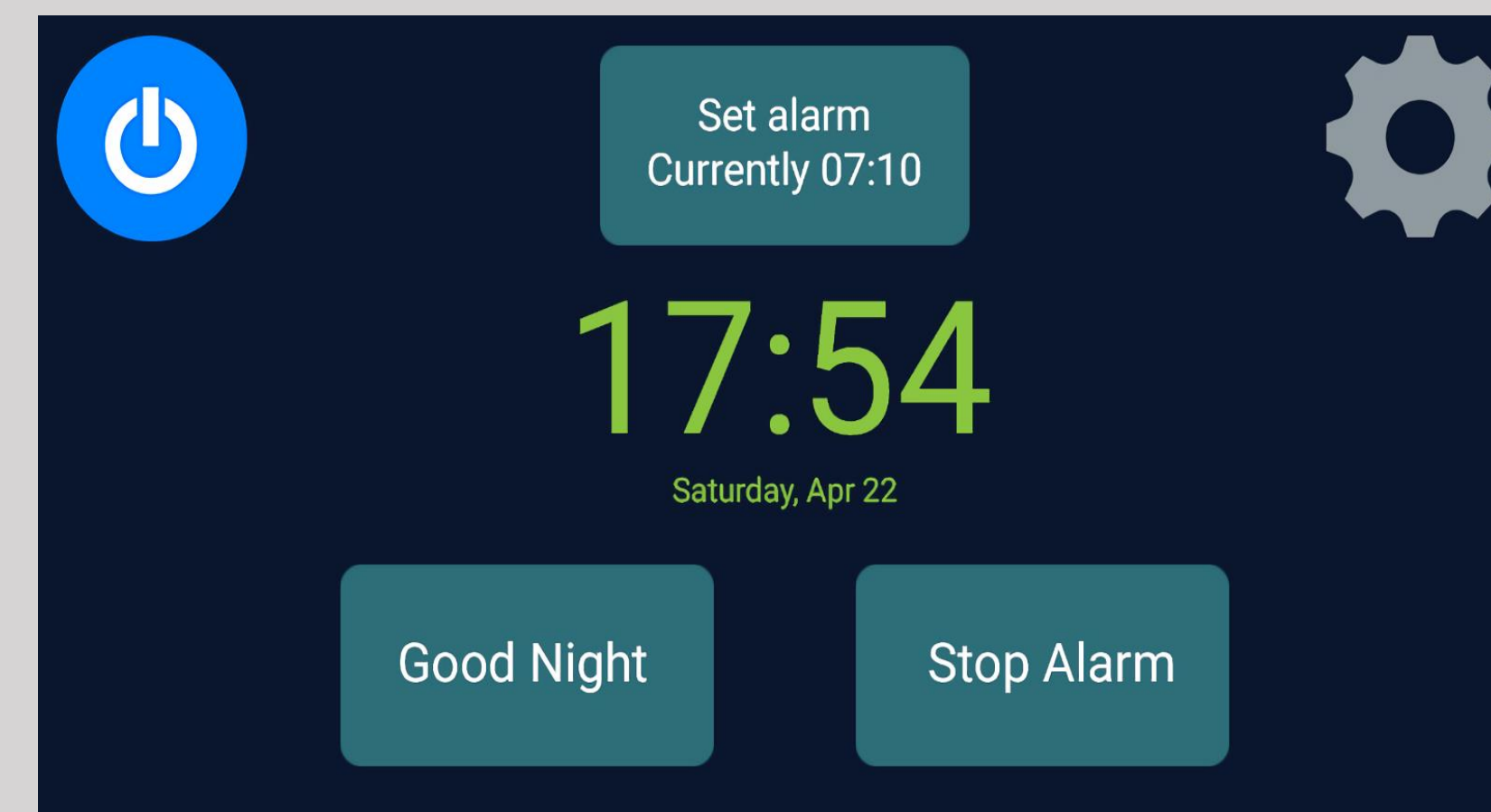


3. Set alarms based on separated weekday and weekend data.

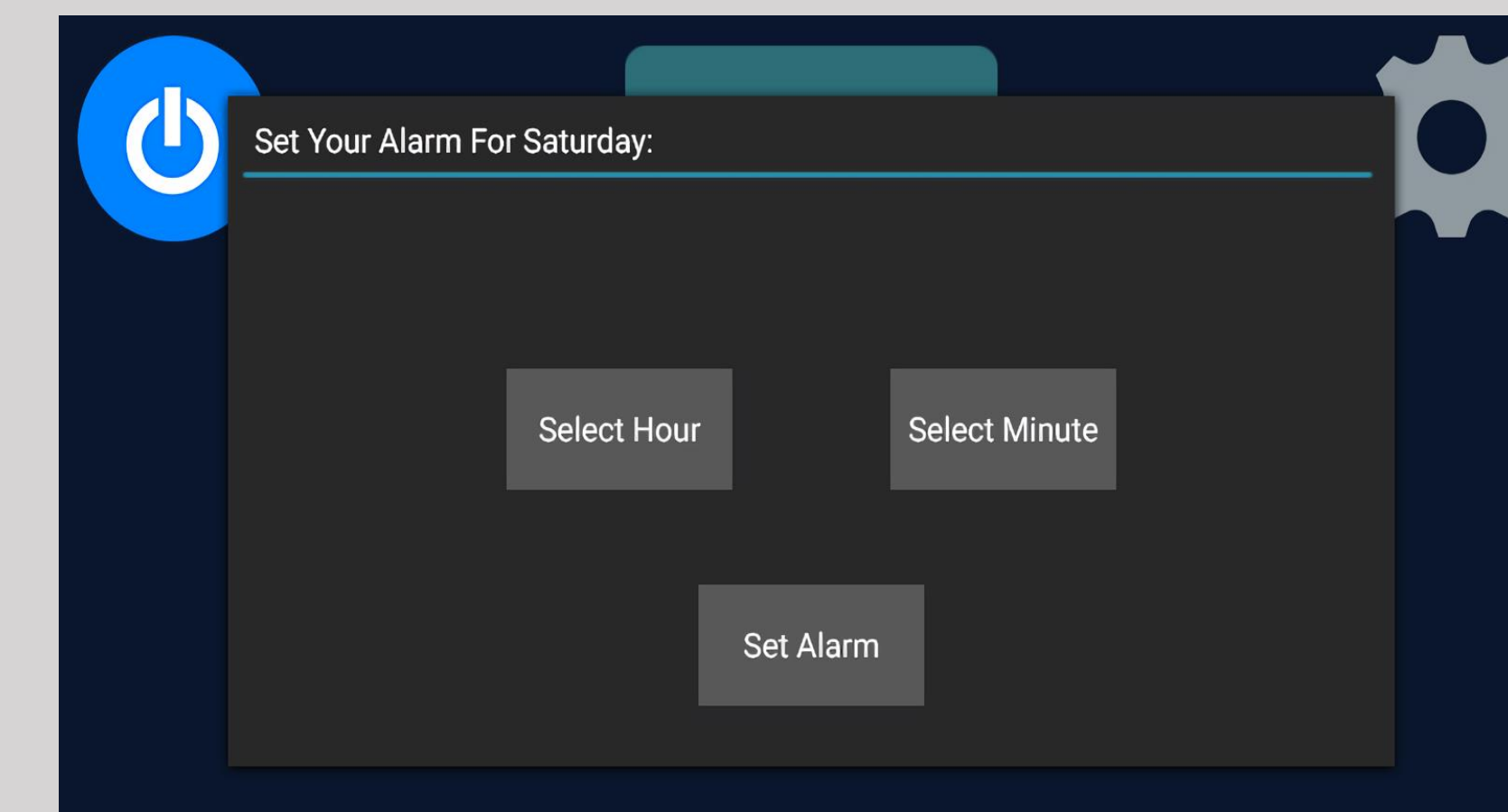


System UI

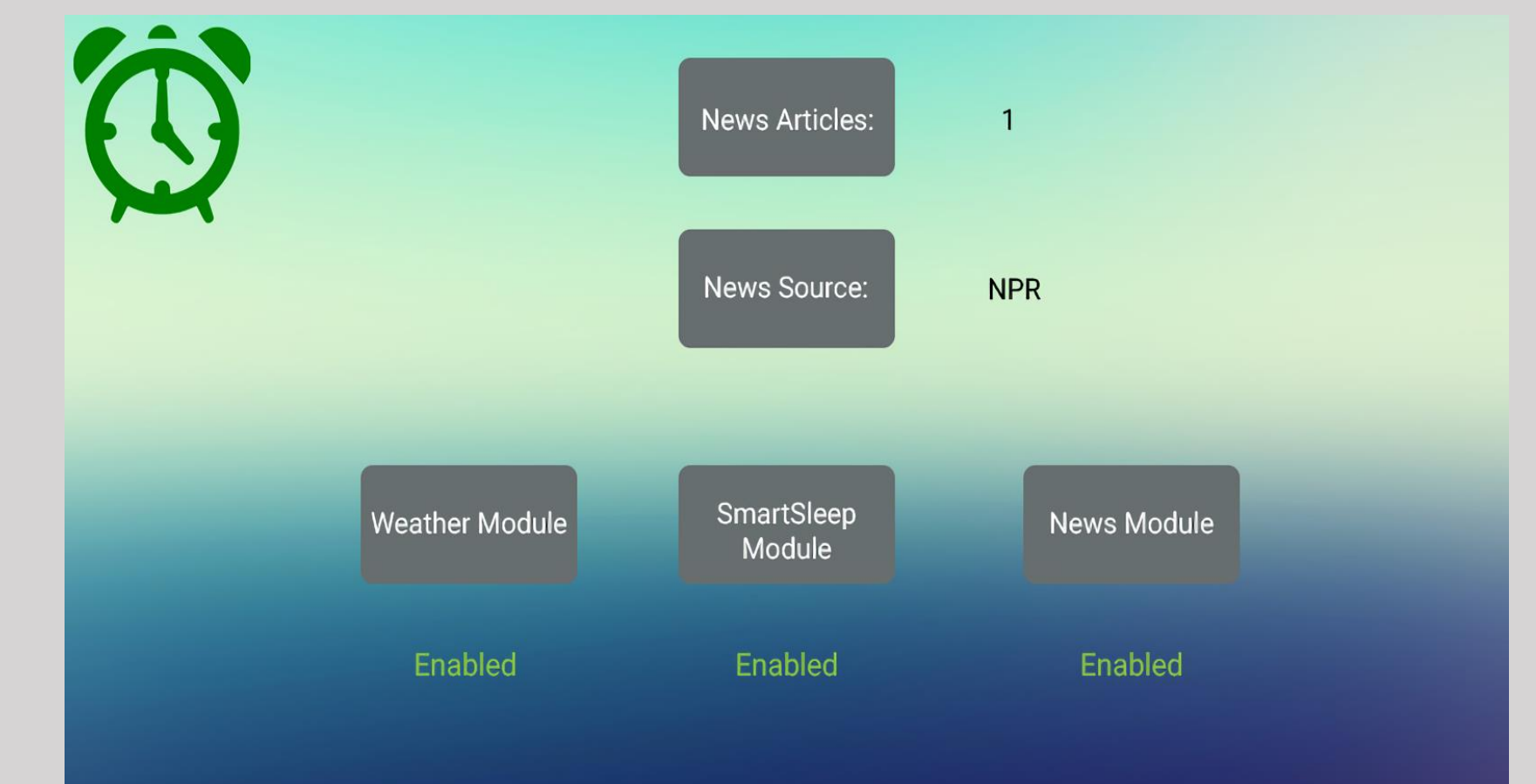
Clock Screen



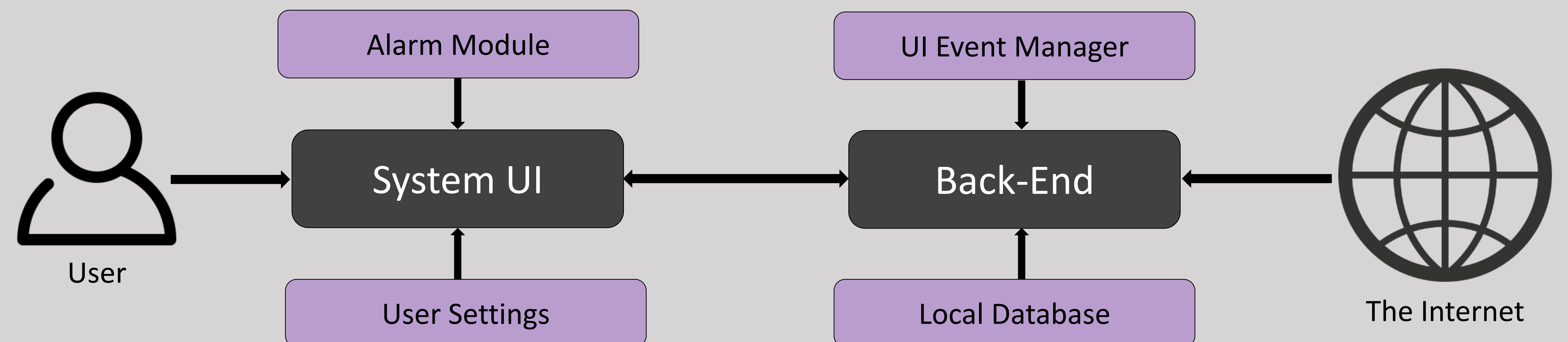
Alarm Picker



Settings Screen



System Information Flow



Technology



Raspberry Pi 3 with embedded 7-inch touchscreen functions as the hardware platform

Main system and corollary modules written in **Python** coding language

API Used:

Kivy Framework used for touchscreen UI development

OpenWeatherMap API used for local weather data

Newspaper API used to parse newspaper articles from NPR, BBC, WSJ

