

Project Report Format

Team ID	PNT2022TMID00975
Project name	Iot based safety gadget for child monitoring and notification
Date	19 November 2022

1. INTRODUCTION

1.1 Project Overview :

- Child security is the foremost common issue emerging around the world. There are numerous issues to youngster security and this work primarily manages kid security from the dangers like missing, abducts.
- The Technical point of this task is to have an ordinary correspondence between the kid and parent through the gadget which helps in finding the area, pulse and temperature of the kid utilizing the gadget empowered with the pulse sensor, temperature sensor and GPS tracker.
- This gadget empowers association between the youngster and parent through the WIFI module cooperation utilizing IoT. The data is stored into a cloud permanently to keep the track record of old data of the children for further reference.

1.2 Purpose :

- The child safety gadget is concerned with limiting children's exposure to hazards and reducing children's risk of harm.

- The motivation behind this gadget is to enable guardians to find their kids without any difficulty in case of emergency situations or to know of any danger their children maybe exposed to.

2. LITERATURE SURVEY

2.1 Existing problem:

Attacks on children have been on the rise at an unprecedented rate in recent years, with victims finding themselves in perilous situations with little chances of contacting their families. This project is mainly streamered towards child safety solution by developing gadget which can be tracked by its GPS location and also a panic button on gadget is provided to alert the parent via GSM module calling for help. To Trackthe device anytime parental android app is developed. Smart gadget is always connected to the parental device and this device can receive and make phone calls and also receive SMS on gadget via GSM module and also a wireless technology is implemented on the device which is useful to bound the device within a region of monitoring range. An alert will be triggered on binding gadget if device is moving out of monitoring range and this will helps you keep a virtual eye on child. Health monitoring system on gadget checking for parameters like heart beat/pulse rate and temperature is included and it can be monitored via parental app. Gadget also monitors whether it is plugged on hand or not using contact switch and it alert the parent as soon as it is unplugged. The proposed solution takes the location services provided by GSM module. It allows the parents to get their child's current-location via SMS. A portable device which will have a pressure switch. As soon as an assailant is about to attack the person or when the person senses any insecurity from a stranger, he/she can then put pressure on the device by squeezing or compressing it . It presents the technological enablers and requirement for building a complete end- to- end energy efficient safety system. A wearable vest integrated wireless charging ,designed to enhance the security of the children.

2.2 References:

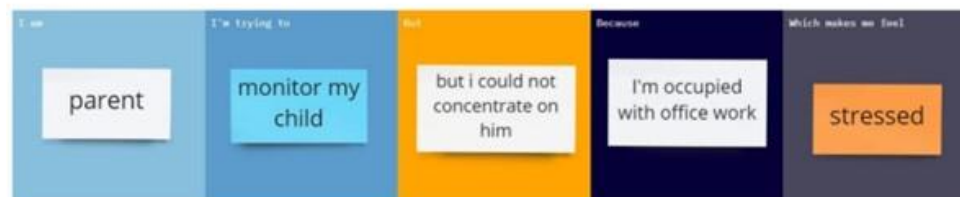
[1]. N. Manjunatha H.M Jayashree N. Komal K. Nayan (2020)

[2]. Dheeraj Sunehera, Pottabhatini Lax mi Priya(2016)

[3]. Prof. Sunil K Punjabi, Prof. Suvarna Chaure

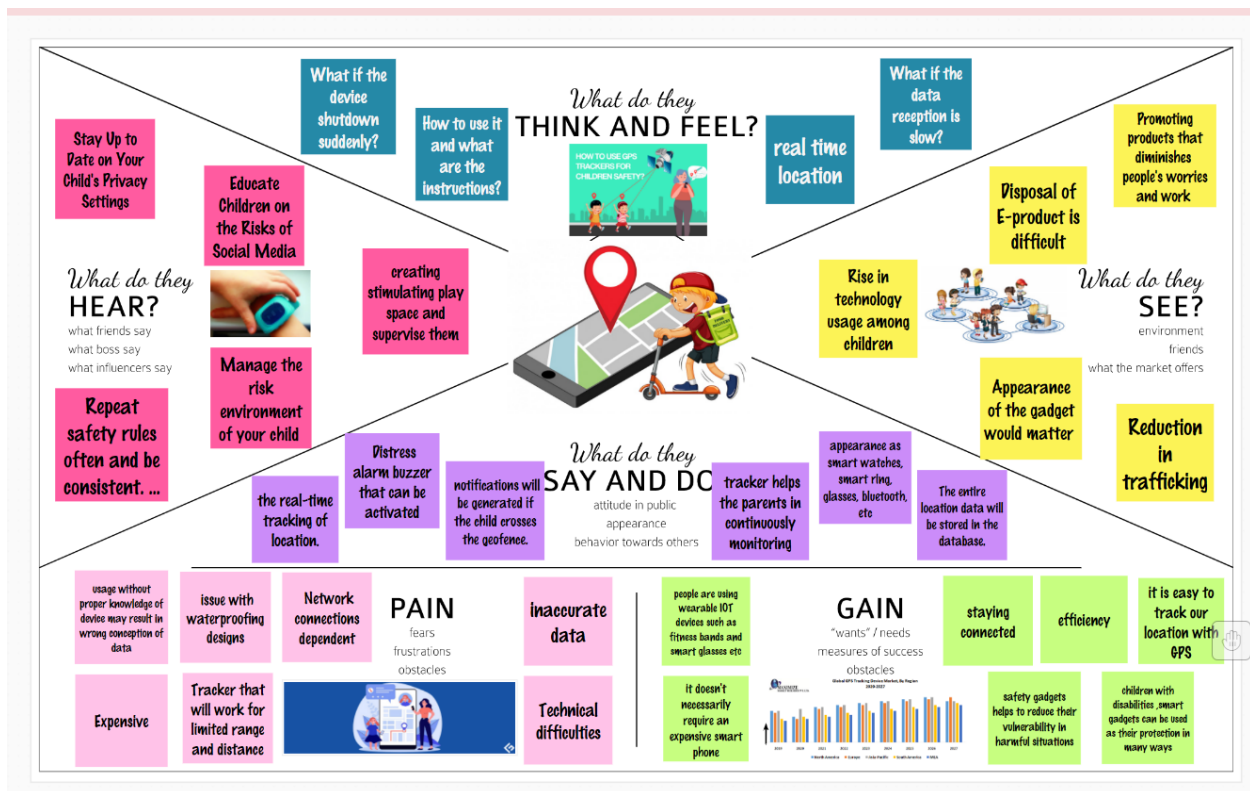
[4]. Mirjami Jutila , Esko Strommer, Mari Ervasti, Mika Hillukkala, Pekka Juhani Laitakari(2015)

2.3 Problem Statement Definition:

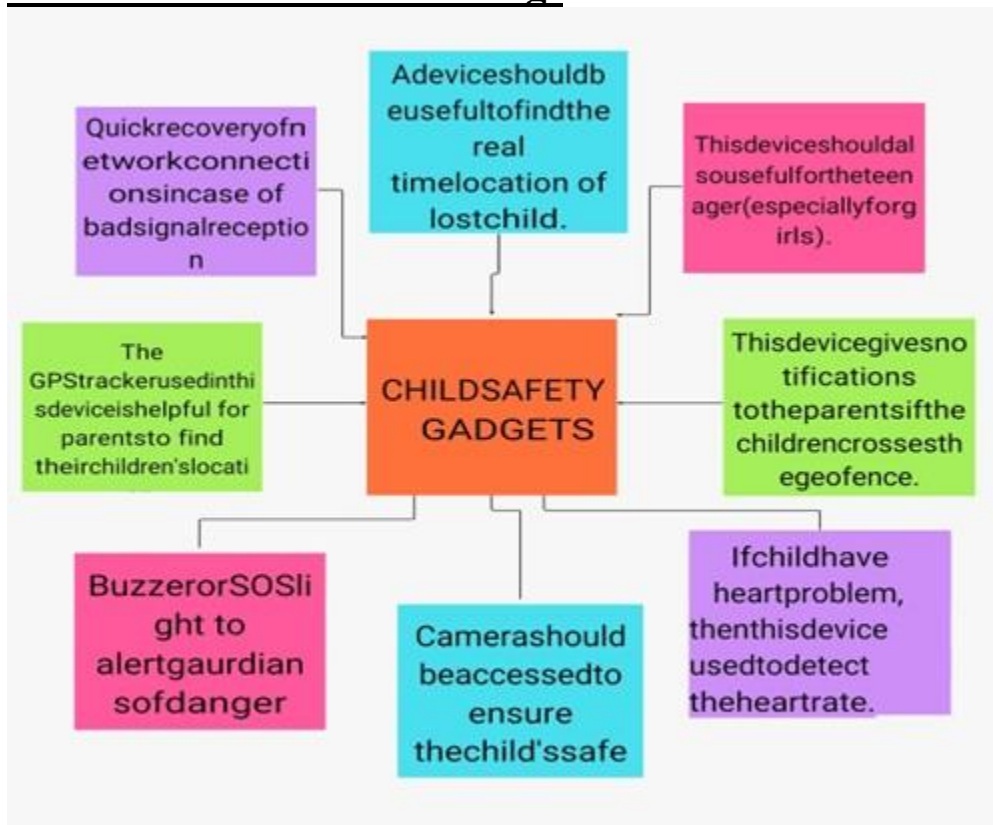


3. IDEATION & PROPOSED SOLUTION

3.1. Empathy Map Canvas:



3.2 Ideation & Brainstorming:



3.3 Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	<ul style="list-style-type: none">● Attacks on children have been on the rise at an unprecedented rate in recent years, with victims finding themselves in perilous situations with little chances of contacting their families.● The main goal of this project is to create a smart wearable device for children that uses advanced technology to ensure their safety. As a result, this strategy is perceived as sending an SMS from the children's wearable to their parents or guardians.
2.	Idea/ Solution description	<ul style="list-style-type: none">● Child tracker helps the parents in continuously monitoring the child's location. They can simply leave their children in school or parks and create a geo fence around the particular location.● By continuously checking the child's location notifications will be generated if the child crosses the geo fence. Notifications will be sent according to the child's location to their parents or caretakers. The entire location data will be stored in the database.
3.	Novelty / Uniqueness	<ul style="list-style-type: none">● The Novelty of the work is that the system automatically alerts by sending SMS to Parents/ Caretaker When Panic button is Pressed.
4.	Social Impact/ Customer Satisfaction	<ul style="list-style-type: none">● Information is sent to parents when the child is out of geo fence. Crime rate can be reduced. It is cost efficient and Real time tracking is possible.
5.	Business Model (Revenue Model)	<ul style="list-style-type: none">● The Proposed system can be used for the child security.● Selling the product to the parents.● Selling the product to the childcare centres.

6.	Scalability of the Solution	<ul style="list-style-type: none"> Parent could be able to track child using their separate android application provided for them and they locate and retrieve details anywhere and anytime. Location accuracy can be increased and the size of the device is small.
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3.4.Problem Solution fit:

Project Title: IOT Based Child Safety Gadgets Notifications and Monitoring

Project Design Phase-I - Solution Fit Template

Team ID: PNT2022TMD00975

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS Working and Non-working parents and guardians of kids who are below 10 years or above	6. CUSTOMER CONSTRAINTS CC Network Connection is the customer constrain so far and this can be overcome by our new advancement which allows the battery to charge itself with the help of body heat. If this is possible then there can be no customer constrain for our solution.	5. AVAILABLE SOLUTIONS AS * Smart IOT Device for Child Safety and Tracking * Wearable Safety Device for Children * Bracelet for Remote Surveillance of People Deprived of their Freedom * A Mobile Safety Monitoring System for Children	Explore AS, differentiate
	2. JOBS-TO-BE-DONE / PROBLEMS J&P The band child safety is efficient and low cost, the awareness of the child safety monitoring system can be spread among the society. The band child safety can be customized into different ornamental forms according to the requirement of the user example: ring, chain..etc. The device also acts as a health monitoring system by sensing the radiation from the human body.	9. PROBLEM ROOT CAUSE RC Recent news about child abuse and trafficking put parents in anxiety, fear and sacred and create an insecure atmosphere for children. In order to provide a secure environment for children this solution was developed.	7. BEHAVIOUR BE The device guarantees the child safety through constant monitoring via mobile phones, thus reducing the safety concern among the parents. It reduces the risk of the child during emergency situation as the device notifies immediately to the parent when unexpected events happens. Thus, the action is taken immediately and the child is protected from other consequences.	
Identify strong TR & EM	3. TRIGGERS TR The device can be sold in different ways like selling in stores, online as the device is small and low cost with customizable options.	10. YOUR SOLUTION SL The band child safety consists of a GPS sensor to track the live location and send the information to the synced mobile phone. The vibration sensor attached to invisible child safety band detects the accident. The device guarantees the child safety through constant monitoring via mobile phones, thus reducing the safety concern among the parents. It reduces the risk of the child during emergency situations as the device notifies immediately to the parent when unexpected events happen. Thus the action is taken immediately and the child is protected from further consequences.	8. CHANNELS of BEHAVIOUR CH The child safety band detects the accident The child safety band is considered to be invisible as the outer material of the band is similar to the skin color of the child, which is customized by the users. The child safety band is a user-friendly gadget as its functionalities can be controlled via the synced mobile phone like setting the distance range, buzzer indication. The band is also efficient and faster in communication as the device always synced with the mobile phone. The safety gadget which is bought online, if it is repaired, the servicing charge may be high. The safety gadget which is offline, can be repaired easily.	Identify strong TR & EM
	4. EMOTIONS: BEFORE / AFTER EM BEFORE: Insecure AFTER: Secure and confident USE: Monitoring, surveillance and security			

4. REQUIREMENT ANALYSIS:

4.1Functional Requirements:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	<ul style="list-style-type: none"> • Registration through Form • Registration through Gmail • Registration through LinkedIN
FR-2	User Confirmation	<ul style="list-style-type: none"> • Confirmation via Email • Confirmation via OTP
FR-3	App installation	<ul style="list-style-type: none"> • Installation through link <p>Installation through play store</p>
FR-4	Settings geo fence	<ul style="list-style-type: none"> • Setting by user to find child location
FR-5	Detecting child location	<ul style="list-style-type: none"> • Detecting location via app • Detecting location via SMS
FR-6	User Interface	<ul style="list-style-type: none"> • User Login Form. • Admin Login Form.
FR-7	Database	<ul style="list-style-type: none"> • Stored in cloud for seamless connectivity.

		<ul style="list-style-type: none"> • Parents and kids link with the distance and the location values obtained from the mobile devices are stored here. • The values include parent id, kid id, distance, longitude, latitude etc.
FR-8	Server	<ul style="list-style-type: none"> • It connects the database and the frontend application. • The backend server has been implemented to run as a service and is deployed in an IBM cloud instance.
FR-9	GPS tracking	<ul style="list-style-type: none"> • The system is implemented with a GPS module, which acquires the location information of the user and stores it to the database.
FR-10	API	<ul style="list-style-type: none"> • The value collected is sent to the database using an API.
FR-11	React JS	<ul style="list-style-type: none"> • We are using react as a front end for ourproject• Node JS for the back end .

FR-12	GPS modules	<ul style="list-style-type: none"> • It receives data directly from satellites.
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FR-13	Battery Life	<ul style="list-style-type: none"> • If the child or parent forgets to charge the device for a whole day then also the device will work. That's why we aim to make this device last the whole day with one charge. • It should be long-lasting.
FR-14	Location History	<ul style="list-style-type: none"> • The location history will help to track the child's activity. Location history will be there for 30 days. • For example if the child gets missing, with the help of location history they can track down their child's activity and also can find their children.

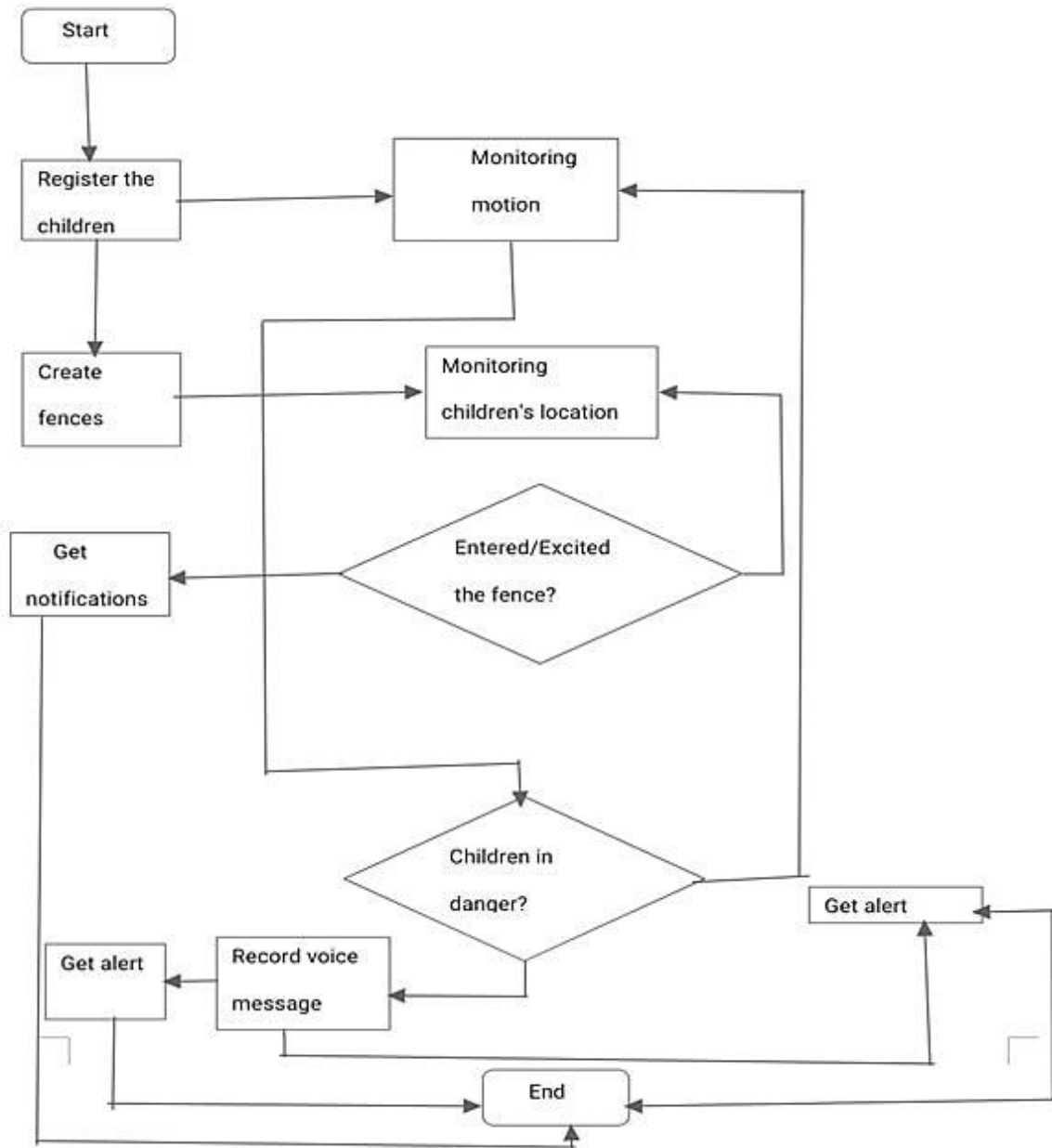
4.2. Non-Functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	<ul style="list-style-type: none"> • Device have GSM can help to inform the parents or relatives about the current situations of the child by deliver the message immediately to save the child.

NFR-2	Security	<ul style="list-style-type: none"> • Make children parents more assure about their kid's security, we have a feature in our device called Geo-Fence. • Whenever your child crosses that specific area, you will get an instant notification on your phone.
NFR-3	Reliability	<ul style="list-style-type: none"> • Portable • Easy to use • Flexibility• Compatible• Real time Tracking
NFR-4	Performance	<ul style="list-style-type: none"> • Create a Child tracker which helps the parents with continuously monitoring the child's location. • The notification will be sent according to the child's location to their parents or caretakers. • Crime rates can be reduced. • The entire location data will be stored in the database.
NFR-5	Availability	<ul style="list-style-type: none"> • Track your child even in a crowd• Get travel details of kids at any time • Know the current location
NFR-6	Scalability	<ul style="list-style-type: none"> • Gadget ensures the safety and tracking of the children. <p>Location accuracy can be increased and the size of the device is small. Parents need not worry about their children.</p>

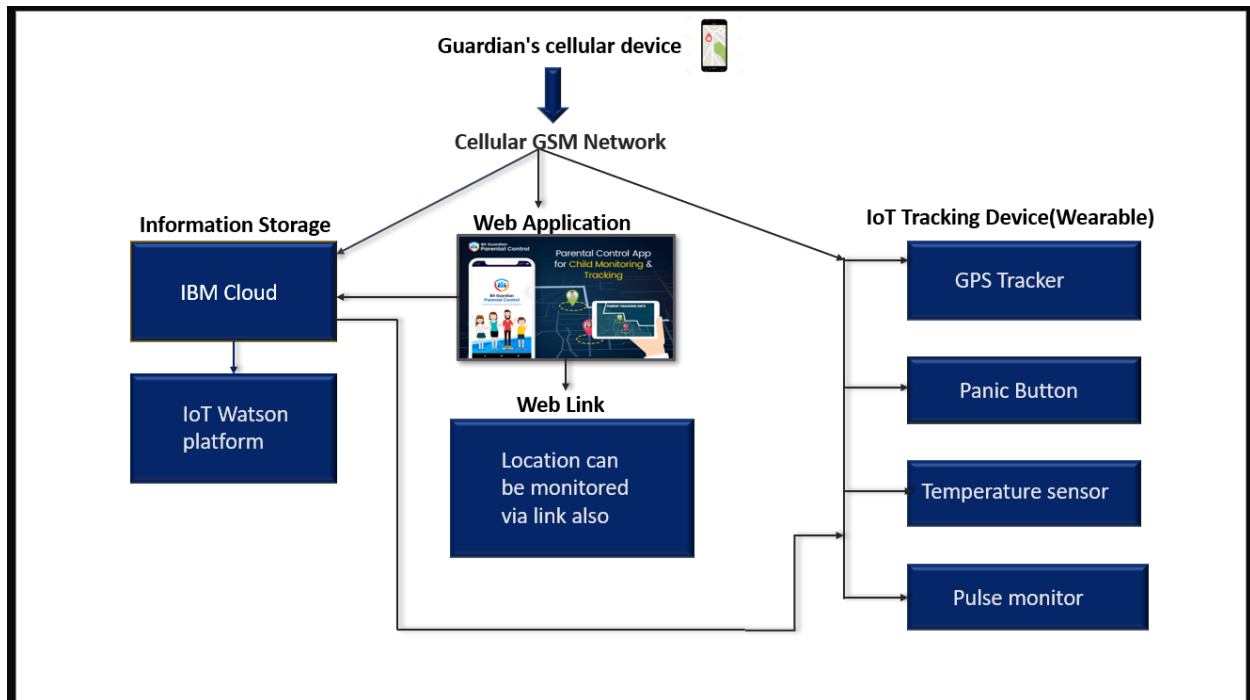
5. Project Design:

5.1.Data flow Diagrams:



5.2.Solution & Technical Architecture:

SOLUTION ARCHITECTURE:



TECHNICAL ARCHITECTURE:

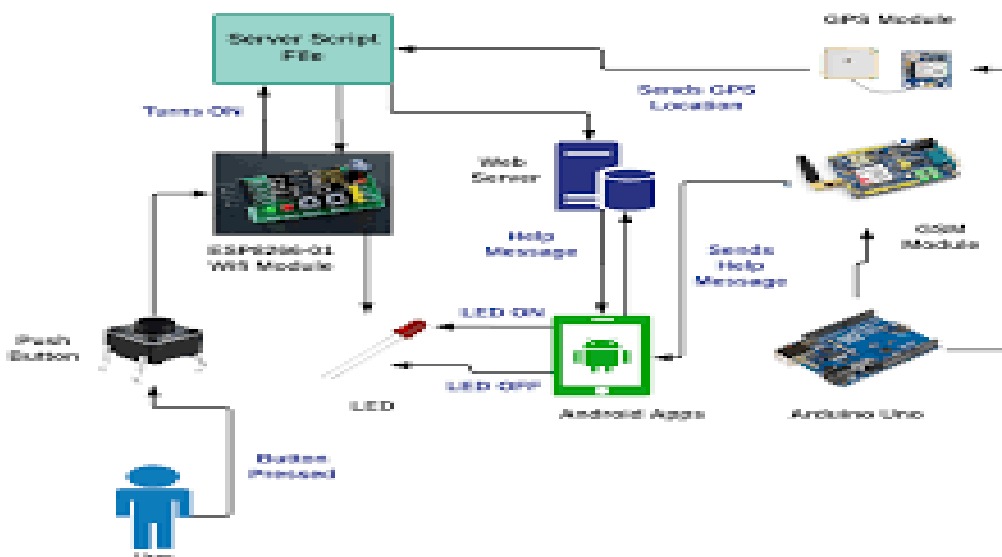


Table 1- Components and Technologies:

S.no	Components	Description	Technology
1	User Interface	Mobile Application	HTML, CSS, JavaScript
2	Application Logic-1	Logic for a process in the application	Java
3	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5	Database	Data Type, Configurations.	MySQL
6	Cloud Database	Database Service on Cloud	IBM Cloudant
7	File Storage	File storage requirements	IBM Block Storage
8	External API	Purpose of External API used in the application	Aadhar API, etc
9	Infrastructure (Server/Cloud)	Application Deployment on Local System / Cloud Local Server Configuration	Cloud Foundry

Table 2- Application Characteristics:

S.No	Components	Description	Technology
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1	Open-Source Frameworks	Open stack, Github.	Internet hosting service for software development and version control using Github.
2	Security Implementations	Web Application Firewall	AWS WAF,WAF,cloud fare.
3	Scalable Architecture	By building articles andauthors into a single query, the volume of queries can be reduced	IBM SQL.
4	Availability	The load balancer intelligently routes clientrequests to the right server,in a manner that maximizes performanceand capacity utilization.	Web server, Loadbalancer

5.3.User Stories:

User Type	Functional Requirement(Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application byentering my email, password, and confirming my password.	I can access my account /dashboard	High	Sprint-1

		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail		Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password		High	Sprint-1
	Dashboard					
Customer (Web user)	Login		As I enter, I can see the working of the application and scan for the glitches and monitor the operation and check if all the users are authorized.			
Customer Care Executive	Login					

Administrator	Login		Maintaining and making sure the database containing the locations are secure and accurate and update constantly			
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6.PROJECT PLANNING & SCHEDULING:

6.1.Sprint Planning & Estimation:

TITLE	DESCRIPTION	DATE
Literature Survey& Information Gathering	A literature review is a comprehensive summary of previous researches on the topic. The literature review surveys scholarly articles, books, and other sources relevant to a particular area of research.	1 September 2022
Prepare Empathy Map	An empathy map is a collaborative tool teams can use to gain a deeper insight into their customers. It helps us to understand the customers' pain, gain and difficulties from their point of view.	7 September 2022
Ideation- Brainstorming	Brainstorming is a group problem-solving method that helped us to gather and organize various ideas and thoughts from team members.	16 September 2022

Define Problem statement	The Customer Problem Statement helps us to focus on what matters to create experiences people will love. A well-articulated customer problem statement allowed us to find the ideal solution for the challenges customers face.	19 September 2022
Problem Solution Fit	It helped us understand and analyse all the thoughts of our customer, their choice of options, problems, root cause, behaviour and emotions.	14 October 2022.
Proposed solution	It helped us analyse and examine our solution more in the grounds of uniqueness, social impact, business model, scalability etc.	19 October 2022.
Solution Architecture	Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. It helped us understand the features and components used to complete the project.	27 October 2022.
Customer journey map	It helped to analyse the various steps, interactions, goals and motivation, positives, negatives and opportunities.	15 October 2022
Solution requirements	It briefs about functional and non-functional requirements. It involves the various steps in the entire process. It also specifies features usability, security, reliability, performance, availability and scalability.	12 October 2022

Technology stack	A tech stack is the combination of technologies a company uses to build and run an application or project. It helps us analyse and understand various technologies that needs to be implemented in the project.	13 October 2022
Data flow	A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.	07 October 2022
Sprint Delivery plan	Sprint Planning is an event in scrum that defines what can be delivered in the upcoming sprint and how that work will be achieved. It helps us to organise and complete the work effectively and efficiently.	20 October 2022
Prepare milestone and activity list	Helps us understand and evaluate our progress and accuracy so far.	21 October 2022
Project Development - Delivery of Sprint	Develop and submit the developed code by testing it.	11 November 2022

6.2.Sprint Delivery Schedule:

Sprint	Functional Requirement(Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2	High	ANJALI K
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	DHARSHINI K M
Sprint-1		USN-3	As a user, I can register for the application through Facebook	2	Low	DIVYAVARSHINI K K
Sprint-1		USN-4	As a user, I can register for the application through Gmail	2	Medium	ABIRAMI S
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password	1	High	DEEPALAKSHMI M
Sprint-1	Dashboard	USN-6	As a user, I can log into the application by entering email & password and access all the resources and services available	2	High	ANJALI K
Sprint-2	Login	USN-1	As a user, I log into the application and enter the email address and password for verification.	3	High	DHARSHINI K M




Sprint-2	Dashboard	USN-2	I receive all the information about the coordinates from the child safety API. Updates of the location are maintained consistently.	2	Medium	DIVYAVARSHINI K K
Sprint-3	Login	USN-1	As a SOS controller, I deliver distress notifications to the app user.	3	High	ABIRAMI S
Sprint-3	Dashboard	USN-2	Distress message may contain brief information about the situation with pre-stored message options or could be newly generated	2	Medium	DEEPALAKSHMI M
Sprint-4	Login	USN-1	As an administrator, I ensure that all departments work co-ordinated and ensure the accuracy and efficiency.	3	High	ANJALI K

Project Tracker, Velocity & Burn down Chart: (4 Marks)

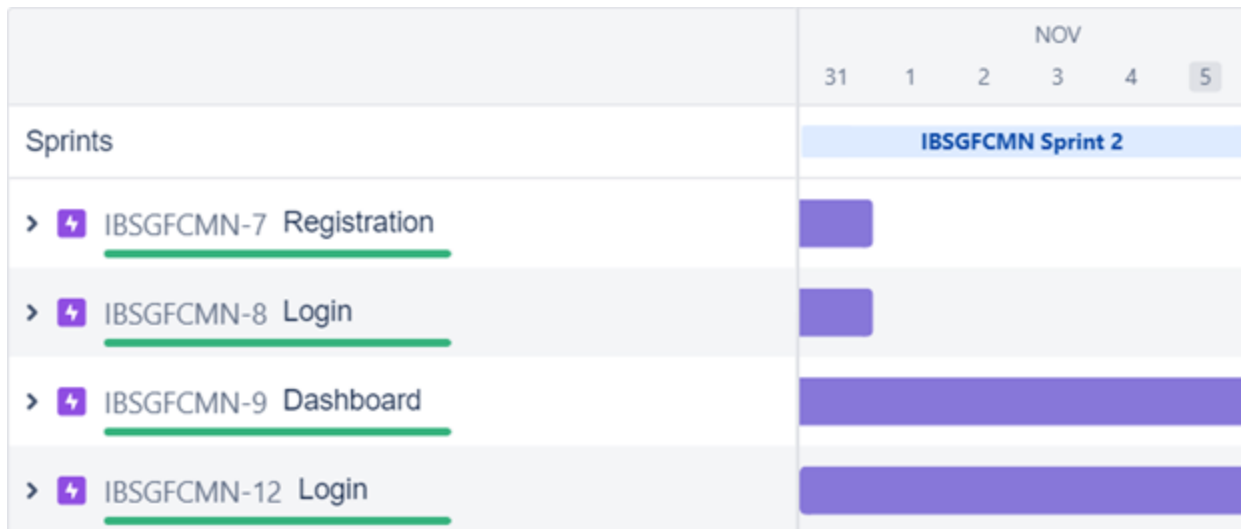
Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov2022	19 Nov 2022	20	19 Nov 2022

6.3.Reports from JIRA:

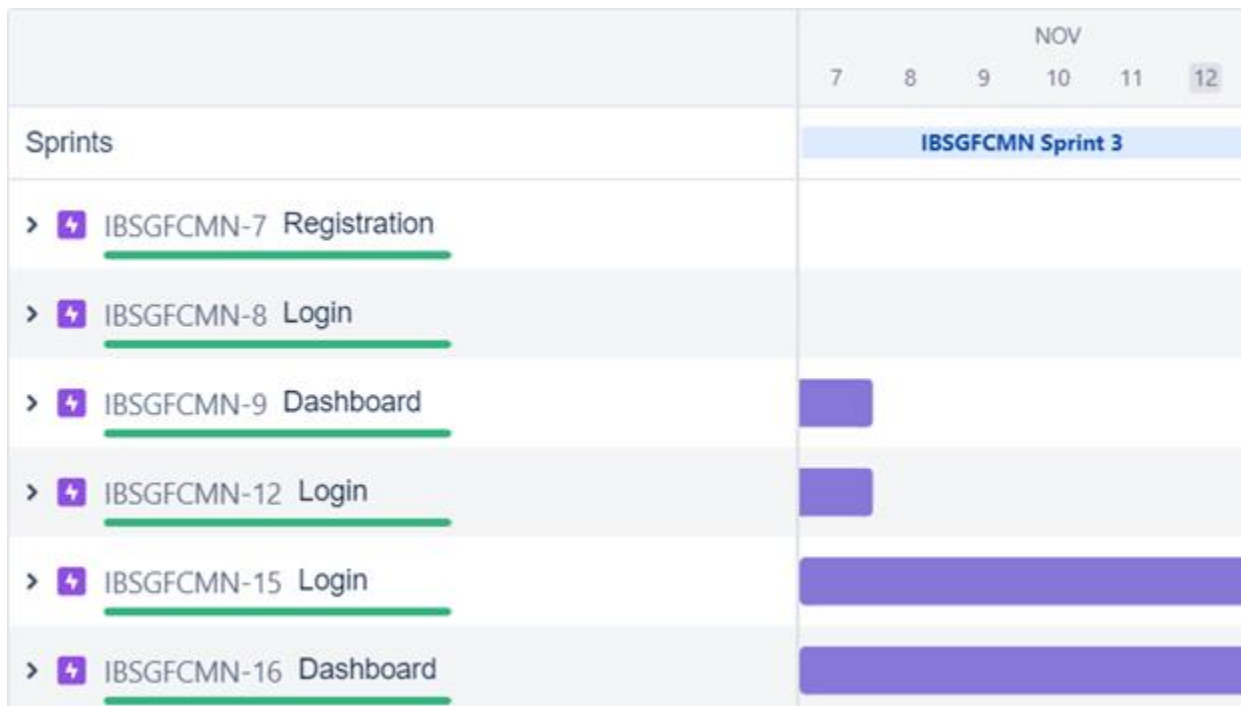
Sprint 1:

	OCT
	24 25 26 27 28 29
Sprints	IBSGFCMN Sprint 1
>  IBSGFCMN-7 Registration	
>  IBSGFCMN-8 Login	
>  IBSGFCMN-9 Dashboard	

Sprint 2:



Sprint 3:

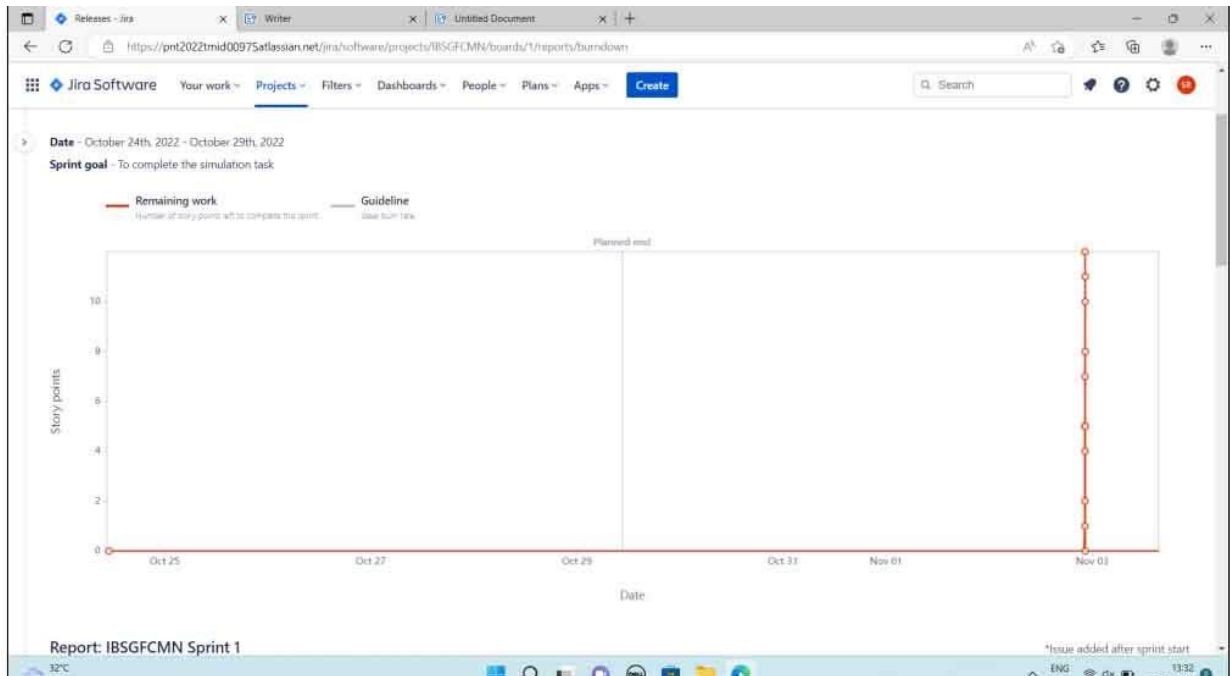


Sprint 4:

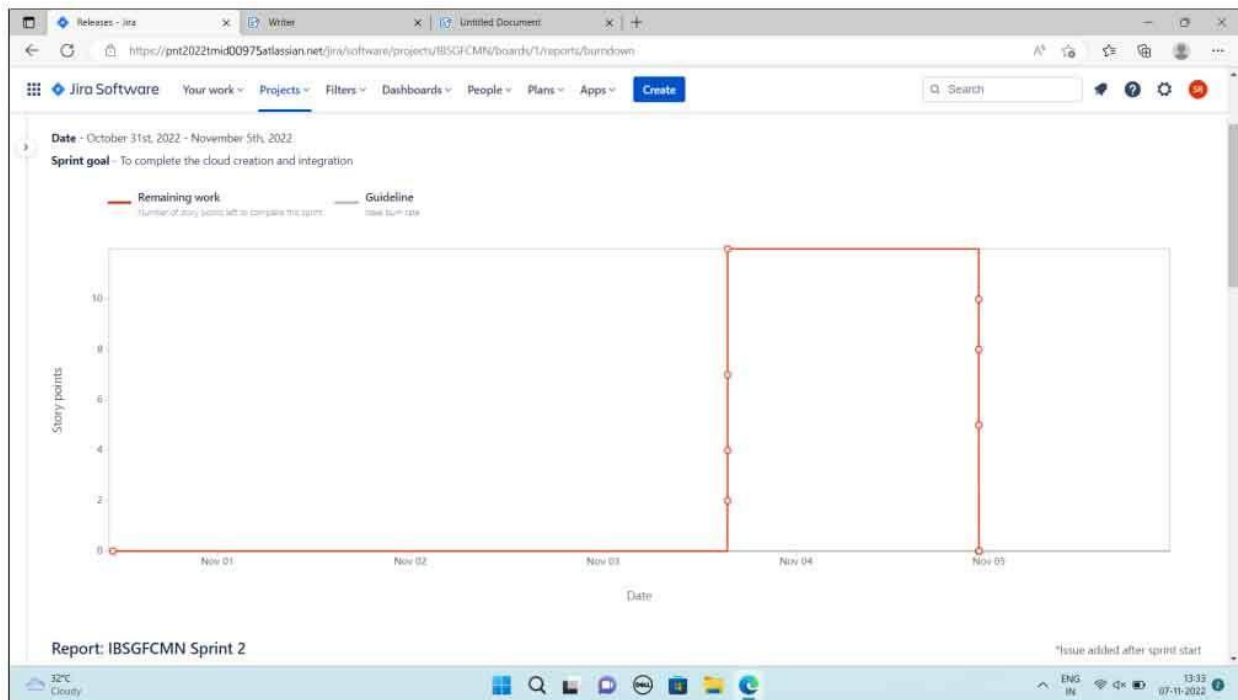
	NOV
Sprints	IBSG...
> ⚡ IBSGFCMN-7 Registration	
> ⚡ IBSGFCMN-8 Login	
> ⚡ IBSGFCMN-9 Dashboard	
> ⚡ IBSGFCMN-12 Login	
> ⚡ IBSGFCMN-15 Login	
> ⚡ IBSGFCMN-16 Dashboard	
⚡ IBSGFCMN-17 Login	
> ⚡ IBSGFCMN-19 Login	

Burndown chart:

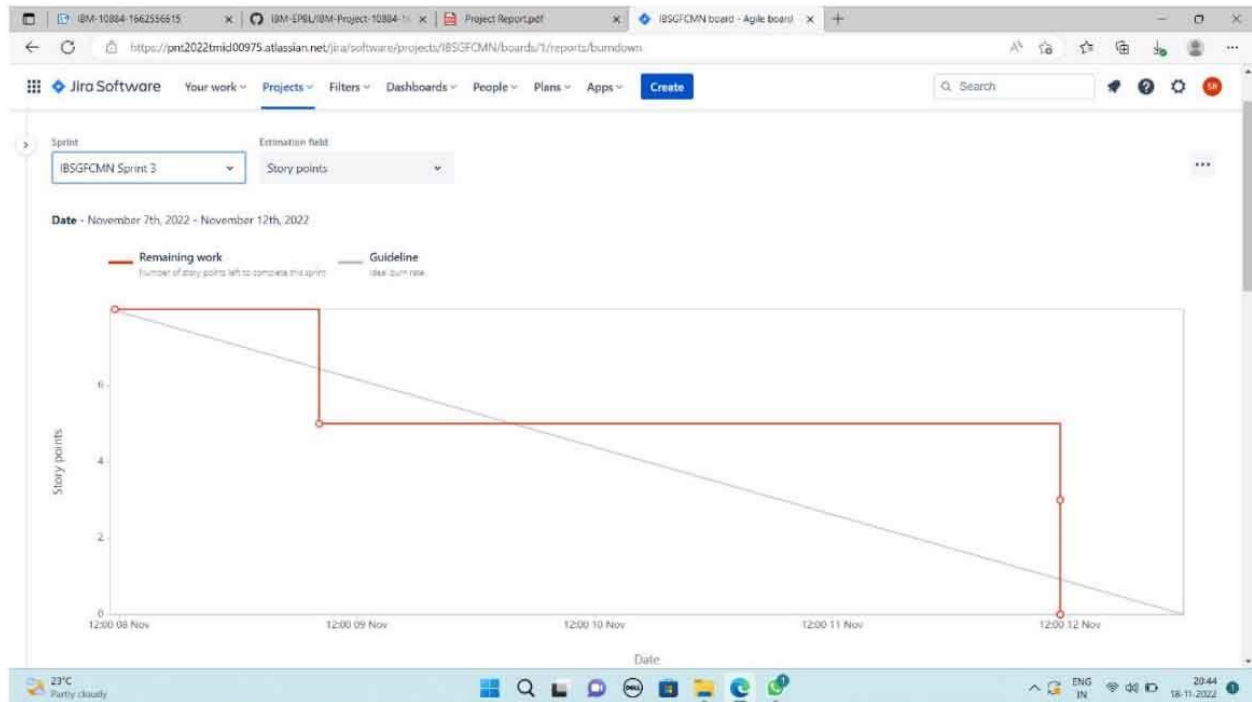
Sprint 1:



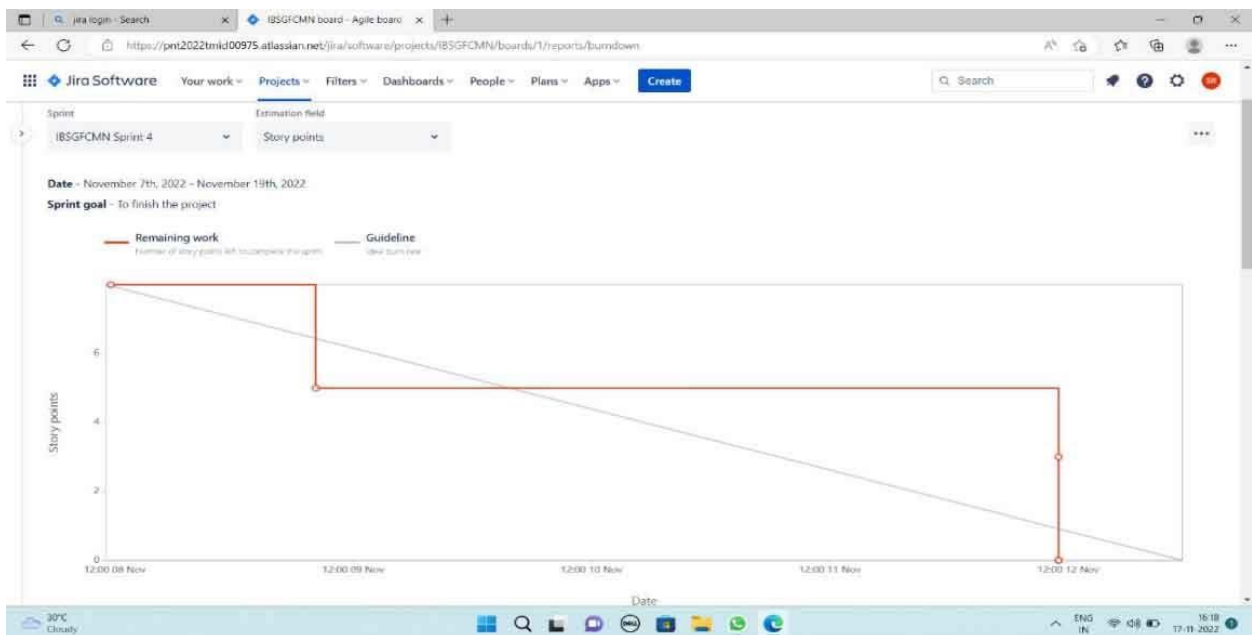
Sprint 2:



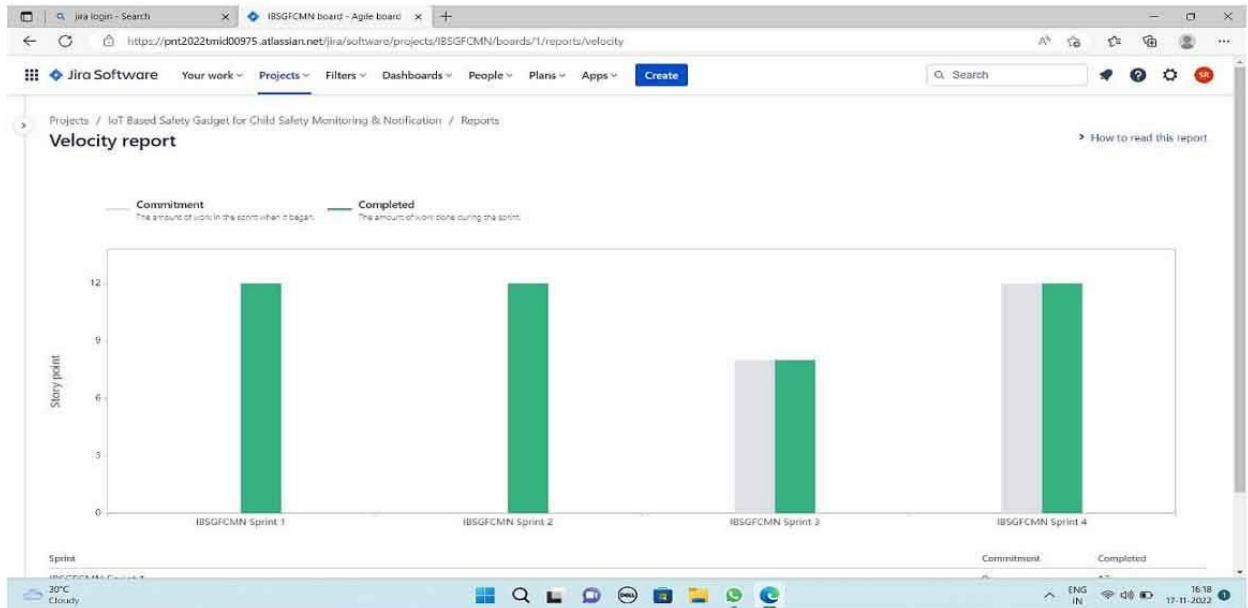
Sprint 3:



Sprint 4:



Velocity report:



7.CODING & SOLUTIONING:

7.1.Feature 1:

- A GPS tracker so you can see where your child is at all times and an SOS button that your child can press to send an emergency alert to you.

7.2.Feature 2:



It should also have a two-way communication system so you can talk to your child and they can talk to you.

8. TEST CASES:

TEST SCENARIOS:

1. Verify python code is run without error.
2. Verify the login the cloud services.
3. Verify create a device in the IBM Watson IoT platform and get the device credentials.
4. Verify the events is shown in the card.
5. Verify the events is stored in the database,
6. Verify to create a node-red services.
7. To create a web UI to interact with user.
8. To send SMS to the particular child's guardian.
9. Verify user is able to log into app with valid credentials.
10. Verify it show the location in app

8.1 Test cases:

Sprint	Test case ID	Feature Type	Component	Test Scenario	Pre-Requisite	Steps To Execute	Test Data	Expected Result	Actual Result	Status	TC for Automation(Y/N)	BUG ID	Executed By
Sprint-1	PythonCode_TC_001	Code	Python3.7.4	Verify python code is run without error	Software	1.Download the python version3.7.4 2.Type the program and save it 3.Verify it is run continuously	<pre>import math import winreg,os,device import time myConfig = { "identity": { "email id": "Ajali@PNTI2020@gmail.com" } }</pre>	2022-11-16 15:17:30.511 winreg.dll,device,client,DeviceClient INFO Connected successfully: 6-4399acNODE1501 Data published to IBM IoT platform: { "name": "Ajali", "lat": 18.78, "lon": 72.83 }	Working as expected	Pass	YES	NIL	Deepa
Sprint-2	IBMCloud_TC_002	Functional	IBM Cloud Services	Verify the login the Cloud Services	IBM Cloud Services	1.Login in cloud.ibm.com 2.Obtain promocode in ICT	email id: Ajali@PNTI2020@gmail.com	Successfully created the IBM account	Working as expected	Pass	YES	NIL	Aajali
Sprint-2	IBM Watson IoT Platform_TC_003	Functional	IBM Cloud Services	Verify create a device in the IBM Watson IoT platform and get the device credentials.	IBM Cloud Services	1.In IBM Cloud Service go to catalog 2.To create an Internet of things platform 3.Launch the IBM Watson IoT Platform 4.Login the Platform by clicking organization ID 5.Create a device & configure the	Create a device & integrate with code	{ "name": "Deepa", "lat": 18.78, "lon": 72.83 }	Working as expected	Pass	YES	NIL	Dharshini
Sprint-2	Board_TC_004	Non-Functional	IBM Cloud Services	Verify the events is shown in the cant	IBM Cloud Services	1.Go to IBM Watson IoT Platform 2.Create the board 3.Create name board 4.Create latitude board	BOARD: LOCATION	Test: Gauge: Latitude Gauge: Longitude	Working as expected	Pass	YES	NIL	Ahrami
Sprint-2	CloudantDB_TC_004	Dataset	IBM Cloud Services	Verify the events is stored in the database	IBM Cloud Services	1.Go to IBM Cloud Services 2.In resources list, click on cloudant 3.In database, create a document to	Document: tracker	Successfully created the Database	Working as expected	Pass	NO	NIL	Divya
Sprint-3	NodeRedService_TC_005	Functional	IBM Cloud Services	Verify to create a node-red services	IBM Cloud Services	1.In IBM Cloud Service go to catalog 2.To create a NODE-RED app 3. Deploy the app 4. Visit the app URL 5. In node-red, we need to connect	Using greyscale node, we create in form of circle to check whether the child in that area or not		Working as expected	Pass	NO	NIL	Dharshini
Sprint-3	WebUI_TC_006	Functional	Node-Red Service	To create a web UI to interact with user	Node-Red Service	1.Go to dashboard 2.Open a link UI dashboard 5.Display the location 4.pop up SMS if person not in area	Show the pop up SMS in UI		Working as expected	Pass	NO	NIL	Deepa
Sprint-4	FastSMS Service_TC_007	Functional	FastSMS Service	To send SMS in the particular child's guardian	Software	1.Login FastSMS Service 2.GO to Dev API 3.Sending SMS using HTTP Package	Show the pop up SMS	Alert: Deepa is not in that area	Working as expected	Pass	NO	NIL	Aajali
Sprint-4	MobileApp_TC_008	Functional	MIT APP Inventor	Verify user is able to log into app with Valid credentials	Software	1.Login MIT APP Inventor 2.Design Frontend & Backend	Username: Deepa Password:****	User should navigate to next screen	Working as expected	Pass	YES	NIL	Divya
Sprint-4	MobileApp_TC_009	Functional	MIT APP Inventor	Verify it show the location in app	Software	1.Login MIT APP Inventor 2.Design Frontend & Backend 3.Connect to node-red	Name: Deepa Latitude: ***** Longitude: *****	The App shows the location value	Working as expected	Pass	NO	NIL	Deepa

8.2. User Acceptance Testing :

1. Purpose of Document:

The purpose of this document is to briefly explain the test coverage and open issues of the project[IOT based safety gadget for child monitoring and notificatSion] at the time of the release to User Acceptance Testing.

2.Detect Analysis :

This report shows the number of resolved or closed bugs at each severity level, and how they were resolved.

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	5	3	2	0	10
Duplicate	0	0	0	1	1
External	2	0	0	1	3
Fixed	6	2	0	0	8
Not Reproduced	0	1	1	0	2
Skipped	0	0	0	0	0
Won't Fix	0	0	0	0	0
Totals	13	6	3	2	24

3. Test case analysis:

This report shows the number of test cases that have passed, failed and untested.

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	1	0	0	1
Client Application	2	0	0	2
Security	1	0	0	1
Outsource Shipping	1	0	0	1
Exception Reporting	1	0	0	1
Final Report Output	2	0	0	2
Version Control	2	0	0	2

9. Results:

9.1. Performance Testing:

NFT - Risk Assessment						
S.No	Project Name	Scope/feature	Functional Changes	Hardware Changes	Software Changes	Risk Score
1	IoT Based Safety Gadget for Child Safety Monitoring & Notification	Existing	No Changes	No Changes	No Changes	GREEN
Justification						
As we have completed the project successfully						

NFT - Detailed Test Plan		
S.No	Project Overview	NFT Test approach
1	Track the location & send an alert to the particular's person	Load Test

End Of Test Report				
S.No	Project Overview	NFT Test approach	Test Outcome	Approvals/SignOff
1.	We need to Track the location of particular child suppose, if the child crosses the geofence. It is send SMS to that parents/guardian then we need to track the location.	Load Test	Response time meets the actual Result.	Project's Mentors

1

NFT Test approach	
Load Test	
Scenario Name	Load Test - Location Tracker SAMPLE PROJECT
Scenario Type	Load Test - Duration 30 minutes
Scenario Objectives	To Stimulate Python Code(Location Details) and to monitor the performance of Location Tracker SAMPLE PROJECT
Steps	1. We have integrate IBM Watson IoT Platform in order to get this Location details from python program. 2. We also integrate fast SMS service in order to send an alert to guardian or parent
Entry Criteria	Test data is set-up. All the Components(software & hardware) is set-up. It is completed successfully.
Exit Criteria	Response time meets the actual Result. Test completion report is agreed upon by mentors.

10.Advantages & Disadvantages:

Advantages:

- They can help to prevent accidents, they can provide peace of mind for parents, and they can help children to stay safe.
- Quick recovery of network connections in case of bad signal reception.
- Real time location tracking.

- Storage of co-ordinates in the cloud for later usage.

Disadvantages:

- Network dependent.
- Geo fence consisting of limited range.
- Occasional inaccurate data.

11.Conclusion:

A child safety gadget is a device that is designed to help keep children safe. It is designed to help keep children safe in case of an emergency. It is important to choose one that is durable and easy to use. It is necessary to make sure that it is easy to use and that it is comfortable for the child to wear. child safety gadgets can help prevent children from getting lost or from being abducted. The cloud storage of coordinates of the child can be of good use in case the child is lost. This gadget helps Monitoring children in a more efficient and does not take much time or effort. Added features helps the application in two-way communication and pre-stored emergency messages for quick transmission of messages. This gadget reduces half of parent's worry and effort when it comes to monitoring the child.

12. Future Scope:

A child safety gadget is a device that is designed to help keep children safe. There are many different types of child safety gadgets available, including devices that help to prevent accidents, those that help to keep children from getting lost, and those that help to keep them from being harmed by strangers.

The Proposed system can be used for the child security. The product can be sold directly to the parents and childcare centres. Worry of the parents increased crime rates in the country can be brought down a notch with this gadget.

With the advancement of technology, there are many new and innovative products being developed that can help keep children safe. Some of the newer products include GPS tracking devices, wireless camera systems, and even biometric devices that can identify a child by their unique physical characteristics. With the continued development of these and other child safety products, the future may always be benefitted by the child safety gadgets.

13.APPENDIX:

Source code:

1. REGISTRATION:

HTML:

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta http-equiv="X-UA-Compatible" content="IE=edge">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <link rel="stylesheet" href="/css/login.css">

  <title>Sign Up</title>

  <script>

    if (window.location.hostname !== "localhost")

      { if (location.protocol

        !== "https:") {

          location.replace(

            `https:${location.hre

              f.substring(

                location.p

                  rotocol.length

                    )}`

              )

            }

          }

  </script>

  <script src="/localforage.js"></script>

</head>

<body>

  <div class="wrapper">

    <div class="loginContainer">
```

```

<span>Login to Continue</span>
<div class="traditionalLoginContainer">
  <form class="signupForm" action="/" method="post">

    <input type="text" name="firstName" placeholder="First Name" id="firstName">
    <input type="text" name="lastName" placeholder="Last Name" id="lastName">
    <input type="text" name="username" placeholder="User Name" id="username">

    <input type="email" name="email" placeholder="Email" id="email">
    <input type="password" name="password" placeholder="Password"
    id="password">
    <input class="loginButton" type="submit" value="Sign Up">

  </form>
</div>
<div class="loginWithFireContainer">

  <button type="button" class="fire" title="Login with SAFETY"
id="fire">Login withSAFETY</button>

</div>

<a class="hyperLink" href="/login">Already have an Account?Login ↗</a>

</div>
</div>
<script>

  // Necessary for Fire OAuth to Function

  cost fireBroadcastingChannel = new
  BroadcastChannel('fireOAuthChannel');

  fireBroadcastingChannel.addEventListener('message'

, async event => {

    let data = event.data

    /**

*@typedef {Object<string, any>}Data

```

```

*@property {boolean} success - Whether the login was successful
*@property {string} token - The data returned from the login i.e. Fire Token
*/

// data.token is the message sent from the fireOAuthChannel after verification
// data.success is a boolean that indicates whether the verification was successful

// data.token is the fire token
// What to do with the Fire Token?

// * Fire Token is an unique token which uniquely identifies the user who
authorized your login attempt with Fire

// * You can use this token ONLY ONCE as it will be destroyed after the first use
// 1. Send the fire token to the Fire Server to verify the user

// - You can do that client sided or server sided
// - You need to send a POST Request to the Fire Server with the fire token

// at the URL: http://localhost:3003/api/tokens/verify
// - The Fire Server will verify the fire token and return response

// - If the verification was successful - CODE (200), the Fire Server
will return a response with the user's data

// - If the verification was unsuccessful - CODE (400) or CODE
(401), the Fire Server will return a response with an error 'message'

// - You can use the data returned from the Fire Server to create a new user in your
database

// This example will send the token to Fire Servers and console.log
the response console.log("%c" + `Fire Token: ${data.token}`,
`colour: #f1c40f; font-weight: bold;`);

const response = await fetch('https://fire.adaptable.app/api/tokens/verify',
{method:
'POST',
headers: {}
})

function popup window url, title, w, h)headers: {
'Content-Type': 'application/json'
}

```

```

},
body:
JSON.stringify({token: data.token
    })
})

// get the response
const responseData = await response.json()

//

console.log the
response
console.log(responseData)

await localforage.setItem('userData', { ...responseData, isFire: true })
// Adding the user data to the user Database

let database = await
localforage.getItem("userDatabase")
if (database == null) {
    database = []
}
database.push(responseData)
await localforage.setItem("userDatabase", database)

//

redirect to the home page
window.location.href

{
    left: (screen.width/2)-(w/2);

```

```

vary top =
(screen.height/2)-(h/2);

    return window.open(url, title, 'toolbar=no, location=no,
directories=no, status=no, menubar=no, scrollbars=no, resizable=no,
copy history=no, width='+w+', height='+h+', top='+top+', left='+left);
    }

    document.getElementById("fire").addEventListener("click", function()

        {popupwindow("/fireoauth.html","Fire OAuth", 450, 600)
        })
</script>
<script>

    // this.Website's Scripts / App Logic

    document.querySelector(".signupForm").addEventListener("submit"
, async (e) => {

        e.preventDefault()

letfirstName=document.getElementById("firstNam
e").value

letlastName=document.getElementById("username
").value

let email = document.getElementById("email").value
letpassword=document.getElementById("password
").valuelet

profilePic=https://avatars.dicebear.com/api/adventur
er-

neutral/${firstName}${lastName}.svg?backgroundColor=variant03`

```

```

let data = { firstName,lastName, username,
email,password, profilePic }await
localforage.setItem("userData", data)

let database= await
localforage.getItem("userDatabase
")if (database == null) {
    database = []
}
database.push(data)

await
localforage.setItem("userDatab
ase", database)

window.location.href = "/"

})

</script>
</body>
</html>

```

CONFIRMATION EMAIL:

INDEX:

```

<!DOCTYPE html>

<html lang="en" style="height: 100%; margin: 0;">

    <head>

        <meta charset="UTF-8" />

        <meta name="description" content="The Home Page after Logged In"/>

        <meta name="viewport" content="width=device-width, initial-scale=1.0" />

        <title>IOT Based Safety Gadget for Child Safety Monitoring and
Notification</title>

```

```

<scriptsrc="./local
forage.js"></script
>

<script>

        if (window.location.hostname !== "localhost")

                { if

(location.protocol!="https:")location.replace(

`https:${location.href.substring( location.protocol.length

                                )}`

                                )

                }

        }

async function check()
{let data=localforage.getItem("userData")if (data == null) {
        window.location.href = "/login"

        }

}

check()

</script>

</head>

<body

        style="

                height: 100%;

                margin: 0;

                font-weight: 300;

font-family: -apple-system, BlinkMacSystemFont, 'Segoe UI',

Roboto,Oxygen, Ubuntu, Cantwell, 'Open Sans', 'Helvetica Neue', sans-

serif;"

```

```

> <div
class="wrapper" style="
height: 90%;display: flex
flex-direction: column;

align-items: Center; justify-content: Center;

text-align: Center;
"> <div
class="details" style="
display: flex;

flex-direction: column;align-items: Center; gap: 20px;
padding: 1rem; border-radius: 5px;
box-shadow: 0 0 8px 0px #44444444;

max-width: 80%;

"> <h1 class="name" style="margin: 0"></h1><div
class="imageContainer"
style="padding: 10px; height: 10rem; width: 10rem"
>

<img class="image" alt="profile picture" />

</div>

<h2 class="email" style="margin: 0"></h2>

<astyle="text-decoration: none;text-align: center;font-size: 1.2rem;color: #0070f3;font-weight: 400;"
href="./dashboard">Go to Dashboard ↗</a>

</div>
</div>

<script>
  async function main() { let name = document.querySelector(".name") let
image=document.querySelector(".image")
let

email=document.querySelector("email")

```



```

let userData= await
localforage.getItem("userData")if(userData
== null) {

    window.location.href = "/login"

}

name.innerHTML = `Welcome${userData.firstName}
${userData.lastName}`
image.src =
userData.profilePicemail.innerHTML = `Your email is: <a
style="text-decoration: none;color: #0072B5;"
href="mailto:${userData.email}">${userData.email}</a>`

}main()

</script>

</body>
</html>

```

LOCALFORAGE:

```

/*!

localForage -- Offline
Storage, Improved Version
1.10.0
https://localforage.github.io/

ocalForage

(c)2013-2017 Mozilla, Apache License 2.0

*/

!function(a)

{if("object"===typeof

exports&&"undefined"!==type of

module)module.exports=a(); else

```

```

if("function"==typeofdefine&&define.amd)

define([],a);

else{ var b;

    b="undefined"!=type of window?window:"undefined"!=type of
    global?global:"undefined"!=type of
    self?self:this,b.localforage=a()}}(function(){

return function

a(b,c,d){ function

e(g,h){ if(!c[g]){ if(!b[

g]){

vary i="function"==typeof

require&&require; if(!h&&i)return

i(g,!0);if(f)return f(g,!0);

    vary j=new Error("Cannot find module '"+g+"'");

    throwj.code="MODULE_NOT_FOUND",j} var

        k=c[g]={ exports:{} };

        b[g][0].call(k.exports,function(a){

            vary c=b[g][1][a];return

            e(c||a)},k,k.exports,a,b,c,d)}

        return c[g].exports}

for(var f="function"==typeof

require&&require,g=0;g<d.length;g++)

    e(d[g]); return

e}({ 1:[function(a,b,c){(function(a){ "u

se strict";

        function c(){k=!0;for(var a,b,c=l.length;c;){

```

```

        for(b=l,l=[],a=-
        1;++a<c;)b[a]();c=l.l
        ength}k=!1}

        function

        d(a){1!==l.push(a)||

        k||e()}var

e,f=a.MutationObserver||a.WebKitMutationObserver;

        if(f){var g=0,h=new
        f(c),i=a.document.createTextNode("");h.observe(i,{characterData:!0}),e=
        function(){i.data=g++g%2}}

        else if(a.setImmediate||void
0===a.MessageChannel)e="document"ina&&"onreadystatechange"in
a.document.createElement("script"?function(){var
b=a.document.createElement("script");b.onreadystatechange=function(){c(),b.
onreadystatechange=null,b.pa
rentNode.removeChild(b),b=null},a.document.documentElement.appendChild(b
)):function(){setTimeout(c,0)};else{var j=new
a.MessageChannel;j.port1.onmessage=c,e=function(){j.port2.postMessage(0)}
}var k,l=[];b.exports=d}).call(this,"undefined"!==type of
global?global:"undefined"!==type of self?self:"undefined"!==type of
window?window:{}),{ },{ },2:[function(a,b,c){"use strict";function
d(){ }function e(a){if("function"!==type of a)throw new TypeError("resolver
must be afunction");this.state=s,this.queue=[],this.outcome=void
0,a!==(d&&i(this,a))function f(a,b,c){this.promise=a,"function"===typeof
b&&(this.onFulfilled=b,this.callFulfilled=this.otherCallFulfilled),"function"===
typeof
c&&(this.onRejected=c,this.callRejected=this.otherCallRejected)}function
g(a,b,c){o(function(){var d;try{d=b(c)}catch(b){return
p.reject(a,b)}d===a?p.reject(a,new TypeError("Cannot resolve promise with
itself")):p.resolve(a,d)})}function h(a){var
b=a&&a.then;if(a&&("object"===typeof a||"function"===typeof
a)&&"function"===typeof b)return function(){b.apply(a,arguments)}}function
i(a,b){function c(b){f||(f=!0,p.reject(a,b))}function
d(b){f||(f=!0,p.resolve(a,b))}function e(){b(d,c)}var
f=!1,g=j(e);"error"===g.status&&c(g.value)}function j(a,b){var
c={ };try{c.value=a(b),c.status="success"}catch(a){c.status="error",c.value=a}
return c}function k(a){return ainstance of this?a:p.resolve(new
this(d),a)}function l(a){var b=new this(d);return p.reject(b,a)}function
m(a){function b(a,b){function

```

```

d(a){g[b]=a,++h!==(f=!0,p.resolve(j,g))}c.resolve(a).then(d,function(a){f||
(f=!0,p.reject(j,a))})}var c=this;if("[object
Array]"!==Object.prototype.toString.call(a))return this.reject(new
TypeError("must be an array"));var e=a.length,f=!1;if(!e)return
this.resolve([]);for(var g=new Array(e),h=0,i=-1,j=new
this(d);++i<e;b(a[i],i);return j}function n(a){function
b(a){c.resolve(a).then(function(a){f||(f=!0,p.resolve(h,a))},function(a){f||(f=!0,
p.reject(h,a))})}var c=this;if("[object
Array]"!==Object.prototype.toString.call(a))return this.reject(new
TypeError("must be an array"));var e=a.length,f=!1;if(!e)return
this.resolve([]);for(var g=-1,h=new this(d);++g<e;b(a[g]);return h}var
o=a(1),p={},q=["REJECTED"],r=["FULFILLED"],s=["PENDING"];b.exports
=e,e.prototype.catch=function(a){return
this.then(null,a)},e.prototype.then=function(a,b){if("function"!==type of
a&&this.state===r||"function"!==type of b&&this.state===q)return
this;var c=new
this.constructor(d);if(this.state!==s){g(c,this.state===r?a:b,this.outcome)}else
this.queue.push(new f(c,a,b));return
c},f.prototype.callFulfilled=function(a){p.resolve(this.promise,a)},f.prototype.
otherCallFulfilled=function(a){g( this.
promise,this.onFulfilled,a)},f.prototype.callRejected=function(a){p.reject(this.
promise,a)},f.prototype.oth
erCallRejected=function(a){g(this.promise,this.onRejected,a)},p.resolve=funct
ion(a,b){var c=j(h,b);if("error"===c.status)return p.reject(a,c.value);var
d=c.value;if(d)i(a,d);else{a.state=r,a.outcome=b;for(var e=-
1,f=a.queue.length;++e<f;a.queue[e].callFulfilled(b)}return
a},p.reject=function(a,b){a.state=q,a.outcome=b;for(var c=-
1,d=a.queue.length;++c<d;a.queue[c].callRejected(b);return
a},e.resolve=k,e.reject=l,e.all=m,e.race=n},{1:1},3:[function(a,b,c){(function
(b){"use strict";"function"!==type of
b.Promise&&(b.Promise=a(2))).call(this,"undefined"!==type of
global?global:"undefined"!==type of self?self:"undefined"!==type of
window?window:{})},{2:2}],4:[function(a,b,c){"use strict";function
d(a,b){if(!(a instanceof b))throw new TypeError("Cannot call a class as a
function")}function e(){try{if("undefined"!==type of indexedDB)return
indexedDB;if("undefined"!==Typeof webkitIndexedDB)return
webkitIndexedDB;if("undefined"!==type of mozIndexedDB)return
mozIndexedDB;if("undefined"!==type of OIndexedDB)return
OIndexedDB;if("undefined"!==type of msIndexedDB)return
msIndexedDB}catch(a){return}}function f(){try{if(!ua||ua.open)return!1;var
a="undefined"!==Typeof
.version,e||c){if(c){var f=a.db.version+1;f>a.version&&(a.version=f)}return!0}return!1}function
v(a){return new va(function(b,c){var d=new FileReader;d.onerror=c,d.onloadend=function(c){var
d=btoa(c.target.result||"");b({ local_forage_encoded_blob:!0,data:d,type:a.type))},d.r
eadAsBinaryString(a))}}function w(a){return
openDatabase&&/(Safari|iPhone|iPod|iPod)/.test(navigator.userAgent)&&!/Ch

```

```

rome/.test(navigator.userAgent)
&&!/BlackBerry/.test(navigator.platform),b="function"===typeof fetch&&-
1!==fetch.toString().indexOf("[native
code");return(!a||b)&&"undefined"!==type of
indexedDB&&"undefined"!==Typeof
IDBKeyRange}catch(a){return!1}}function g(a,b){a=a||[],b=b||{};try{return
new Blob(a,b)}catch(f){if("TypeError"!==f.name)throw
f;for(varc="undefined"!==Typeof
BlobBuilder?BlobBuilder:"undefined"!==Typeof
MSBlobBuilder?MSBlobBuilder:"undefined"!==Typeof
MozBlobBuilder?MozBlobBuilder:WebKitBlobBuilder,d=new
c,e=0;e<a.length;e+=1)d.append(a[e]);returnd.getBlob(b.type)}}function
h(a,b){b&&a.then(function(a){b(null,a)},function(a){b(a)})}function
i(a,b,c){ "function"===typeof b&&a.then(b),"function"===typeof
c&&a.catch(c)}function j(a){return"string"!==type of a&&(console.warn(a+"
used as a key, but it is not a string."),a=String(a)),a}function
k(){if(arguments.length&&"function"===typeof arguments[arguments.length-
1])return arguments[arguments.length-1]}function l(a){for(var
b=a.length,c=new ArrayBuffer(b),d=new
Uint8Array(c),e=0;e<b;e++)d[e]=a.charCodeAt(e);return c}function
m(a){return new
va(function(b){ varc=a.transaction(wa,Ba),d=g([""]);c.objectStore(wa).put(d,"k
ey"),c.onabort=function(a){a.preventDefault(),a.st
opPropagation(),b(!1)},c.oncomplete=function(){ var
a=navigator.userAgent.match(/Chrome\/(\d+)/),c=navigator.userAgent.match(/E
dge\/);b(c)!||a||parseInt(a[1],10)
>=43)}}).catch(function(){return!1}})function
n(a){return"boolean"===typeof
xa?va.resolve(xa):m(a).then(function(a){return x=a})}function
o(a){ var b=ya[a.name],c={};c.promise=new
va(function(a,b){c.resolve=a,c.reject=b}),b.deferredOperations
.push(c),b.dbReady?b.dbReady=b.dbReady.th
en(function(){return
c.promise}):b.dbReady=c.promise}function
p(a){varb=ya[a.name],c=b.deferredOperations.pop();if(c)return
c.resolve(),c.promise}function q(a,b){ var
c=ya[a.name],d=c.deferredOperations.pop();if(d)return
d.reject(b),d.promise}function r(a,b){return new
va(function(c,d){if(ya[a.name]=ya[a.name]||B(),a.db){if(!b)ret
urn c(a.db);o(a),a.db.close()}var
e=[a.name];b&&e.push(a.version);var
f=ua.open.apply(ua,e);b&&(f.onupgradeneeded=function(b){ v
ar
c=f.result;try{c.createObjectStore(a.storeName),b.oldVersion<
=1&&c.createObjectStore(wa)}catch(c){if("Con
straintError"!==c.name)throw c;console.warn("The database
"+a.name+" has been upgraded from version'+b.oldVersion+"
to version "+b.newVersion+', but the storage "'+a.storeName+"

```

```

already
exists.'))},f.onerror=function(a){a.preventDefault(),d(f.error)}
,f.onsuccess=function(){var
b=f.result;b.onversionchange=function(a){a.target.close()},c(b)
,p(a)}}}function s(a){return r(a,!1)}function t(a){return
r(a,!0)}function u(a,b){if(!a.db)return!0;var
c=!a.db.objectStoreNames.contains(a.storeName),d=a.version<a
.db.version,e=a.version>a.db.version;if(d&&
(a.version!==b&&console.warn("The database '"+a.name+"\"
can't be downgraded from version "+a.db.version+" to version
"+a.version+"."),a.version=a.dbg([l(atob(a.data))],{type:a.type
})))function x(a){return
a&&a.local_forage_encoded_blob}function y(a){var
b=this,c=b._initReady().then(function(){var
a=ya[b._dbInfo.name];if(a&&a.dbReady)return a.dbReady});return
i(c,a,a,c)}function z(a){o(a);for(var
b=ya[a.name],c=b.forages,d=0;d<c.length;d++){var
e=c[d];e._dbInfo.db&&(e._dbInfo.db.close(),e._dbInfo.db=null)}return
a.db=null,s(a).then(function(b){return a.db=b,u(a)?t(a):b}).then(function(d){a.
db=b.db=d;for(var
e=0;e<c.length;e++)c[e]._dbInfo.db=d}).catch(function(b){throw
q(a,b,b)})}function A(a,b,c,d){void 0===d&&(d=1);try{var
e=a.db.transaction(a.storeName,b);c(null,e)}catch(e){if(d>0&&(!a.db||"Invali
dStateError"===e.name||"NotFou ndError"===e.name))return
va.resolve().then(function(){if(!a.db||"NotFoundError"===e.name&&!a.db.obj
ectStoreNames.contains(a.store Name)&&a.version<=a.db.version)return
a.db&&(a.version=a.db.version+1),t(a)}).then(function(){return
z(a).then(function(){A(a,b,c,d-1)})).catch(c);c(e)} }function
B(){return{forages:[],db:null,dbReady:null,deferredOperations:[]}}function
C(a){function b(){return va.resolve()}var c=this,d={db:null};if(a)for(var e in
a)d[e]=a[e];var
f=ya[d.name];f||(f=B(),ya[d.name]=f),f.forages.push(c),c._initReady||(c._initRe
ady=c.ready,c.ready=y);for(var g=[],h=0;h<f.forages.length;h++){var
i=f.forages[h];i!==c&&g.push(i._initReady().catch(b))}var
j=f.forages.slice(0);return va.all(g).then(function(){return
d.db=f.db,s(d)}).then(function(a){return
d.db=a,u(d,c._defaultConfig.version)?t(d):a}).then(function(a){d.db=f.db=a,c.
_dbInfo=d;for(var b=0;b<j.length;b++){var
e=j[b];e!==c&&(e._dbInfo.db=d.db,e._dbInfo.version=d.version)}}}function
D(a,b){var c=this;a=j(a);var d=new
va(function(b,d){c.ready().then(function(){A(c._dbInfo,Aa,function(e,f){if(e)r
eturn d(e);try{var
g=f.objectStore(c._dbInfo.storeName),h=g.get(a);h.onsuccess=function(){var
a=h.result;void
0===a&&(a=null),x(a)&&(a=w(a)),b(a)},h.onerror=function(){d(h.error)} }ca
tch(a){d(a)} })).catch(d)});return h(d,b),d}function E(a,b){var c=this,d=new
va(function(b,d){c.ready().then(function(){A(c._dbInfo,Aa,function(e,f){if(e)r

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return d(e);try{ var
g=f.objectStore(c._dbInfo.storeName),h=g.openCursor(),i=1;h.onsuccess=fun
ction(){ var c=h.result;if(c){ var d=c.value;x(d)&&(d=w(d));var
e=a(d,c.key,i++);void 0!==e?b(e):c.continue()}else
b()},h.onerror=function(){ d(h.error)} } catch(a){ d(a)} } } ).catch(d));return
h(d,b),d}function F(a,b,c){ var d=this;a=j(a);var e=new va(function(c,e){ var
f;d.ready().then(function(){ return f=d._dbInfo,"[object
Blob]"===za.call(b)?n(f.db).then(function(a){ return
a?b:v(b)}):b}).then(function(b){ A(d._dbInfo,Ba,function(f,g){ if(f)return
e(f);try{ var h=g.objectStore(d._dbInfo.storeName);null===b&&(b=void 0);var
i=h.put(b,a);g.oncomplete=function(){ void
0===b&&(b=null),c(b)},g.onabort=g.onerror=function(){ var
a=i.error?i.error:i.transaction.error;e(a)} } catch(a){ e(a)} } } ).catch(e));return
h(e,c),e}function G(a,b){ var

```

```

c=this;a=j(a);var d=new
va(function(b,d){ c.ready().then(function(){ A(c._dbInfo,Ba,function(e,f){ i
f(e)return d(e);try{ var
g=f.objectStore(c._dbInfo.storeName),h=g.delete(a);f.oncomplete=functi
on(){ b()},f.onerror=function(){ d(h.err or)},f.onabort=function(){ var
a=h.error?h.error:h.transaction.error;d(a)} } catch(a){ d(a)} } } ).catch(d));r
eturn h(d,b),d}function H(a){ var b=this,c=new
va(function(a,c){ b.ready().then(function(){ A(b._dbInfo,Ba,function(d,e){
if(d)return c(d);try{ var
f=e.objectStore(b._dbInfo.storeName),g=f.clear();e.oncomplete=function(
){ a()},e.onabort=e.onerror=function()
{ vary
a=g.error?g.error:g.transaction.error;c(a)} } catch(a){ c(a)} } } ).catch(c));return
h(c,a),c}function I(a){ var b=this,c=new
va(function(a,c){ b.ready().then(function(){ A(b._dbInfo,Aa,function(d,e){ if(d)r
eturn c(d);try{ var
f=e.objectStore(b._dbInfo.storeName),g=f.count();g.onsuccess=function(){ a(g.
result)},g.onerror=function(){ c( g.er ror)} } catch(a){ c(a)} } } ).catch(c));return
h(c,a),c}function J(a,b){ var c=this,d=new va(function(b,d){ if(a<0)return void
b(null);c.ready().then(function(){ A(c._dbInfo,A,function(e,f){ if(e)return
d(e);try{ var
g=f.objectStore(c._dbInfo.storeName),h=!1,i=g.openKeyCursor();i.onsuccess=
function(){ var c=i.result;if(!c)return void
b(null);0===a?b(c.key):h?b(c.key):(h=!0,c.advance(a))},i.onerror=function(){ d
(i.error)} } catch(a){ d(a)} } } ).catch( d));return h(d,b),d}function K(a){ var
b=this,c=new
va(function(a,c){ b.ready().then(function(){ A(b._dbInfo,Aa,function(d,e){ if(d)r
eturn c(d);try{ var
f=e.objectStore(b._dbInfo.storeName),g=f.openKeyCursor(),h=[];g.onsuccess=
function(){ var b=g.result;if(!b)return void
a(h);h.push(b.key),b.continue()} ,g.onerror=function(){ c(g.error)} } catch(a){ c(a

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)}})).catch(c));return h(c,a,c)}function L(a,b){b=k.apply(this,arguments);var
c=this.config();a="function"!=type of
a&&a||{ },a.name||(a.name=a.name||c.name,a.storeName=a.storeName||c.storeN
ame);var d,e=this;if(a.name){ var
f=a.name===c.name&&e._dbInfo.db,g=f?va.resolve(e._dbInfo.db):s(a).then(fu
nction(b){ var c=ya[a.name],d=c.forages;c.db=b;for(var
e=0;e<d.length;e++)d[e]._dbInfo.db=b;return b});d=a.storeName?g.then(funci
on(b){ if(b.objectStoreNames.contains(a.storeName)){ var
c=b.version+1;o(a);var d=ya[a.name],e=d.forages;b.close();for(var
f=0;f<e.length;f++){ var g=e[f];g._dbInfo.db=null,g._dbInfo.version=c}return
new va(function(b,d){ var
e=ua.open(a.name,c);e.onerror=function(a){ e.result.close(),d(a)},e.onupgradenee
ded=function(){ e.result.delet
eObjectStore(a.storeName)},e.onsuccess=function(){ var
a=e.result;a.close(),b(a)} }).then(function(a){ d.db=a;for(var
b=0;b<e.length;b++){ var
c=e[b];c._dbInfo.db=a,p(c._dbInfo)} }).catch(function(b){ throw(q(a,b)||va.resol
ve()).catch(function(){ },b)}))}:g.t hen(function(b){ o(a);var
c=ya[a.name],d=c.forages;b.close();for(var
e=0;e<d.length;e++){ d[e]._dbInfo.db=null}return new va(function(b,c){ var
d=ua.deleteDatabase(a.name);d.onerror=function(){ var
a=d.result;a&&a.close(),c(d.error)},d.onblocked=function(){ console.warn('dro
pInstance blocked for database "' +a.name+" until all open connections are
closed')},d.onsuccess=function(){ var
a=d.result;a&&a.close(),b(a)} }).then(function(a){ c.db=a;for(var
b=0;b<d.length;b++)p(d[b]._dbInfo)} ).catch(function(b){ throw(q(a,b)||va.resolv
e()).catch(function(){ },b)}))} else d=va.reject("Invalid arguments");return
h(d,b,d)}function M(){return"function"==typeof openDatabase}function
N(a){ var b,c,d,e,f,g=.75*a.length,h=a.length,i=0;"-"===a[a.length-1]&&(g--
,"-"===a[a.length-2]&&g--);var j=new ArrayBuffer(g),k=new
Uint8Array(j);for(b=0;b<h;b+=4)c=Da.indexOf(a[b]),d=Da.indexOf(a[b+1]),e=Da.indexOf(a[b+2
]),f=Da.indexOf(a[b+3]),k[i++]=c<<2|d>>4,k
[i++]=((15&d)<<4|e)>>2,k[i++]=(3&e)<<6|63&f;return j}function O(a){ var b,c=new
Uint8Array(a),d="";for(b=0;b<c.length;b+=3)d+=Da[c[b]>>2],d+=Da[(3&c[b])<<4|c[b+1]>>4],d
+=Da[(15&c[b+1])
<<2|c[b+2]>>6],d+=Da[63&c[b+2]];return
c.length%3==2?d=d.substring(0,d.length-
1)+"=":c.length%3==1&&(d=d.substring(0,d.length-2)+"="),d}function
P(a,b){ var c="";if(a&&(c=Ua.call(a)),a&&("[object
ArrayBuffer]"===c||a.buffer&&"[object
ArrayBuffer]"===Ua.call(a.buffer))){ var d,e=Ga;a instanceof
ArrayBuffer?(d=a,e+=Ia):(d=a.buffer,"[object
Int8Array]"===c?e+=Ka:"[object Uint8Array]"===c?e+=La:"[object
Uint8ClampedArray]"===c?e+=Ma:"[object
Int16Array]"===c?e+=Na:"[object Uint16Array]"===c?e+=Pa:"[object
Int32Array]"===c?e+=Oa:"[object Uint32Array]"===c?e+=Qa:"[object

```



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Float32Array]"===c?e+=Ra:"[object Float64Array]"===c?e+=Sa:b(new
Error("Failed to get type for BinaryArray")),b(e+O(d))}else if("[object
Blob]"===c){var f=new FileReader;f.onload=function(){var
c=Ea+a.type+"~"+O(this.result);b(Ga+Ja+c)},f.readAsArrayBuffer(a)}else
try{b(JSON.stringify(a))}catch(c){console.error("Couldn't convert value into
a JSON string: ",a),b(null,c)} }function Q(a){if(a.substring(0,Ha)!==Ga)return
JSON.parse(a);var
b,c=a.substring(Ta),d=a.substring(Ha,Ta);if(d===Ja&&Fa.test(c)){var
e=c.match(Fa);b=e[1],c=c.substring(e[0].length)}var f=N(c);switch(d){case
I:return f;case J:return g([f],{type:b});case Ka:return new Int8Array(f);case
La:return new Uint8Array(f);case Ma:return new Uint8ClampedArray(f);case
Na:return new Int16Array(f);case Pa:return new Uint16Array(f);case
Oa:return new Int32Array(f);case Ca:return new Uint32Array(f);case
Ra:return new Float32Array(f);case Sa:returned
Float64Array(f);default:throw new Error("Unkown type: "+d)} }function
R(a,b,c,d){a.executeSql("CREATE TABLE IF NOT EXISTS
"+b.storeName+" (id INTEGER PRIMARY KEY, key unique,
value)",[],c,d)}function S(a){var b=this,c={db:null};if(a)for(var d in
a)c[d]="string"!==type of a[d]?a[d].toString():a[d];var e=new
va(function(a,d){try{c.db=openDatabase(c.name,String(c.version),c.descriptio
n,c.size)}catch(a){return
d(a)}c.db.transaction(function(e){R(e,c,function(){b._dbInfo=c,a()}),function(
a,b){d(b)}}),d));return c.serializer=V,e}function
T(a,b,c,d,e,f){a.executeSql(c,d,e,function(a,g){g.code===g.SYNT
AX_ERR?a.executeSql("SELECT name FROM sqlite_master
WHERE type='table' AND name
=
?",[b.storeName],function(a,h){h.rows.length?f(a,g):R(a,b,function(){a.executeSql(c,d,e,f)},f):f(a,
g)},f)}fun

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cation U(a,b){var c=this;a=j(a);var d=new
va(function(b,d){c.ready().then(function(){var
e=c._dbInfo;e.db.transaction(function(c){T(c,e,"SELECT * FROM
"+e.storeName+" WHERE key = ? LIMIT
1",[a],function(a,c){vard=c.rows.length?c.rows.item(0).value:null;d&&(d=e.
serializer.deserialize(d)),b(d)},function(a,b){d(b)}))}).catc h(d));return
h(d,b),d}function V(a,b){var c=this,d=new
va(function(b,d){c.ready().then(function(){var
e=c._dbInfo;e.db.transaction(function(c){T(c,e,"SELECT * FROM
"+e.storeName,[],function(c,d){for(var
f=d.rows,g=f.length,h=0;h<g;h++){var
i=f.item(h),j=i.value;if(j&&(j=e.serializer.deserialize(j)),void
0!==(j=a(j,i.key,h+1)))return void
b(j)}b()},function(a,b){d(b)}))}).catch(d));return h(d,b),d}function
W(a,b,c,d){var e=this;a=j(a);var f=new
va(function(f,g){e.ready().then(function(){void 0===b&&(b=null);var

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h=b,i=e._dbInfo;i.serializer.serialize(b,function(b,j){j?g(j):i.db.transaction(function(c){T(c,i,"INSERT OR REPLACE INTO "+i.storeName+" (key,value) VALUES (?,?)",[a,b],function(){f(h)},function(a,b){g(b)})),function(b){if(b.code===b.QUOTA_ERR){if(d>0)return void f(W.apply(e,[a,h,c,d-1]));g(b)}})).catch(g));return h(f,c),f}function X(a,b,c){return W.apply(this,[a,b,c,1])}function Y(a,b){var c=this;a=j(a);var d=new va(function(b,d){c.ready().then(function(){var e=c._dbInfo;e.db.transaction(function(c){T(c,e,"DELETE FROM "+e.storeName+" WHERE key = ?",[a],function(){b()},function(a,b){d(b)}))}).catch(d)});return h(d,b),d}function Z(a){var b=this,c=new va(function(a,c){b.ready().then(function(){var d=b._dbInfo;d.db.transaction(function(b){T(b,d,"DELETE FROM "+d.storeName,[],function(){a()},function(a,b){c(b)}))}).catch(c)});return h(c,a),c}function $(a){var b=this,c=new va(function(a,c){b.ready().then(function(){var d=b._dbInfo;d.db.transaction(function(b){T(b,d,"SELECT COUNT(key) as c FROM "+d.storeName,[],function(b,c){var d=c.rows.item(0).c;a(d)},function(a,b){c(b)}))}).catch(c)});return h(c,a),c}function _(a,b){var c=this,d=new va(function(b,d){c.ready().then(function(){var e=c._dbInfo;e.db.transaction(function(c){T(c,e,"SELECT key FROM "+e.storeName+" WHERE id = ? LIMIT 1",[a+1],function(a,c){var d=c.rows.length?c.rows.item(0).key:null;b(d)},function(a,b){d(b)}))}).catch(d)});return h(d,b),d}function aa(a){var b=this,c=new va(function(a,c){b.ready().then(function(){var d=b._dbInfo;d.db.transaction(function(b){T(b,d,"SELECT key FROM "+d.storeName,[],function(b,c){for(var d=[],e=0;e<c.rows.length;e++)d.push(c.rows.item(e).key);a(d)},function(a,b){c(b)}))}).catch(c)});return h(c,a),c}function ba(a){return new va(function(b,c){a.transaction(function(d){d.executeSql("SELECT name FROM sqlite_master WHERE type='table' AND name <> 'WebKitDatabaseInfoTable '",[],function(c,d){for(var e=[],f=0;f<d.rows.length;f++)e.push(d.rows.item(f).name);b({db:a,storeNames:e})),function(a,b){c(b)}),function n(a){c(a)}))})}function ca(a,b){b=k.apply(this,arguments);var c=this.config();a="function"!==type of a&&a||{,a.name||(a.name=a.name||c.name,a.storeName=a.storeName||c.storeName);var d,e=this;return d=a.name?new va(function(b){var d;d=a.name===c.name?e._dbInfo.db:openDatabase(a.name,"",0),b(a.storeName?{b:d,storeNames:[a.storeName]}:ba(d))).then(function(a){return new va(function(b,c){a.db.transaction(function(d){function e(a){return new va(function(b,c){d.executeSql("DROP TABLE IF EXISTS "+a,[],function(){b()},function(a,b){c(b)}))})for(var f=[],g=0,h=a.storeNames.length;g<h;g++)f.push(e(a.storeNames[g]));va.all(f).then(function(){b()})).catch(function

```

```

on(a){c(a)}}},function(a){c(a)}})):va.reject("Invalid
arguments"),h(d,b),d}function da(){try{return"undefined"!=Typeof
localStorage&&"setItem"in
localStorage&&!!localStorage.setItem}catch(a){return!1}}function ea(a,b){var
c=a.name+"/";return
a.storeName!=b.storeName&&(c+=a.storeName+"/"),c}function
fa(){vara="_localforage_support_test";try{return
localStorage.setItem(a,!0),localStorage.removeItem(a,!1}catch(a){return!0}}fu
nction ga(){return!fa()||localStorage.length>0}function ha(a){var
b=this,c={};if(a)for(var d in a)c[d]=a[d];return
c.keyPrefix=ea(a,b._defaultConfig),ga()?(b._dbInfo=c,c.serializer=V,va.resolve
()):va.reject()}function ia(a){var b=this,c=b.ready().then(function(){for(var
a=b._dbInfo.keyPrefix,c=localStorage.length-1;c>=0;c--
){vary
d=localStorage.key(c);0===d.indexOf(a)&&localStorage.removeItem(d)}});ret
urn h(c,a),c}function ja(a,b){var c=this;a=j(a);var
d=c.ready().then(function(){varb=c._dbInfo,d=localStorage.getItem(b.keyPrefi
x+a);return d&&(d=b.serializer.deserialize(d)),d});return h(d,b),d}function
ka(a,b){var c=this,d=c.ready().then(function(){for(var
b=c._dbInfo,d=b.keyPrefix,e=d.length,f=localStorage.length,g=1,h=0;h<f;h++)
{var i=localStorage.key(h);if(0===i.indexOf(d)){var
j=localStorage.getItem(i);if(j&&(j=b.serializer.deserialize(j)),void
0!==(j=a(j,i.substring(e,g++)))return j}}});return h(d,b),d}function la(a,b){var
c=this,d=c.ready().then(function(){var
b,d=c._dbInfo;try{b=localStorage.key(a)}catch(a){b=null}return
b&&(b=b.substring(d.keyPrefix.length)),b});return h(d,b),d}function ma(a){var
b=this,c=b.ready().then(function(){for(var
a=b._dbInfo,c=localStorage.length,d=[],e=0;e<c;e++){var
f=localStorage.key(e);0===f.indexOf(a.keyPrefix)&&d.push(f.substring(a.keyPr
efix.length))}return d});return h(c,a),c}function na(a){var
b=this,c=b.keys().then(function(a){return a.length});return h(c,a),c}function
oa(a,b){var c=this;a=j(a);var
d=c.ready().then(function(){varb=c._dbInfo;localStorage.removeItem(b.keyPre
fix+a)});return h(d,b),d}function pa(a,b,c){var d=this;a=j(a);var
e=d.ready().then(function(){void 0===b&&(b=null);var c=b;return new
va(function(e,f){var
g=d._dbInfo;g.serializer.serialize(b,function(b,d){if(d)f(d);else
try{localStorage.setItem(g.keyPrefix+a,b),e(c)}catch(a){ "QuotaExceededError"
!=a.name&&"NS_ERROR_DO
M_QUOTA_REACHED"!=a.name||f(a,f(a))}}));return h(e,c),e}function
qa(a,b){if(b=k.apply(this,arguments),a="function"!=Typeof
a&&a||{},{,!a.name){var
c=this.config();a.name=a.name||c.name,a.storeName=a.storeName||c.storeName
}var d,e=this;return

```

```

d=a.name?new
va(function(b){b(a.storeName?ea(a,e._defaultConfig):a.name+"/").then(f
unction(a){for(var b=localStorage.length-1;b>=0;b--){ var
c=localStorage.key(b);0===c.indexOf(a)&&localStorage.removeItem(c)}})
:va.reject("Invalid arguments"),h(d,b),d}function
ra(a,b){a[b]=function(){ var c=arguments;return
a.ready().then(function(){return a[b].apply(a,c)}}}function sa(){for(var
a=1;a<arguments.length;a++){ var b=arguments[a];if(b)for(var c in
b)b.hasOwnProperty(c)&&($a(b[c])?arguments[0][c]=b[c].slice():argument
s[0][c]=b[c])}return arguments[0]}var ta="function"===typeof
Symbol&&"symbol"===typeof Symbol.iterator?function(a){return type of
a}:function(a){return a&&"function"===typeof
Symbol&&a.constructor===Symbol&&a!==Symbol.prototype?"symbol":ty
peof a},ua=e();"undefined"===typeof Promise&&a(3);var
v=Promise,wa="local-forage-detect-blob-support",xa=void
0,ya={},za=Object.prototype.toString,Aa="readonly",Ba="readwrite",Ca={
_driver:"asyncStorage",_initStorage:
C,_support:f(),iterate:E,getItem:D,setItem:F,removeItem:G,clear:H,length:I,
key:J,keys:K,dropInstance:L},Da=
"ABCDEFGHGIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz
123456789+/",Ea="~~local_forage_type
~",Fa="/^~~local_forage_type~([^~]+)~/,Ga=" fiscal
:",Ha=Ga.length,Ia="arbf",Ja="blob",Ka="si08",La="ui08",
Ma="uic8",Na="si16",Oa="si32",Pa="ur16",Qa="ui32",Ra="fl32",Sa="fl64",Ta=Ha+Ia.length,U=
Object.prototype.toString,Va={ serialize:P,de
serialize:Q,stringToBuffer:N,bufferToString:O},Wa={ _driver:"webSQLStorage",
_initStorage:S,_support:M(),iterate:V,getItem:U,setItem:X,removeItem:Y,clear:
Z,length:$,key:_,keys:a,dropIn
stance:ca},Xa={ _driver:"localStorageWrapper",_initStorage:ha,_support:da(),i
terate:ka,getItem:j,setItem:pa,
removeItem:o,clear:ia,length:na,key:la,keys:ma,dropInstance:qa},Ya=function
(a,b){return a===b||"number"===typeof a&&"number"===typeof
b&&isNaN(a)&&isNaN(b)},Za=function(a,b){for(var
c=a.length,d=0;d<c;){ if(Ya(a[d],b))return!0;d++}return!1},$a=Array.isArray||
function(a){return"[object
Array]"===Object.prototype.toString.call(a)},_a={},ab={},bb={ INDEXEDDB:
Ca,WEBSQL:W,LOCALSTORAGE:
Xa},cb=[bb.INDEXEDDB._driver,b.WEBSQL._driver,b.LOCALSTORAGE.
_driver],db=["dropInstance"],eb=["
clear","getItem","iterate","key","keys","length","removeItem","setItem"].concat
(db),fb={ description:"",driver:
cb.slice(),name:"localforage",size:4980736,storeName:"keyvaluepairs",versio
n:1},gb=function(){function a(b){d(this,a);for(var c in
bb)if(bb.hasOwnProperty(c)){ var
e=bb[c],f=e._driver;this[c]=f,_a[f]||this.defineDriver(e)}this._defaultConfig=s
a({ },fb),this._config=sa({ },this._de

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faultConfig,b),this._driverSet=null,this._initDriver=null,this._ready=!1,this._db
Info=null,this._wrapLibraryMet
hodsWithReady(),this.setDriver(this._config.driver).catch(function(){})}return
a.prototype.config=function(a){if("object"===void
0===a?"undefined":ta(a))){if(this._ready)return new Error("Can't call
configure() after local forage has been used.");for(var b in
a){if("storeName"===b&&(a[b]=a[b].replace(/\\W/g,"_"),"version"===b&&"
number"!==Typeof a[b])return new Error("Database version must be a
number.");this._config[b]=a[b]}return!("driver"in
a&&a.driver)||this.setDriver(this._config.driver)}return"string"===typeof
a?this._config[a]:this._config},a.prototype.defineDriver=function(a,b,c){var
d=new va(function(b,c){try{var d=a._driver,e=new Error("Custom driver not
compliant;
seehttps://mozilla.github.io/localForage/#definedriver");if(!a._driver)return
void c(e);for(var f=eb.concat("_initStorage"),g=0,i=f.length;g<i;g++){var
j=f[g];if(!Za(db,j)||a[j])&&"function"!==Typeof a[j])return void
c(e)}(function(){for(var b=function(a){return function(){var b=new
Error("Method "+a+" is not implemented by the current
driver"),c=va.reject(b);return h(c,arguments[arguments.length-
1]),c}},c=0,d=db.length;c<d;c++){var e=db[c];a[e]||(a[e]=b(e))}})();var
k=function(c){_a[d]&&console.info("Redefining LocalForage driver:
"+d),_a[d]=a,ab[d]=c,b()};"_support"in a?a._support&&"function"===typeof
a._support?a._support().then(k,c):k(!a._support):k(!0)}catch(a){c(a)}});return
i(d,b,c,d),a.prototype.driver=function(){return
this._driver||null},a.prototype.getDriver=function(a,b,c){var
d=_a[a]?va.resolve(_a[a]):va.reject(new Error("Driver not
found."));returni(d,b,c,d),a.prototype.getSerializer=function(a){var
b=va.resolve(Va);return i(b,a,b)},a.prototype.ready=function(a){var
b=this,c=b._driverSet.then(function(){returnnull===b._ready&&(b._ready=b.
_initDriver()),b._ready});return
i(c,a,a,c),a.prototype.setDriver=function(a,b,c){function
d(){g._config.driver=g.driver()}function e(a){return
g._extend(a,d(),g._ready=g._initStorage(g._config),g._ready}function
f(a){return function(){function b(){for(;c<a.length;){var f=a[c];return
c++,g._dbInfo=null,g._ready=null,g.getDriver(f).then(e).catch(b)}d();var
h=new Error("No available storage method found.");return
g._driverSet=va.reject(h),g._driverSet}var c=0;return b()}}var
g=this;$a(a)||a=[a];var
h=this._getSupportedDrivers(a),j=null!==this._driverSet?this._driverSet.catch(
function(){return va.resolve()}):va.resolve();return
this._driverSet=j.then(function(){var a=h[0];return
g._dbInfo=null,g._ready=null,g.getDriver(a).then(function(a){g._driver=a._dri
ver,d(),g._wrapLibraryMethodsW
ithReady(),g._initDriver=f(h)}})).catch(function(){d();var a=new Error("No
available storage method found.");return

```

```

g._driverSet=va.reject(a),g._driverSet}),i(this._driverSet,b,c),this._driverSet},a.
prototype.supports=function(a)
{return!ab[a]},a.prototype._extend=function(a){sa(this,a)},a.prototype._getS
upportedDrivers=function(a){for( v a b=[],c=0,d=a.length;c<d;c++){ var
e=a[c];this.supports(e)&&b.push(e)}return
b},a.prototype._wrapLibraryMethodsWithReady=function(){for(var
a=0,b=eb.length;a<b;a++)ra(this,eb[a])},a.prototype.createInstance=function(
b){return new a(b)},a}(),hb=new gb;b.exports=hb},{3:3}},{},[4])(4));

```

1.AUTHENTICATION:

FIREOAUTH:

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
<meta charset="UTF-8">
```

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
<link rel="stylesheet" href="/css/fireoauth.css">
```

```
<link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/nprogress/0.2.0/nprogress.min.css">
```

```
<link rel="shortcut icon"
href="https://raw.githubusercontent.com/tharunoptimus-
pd/firepower/main/favicon.ico?token=GHSAT0AAAAAA
BR46HVJ5M5L3QGFRZRQXOISYUJUWAA"
type="image/x-icon"><style> html, body{
```

```
height: 100%;
```

```
margin: 0;
```

```
font-family: -apple-system, BlinkMacSystemFont,
```

```
"Segoe UI", Roboto,Oxygen,Ubuntu, Cantwell, "Open
```

```
Sans", "Helvetica Neuter", sans-serif;
```

```
font-weight: 300;
```

```
}
```

```
a {
```

```
text-decoration:
none; colour:
#007bff;
font-weight:
500; font-size:
1.2rem; }
h3 {
font-size: 1.4rem;
}
h3, h4 {
margin: 0;
padding: 0.3rem 0;
}
.wrapper{
flex: flex direction: column; align-items: Center; content: Center; height: 100%;
text-align: Center;
}
.oneClickSignin
{ padding: 0.5rem;
border: 1px
solid #44444444; border-
radius: 5px;
box-shadow: 0 0 3px 0px #44444444;
opacity: 0.2;
pointer-events: none;
}
.qrcode { opacity: 0.1; }
```

```
.learnAboutFire
{ padding-top:
1.25em;
}

.qrHolder
{ display:
none;
margin-top: 3rem;
}

.qrContainer {
align-items:
Center;display:
flex;
justify-content:
Center; padding:
8px; margin
2rem auto;
box-shadow: 0 0px 6px 1px rgb(0 0
0 / 16%);border: 1px solid
#444444444;
border-radius:
6px;
width:200px;
height: 200px;
}
</style>
```



```
<title>Fire OAuth</title>

<script>

    if (window.location.hostname !== "localhost")

{ if (location.protocol !==
"https:") {
location.replace(`https:${loc
ation.href.substring(
location.protocol.length
        )}`
    )
    }
}

</script>
</head>
</body>

<div class="wrapper">

    <h3 class="pageTitle">Login with SAFETY</h3>

    <div class="qrAuthorize">

        <h4 class="subTitle">ScanQR from your Fire OAuth App </h4>

        <div class="qrContainer">

            <canvas id="qr-code" class="qrcode"></canvas>

        </div>

    </div>

    <div class="oneClickSignin">
```

<h4>Have Fire PWA on this device?</h4>

<a target="_blank" id="authorizeOverLink"
href="https://firepwa.netlify.app/authorize?sessionId"
rel="noopener">Click to Authorize

</div>

<div class="learnAboutFire">

Learn More about
SAFETY

</div>

</div>

<script src="https://cdnjs.cloudflare.com/ajax/libs/nprogress/0.2.0/nprogress.min.js"></script>

<script src="https://cdnjs.cloudflare.com/ajax/libs/qrious/4.0.2/qrious.min.js"></script>

<script src="https://cdnjs.cloudflare.com/ajax/libs/socket.io/4.2.0/socket.io.js"></script>

<script>

const FIRE_API_KEY = "635b790a3bcc6b59c4b772d0"

const FIRE_ENDPOINT =

"https://fire.adaptable.app/api/apis/generate"

const CHANNEL_NAME =

"fireOAuthChannel"

const broadcastingChannel = new

BroadcastChannel(CHANNEL_NAME) const

FIRE_SERVER_SOCKET_ENDPOINT =

"https://fire.adaptable.app" let socket=

io(FIRE_SERVER_SOCKET_ENDPOINT)

let qr

```

let qr code = document.querySelector(".qrcode")

let oneClickSignin =
document.querySelector(".oneClickSignin
")let pageTitle =
document.querySelector(".pageTitle")

letsubTitle = document.querySelector(".subTitle")


function setOpacity(opacity)
{
oneClickSignn.style.opacity
=opacity
oneClickSignin.style.pointerEvents = opacity === "1" ? "auto" :
"none"qrcode.style.opacity = opacity
}

async functiongetSessionID()
{let
response
try {
response = await fetch(`${FIRE_ENDPOINT}/${FIRE_API_KEY}`,
{method: "GET",
headers: {
"Content-Type": "application/json",
}
})
} catch (error)

```

```
{  
  console.  
  e.log(  
  erro  
  r)return  
  n null  
}
```

```
let data = await response.json()  
  
let { sessionId,  
  chatRoomId } =  
datareturn{  
  sessionId,  
  chatRoomId}  
}
```

```
function generateQR(value)  
{(qr = new QRious({  
  element:  
  document.getElementById("qr-  
  code"), size: 200,  
  level: 'M',  
  value:  
  value,  
  )))  
}
```

```

function changeHREF ({sessionId, chatRoomId}) {

    let firePwaUrlHostname = "https://firepwa.netlify.app"

    let originURL = encodeURIComponent(window.location.origin)

    let url =
        `${firePwaUrlHostname}/authorize.html?sessionId=${sessionId}&chatRoomId=${chatRoomId}&url=${originURL}`

    let a =
        document.getElementById("authorizeOverLink")
        a.href = url

    }

    async function fire()

        {NProgress.set(0.4)

        let { sessionId, chatRoomId } = await getSessionID()

        if(sessionId === undefined || chatRoomId === undefined || sessionId === null || chatRoomId === null)

            {pageTitle.innerHTML =

                "Something went wrong

                subTitle.innerHTML =

                "Please try again later " return

            }

        setOpacity("1")
        NProgress.done() let data = {
            sessionId,url:  encodeURIComponent(window.location.origin)
        }

        data =JSON.stringify(data)

        generateQR(data)

        changeHREF({sessionId,
        chatRoomId})

```

```

socket.emit("join room",
sessionId)

    }
    fire()
socket.on("trusted token", (token) =>

let data={ }

data.succes=

true

data.token=toke

nbroadcastingC

hannel.postMes

sage(data)

window.close()

    })

</script>

</body>

</html>

```

2.LOGIN:

HTML:

```

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta http-equiv="X-UA-Compatible" content="IE=edge">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

```

```
<link rel="stylesheet" href="/css/login.css">

<title>Sign Up</title>

<script>

    if (window.location.hostname !== "localhost")

{if(location.protocol !==

"https:") {

location.replace(`https:${loc

ation.href.substring(

location.protocol.length

    )}`

    )

    }

}

</script>

<script src="/localforage.js"></script>
</head>
<body>

    <div class="wrapper">

        <div class="loginContainer">

            <span>SignUp To Continue</span>

            <div class="traditionalLoginContainer">

                <form class="signupForm" action="/" method="post">

                    <input type="email" name="email" placeholder="Email" id="email">

                    <input type="password" name="password" placeholder="Password"
                    id="password">

                    <input class="loginButton" type="submit" value="Login">

                </form>
```

```

</div>

<div class="loginWithFireContainer">

  <button type="button" class="fire" title="Login with Safety" id="fire">Login with
  Safety</button>

</div>

<a class="hyperLink" href="/register">Don't have an Account?Register ↗</a>

</div>
</div>

```

```

<script>

```

```

  // Necessary for Fire OAuth to Function

  const fireBroadcastingChannel = new
  BroadcastChannel('fireOAuthChannel');

  fireBroadcastingChannel.addEventListener('message'
  , async event => {

    let data = event.data

    /**

```

1. @typedef {Object<string, any>}Data
2. @property {boolean}success - Whether the login was successful
3. @property {string}token - The data returned from the login i.e. Fire Token

```

  */

  // data.token is the message sent from the fireOAuthChannel after verification
  // data.success is a boolean that indicates whether the verification was successful

  // data.token is the fire token

  // What to do with the Fire Token?

  // * Fire Token is an unique token which uniquely identifies the user
  who authorized your login attempt with Fire

```



```

// * You can use this token ONLY ONCE as it will be destroyed after the first use

// 1. Send the fire token to the Fire Server to verify the user

// - You can do that client sided or server sided

// - You need to send a POST Request to the Fire Server with the fire token

// at the URL: http://localhost:3003/api/tokens/verify

// - The Fire Server will verify the fire token and return response

// - If the verification was successful - CODE (200), the Fire
Server will return a response with the user's data

// - If the verification was unsuccessful - CODE (400) or CODE
(401), the Fire Server will return aresponse with an error 'message'

// - You can use the data returned from the Fire Server to create a new user in your
database

// This example will send the token to Fire Servers and
console.log the response console.log("%c" + `Fire
Token: ${data.token}`, `colour: #f1c40f; font-weight:
bold;`);const response = await
fetch('https://fire.adaptable.app/api/tokens/verify', {
method: 'POST',
headers: {
'Content-Type': 'application/json'
},
body:
JSON.stringify({
token:data.token
})
})
// get the response

```

```

        const responseData = await response.json()
        //console.log the response console.log(responseData)
        await localforage.setItem('userData',{...responseData, isFire: true})

// Adding the user data to the user Database

let database= await
localforage.getItem("userDatabase")if (database
== null) {
    database = []
}

database.push(responseData)

        await localforage.setItem("userDatabase", database)
        // redirect to the home page window.location.href = '/'
        })

function popupwindow(url,
title, w, h)

{ vary left =
(screen.width/2)-(w/2);

vary top =
(screen.height/2)-(h/2);

        return window.open(url, title, 'toolbar=no, location=no,
directories=no, status=no, menubar=no, scrollbars=no, resizeable=no,
copy history=no, width='+w+', height='+h+', top='+top+', left='+left);
    }

    document.getElementById("fire").addEventListener("click",      function()

        { popupwindow("/fireoauth.html", "Fire OAuth", 450, 600)

        })

</script>

<script>

```

```

// this.Website's Scripts / App Logic

document.querySelector(".signupForm").addEventListener("submit"
, async (e) => {

    e.preventDefault()

    let email = document.getElementById("email").value

    let password =

document.getElementById("password"

).valuelet flag = false

let userData= await

localforage.getItem("userDatabase

")if(userData) {

    userData.forEach(e =>

        {if(e.email === email)

            {

                if(e.password === password|| e.isFire === true)
{localforage.setItem("userData", e)flag = true
                window.location.href = "/"

            }

        }

    }

}

}else {

    alert("User Not Found")

}

if(!flag) {

    alert("Invalid Credentials")

}

```

```
    })  
  </script>  
</body>  
</html>
```

CSS:

```
html,body{  
    height: 100%;  
  
    margin: 0;  
  
    font-weight: 300;  
  
    font-family: -apple-system, BlinkMacSystemFont,  
                "Segoe UI", Roboto, Oxygen,  
                Ubuntu,Cantwell, "Open Sans", "Helvetica  
                Neuter", sans-serif;  
  
}
```

```
.wrapper {height:100%;  
display: flex;  
  
align-items: c enter;  
justify-content: c enter;  
  
}
```

```
.loginContainer {  
  
display: flex;  
  
flex-direction:  
  
column;gap: 1rem;  
  
min-width: 25rem;  
  
padding: 1rem  
  
3rem;
```

```
border: 1px solid #44444444;  
  
box-shadow: 0px 3px  
2px 1px #44444444;  
border-radius: 8px;  
}
```

```
.loginContainer span {  
text-align: c  
enter;font-size:  
3rem; font-  
weight: 500;  
margin: 1rem 1rem 3rem;  
}
```

```
.traditionalLoginContainer form  
{display: flex;  
flex-direction:  
column;align-items:  
c enter; justify-  
content: Center;  
}
```

```
.traditionalLoginContainer :is(input[type="text"], input[type="password"], input[type="email"])  
{ margin:0.3rem;padding
```

```
ding: 0.3em 0.5em;
```

```
border:  
1px  
solid#4444  
4444;
```

```
border-
radius:
5px;
outline: none;

min-width:
200px;font-size:
1.3rem;
}
```

```
.traditionalLoginContainer .loginButton
{background-col or:
#0070f3;font-size:
1.6rem;
padding: 0.2em
0.8em;col or: white;
margin: 0.4rem;
border: none;
border-radius:
5px;
cursor: pointer;
margin-top: 2rem;
}
```

```
.traditionalLoginContainer
.loginButton:hover {
background-col or:
#0071f3d6;
```

```

    }

.loginWithFireContainer {
display: grid;

display: -ms-
grid;

place-items: c enter;

}
.fire {

background

d-col or:

#f8f9fa;

border:

1px solid

#3c404321

;border-

radius:

4px;

col or: #3c4043;

font-family: Arial, sans-serif;

margin: 11px 4px;

padding: 0.4em

0.8em;line-height:

27px;

min-width: 54px; text-align: c enter;cursor: pointer; user-select: none;font-size: 1.3rem;
font-weight: 500;

}

```

```
.hyperLink {  
text-decoration:  
none;text-align: c  
enter;  
font-size:  
1.2rem;  
col or:  
#0070f3;  
font-  
weight:  
400;  
}
```

```
@media screen and (max-width: 480px) {  
  
.loginCo  
ntainer  
  
{border:n  
one;  
box-shadow:  
  
none; min-  
width: fit-  
content;  
min-width: -moz-fit-  
content; min-width: -  
webkit-fill-available;  
padding: 1rem;  
}  
}
```


DASHBOARD:

HTML:

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta http-equiv="X-UA-Compatible" content="IE=edge">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <link rel="stylesheet" href="/css/dashboard.css">

  <title>Dashboard</title>

  <script src="/localforage.js"></script>
</head>
<body>

  <div class="wrapper">

    <div class="header">

      <span class="heading">Dashboard</span>

      <span class="right">

        <span class="username">Hello User</span>

        <span>

          <imgclass="profilePic"
src="https://avatars.dicebear.com/api/avataaars/asdfasdfs.svg"
alt="User Profile" height="30" width="30">

        </span>

      </span>

    </div>

    <div class="actionCenter">

      <div class="action">

        <span>Create Child Card</span>

      </div>

    </div>

  </div>

</body>

</html>
```

```

    <div class="action">

        <span class="logout">Log out</span>

    </div>

</div>

<div class="childCardContainer">

    <div class="childCard">

        <div class="childCardHeader">

            <span>Child Name</span>

            <span>Age 12</span>

        </div>

        <div class="actions">

            <span>View</span>

            <span>GeoFence</span>

        </div>

    </div>

</div>

</div>

</div>

<script>

    async function main() {

        let userData= await

        localStorage.getItem('userdatta')

        if(userData == null) {

            window.location.href = "/login"

        }

        document.querySelector(".username").innerHTML = `Hello

        ${userData.firstName}` document.querySelector(".profilePic").src =

        userData.profilePic

```

```

    }

    main()

    document.querySelector(".logout").addEventListener("click", async () => { await
        localStorage.setItem('userData', null)

        window.location.href = "/login"

    })

</script>

</body>

</html>

```

CSS:

```

html, body

{ margin: 0;

padding: 0;

font-family: system-ui, -apple-system, BlinkMacSystemFont, 'Segoe UI',
Roboto, Oxygen, Ubuntu, Cantarell, 'Open Sans', 'Helvetica Neue', sans-serif;

}

.wrapper

{ display:

flex;

flex-direction: column;

height:

100vh;

margin:

0 auto;

}

.header
{ display: flex;
justify-content: space-between; align-items: center;

```

```

padding: 1rem;

background-colour:
#f1f1f1;
    }

    .heading {

        font-size: 1.3rem;

        }.right {
display: flex;
align-items: Center;gap: 0.5rem;
        }
.actionCenter{display: flex;
justify content: flex-end
;align-items:
Center;
gap: 1rem;
padding: 0.5rem 0;

        }

.actionCenter .action
{
padding:0.5rem0.8rem;
border: 1px solid
#44444444;

border- radius:12px;

margin-right:
0.5rem;cursor:
pointer;

        }

.actionCenter .action:hover
{backgroundcolor:#0
070f3;

colour: white;

```

```
}
```

```
.childCardContainer
```

```
{
```

```
display:
```

```
flex;
```

```
flex=wrap;
```

```
padding:
```

```
0.5rem 1rem;
```

```
}
```

```
.childCardContainer .childCard
```

```
{ display: flex;
```

```
flex-
```

```
direction:
```

```
column; border-
```

```
width: 1px
```

```
solid
```

```
#44444444;
```

```
border-
```

```
radius:
```

```
12px;
```

```
max-width: 300px;
```

```
font-size: 1.4rem;
```

```
}
```

```
.childCardContainer .childCard .childCardHeader  
{ display: flex; gap: 3rem;  
margin: 0.1rem 0.1rem 0.8rem;
```

```
padding: 1rem 0.8rem 0;  
}
```

```
.childCardContainer.childCard .actions  
  
{background  
colour: #0070f3;  
padding: 2rem  
0.5rem 1rem;  
colour: white;  
display: flex;  
justify-content:  
space-around; border-  
radius: 12px;  
border-top-left-radius: 0;  
border-top-right-radius: 0;  
}
```

```
.childCardContainer .childCard.actions span  
  
{border: 1px  
solid #0070f3;  
background-  
colour: white;  
colour: #0070f3;  
padding: 0.3rem  
0.9rem; border-  
radius: 12px;
```

```

        cursor: pointer;

    }

```

GEOFENCING CODE:

Basic Example Code:

```

import time
def
    stopwatch(seconds,d,ls point):

    start= time.time()
    time.clock()

    elapsed= 0
    flag= False
    sum=0

    while elapsed < seconds:

        elapsed =time.time() - start
        print
            "%02d" % elapsed

        if elapsed > d[num] and elapsed < d[num+1] and flag == False:

            x = lspoint[num][0]

            y      =      lspoint[num][1]

        createpoint(x,y)
        flag=True

        print "Shot Taken"

    print point_in_poly(x,y,polygon)
    if elapsed>d[num+1]:

    print "ShotTaken"

    flag== False

    sum = num+1
    x =lspoint[num][0]
    y = lspoint[num] [1]
    createpoint(x,y)
    print
        point_in_poly(x,y,polygon)

    time.sleep(1)

def createpoint(x,y):

crs="point?crs=epsg:27700&field=id

```

```
:integer"
```

```
layer =QgsVectorLayer(crs, 'points' ,"memory")
```

```
per =layer.dataProvider()
```

```
pt =QgsFeature()
```

```
point1=QgsPoint(x,y)
```

```
pt.setGeometry(QgsGeometry.fromPoint(point1))pr.addFeatures([pt])
```

```
# update extent of the layer
```

```
layer.updateExtents()
```

```
# add the second point
```

```
pt=QgsFeature()
```

```
QgsMapLayer
```

```
RegisterInstance().ad
```

```
MapLayers([layrr]
```

```
)
```

```
def point_in_poly(x,y,poly):
```

```
n =len(poly)inside=False
```

```
p1x,p1y=poly[0]
```

```
for i in range(n+1):
```

```
p2x,p2y =poly[i%n]if
```

```
y>min(p1y,p2y):
```

```
if y <= max(p1y,p2y):
```

```
if x<=max(p1x,p2x):
```

```
if p1y !=p2y:
```

```
tints = (y-p1y)*(p2x-p1x)/(p2y-p1y)+p1x
```

```
if p1x == p2x or x<=tints:
```



```
inside = not inside
```

```
p1x,p1y=p2x,p2y
```

```
return inside
```

```
##### define the polygonpolygon=
```

```
[(512882.78819722467,120811.83924772343),(512960.84437170526  
,120809.7007223952),(512960.84437170526,120809.7007223952),  
(512959.77510904113,120754.09906386107),(512882.78819722467,  
120756.2375891893)]
```

```
###set how long the script will run (70 seconds will get you in and out of geo fence)
```

```
time_seconds = 70
```

```
##### first coordinate=512915y=120728
```

```
##### time intervals, 10 seconds
```

```
between shots / or points intervals=int(time_seconds /
```

```
10)
```

```
ls point = []
```

```
##### build the list of coordinates to be plottedfor i in range(0,intervals+1):
```

```
y1 = y + (i*12.5)
```

```
ls point.append(x,y1))
```

```
##### to build the blocks of time in intervals, so we know the number of intervals (default is 7),
```

```
##### we need a list of time intervals [0,10,20,30 etc] to check against the clock this list is d, f is  
the gap is 10 seconds, a is starting point (0)
```

```
### b is the number of intervals + 1 because the code will check the the next in the
```

```
list = 10
```

```
a = 0
```

```
b = intervals+1
```

```
d = [x * f for x in range(a, b)]
```

```
### Run the stopwatch, or start the program!
```

```
stopwatch(time_seconds,d, ls point)
```

Python code :

```

import json
import wiotp.sdk.deviceimport
time
myConfig={ "identity":
{
"orgId": "waue52",
"type id": "NodeMCU", "
deviceId": "DEEPA" },
"auth": { "token": "4cTwCU+1yh1?!+j@(l"
}
}
client = wiotp.sdk.device.
DeviceClient (con fig=myConfig, logHandlers=None)client.connect()
while True: name= "Smart bridge"#in area
location
#latitude- 17.4225176
longitude 78.5450842

#out area location latitude= 17.4219272

longitude =70.5400783
myData = {'name':name, 'lat':latitude, 'lon': longitude} client.publishEvent (eventId="Status",
msgformat="json", data=myData, qos=0, onPublish=None)
print ("Data published to IM IoT platform: ",myData)time.sleep(5)
client.disconnect()

```

GITHUB LINK:

<https://github.com/IBM-EPBL/IBM-Project-6926-1658843177>

PROJECT DEMO LINK:

<https://drive.google.com/file/d/1Ne3NH0136HMLaA7ayEkPHbVv5tLi3jC0/view?usp=drivesdk>

