

# **SMART FARMER – IOT ENABLEDD SMART**

## **GAPPLICATION**

### **PROJECT DEVELOPMENT – DELIVERY OF**

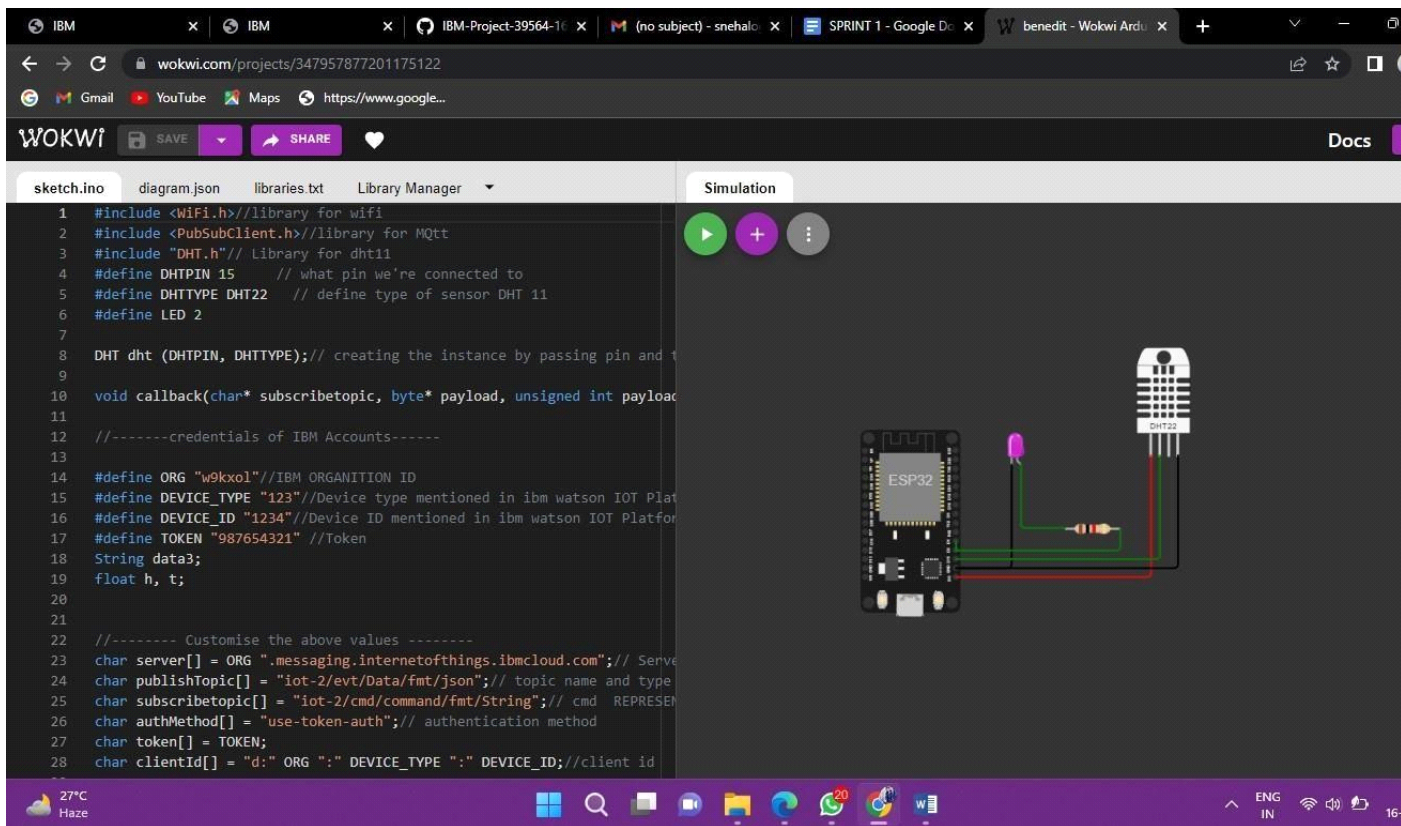
#### **SPRINT - 1**

<b>DATE</b>	17 NOVEMBER 2022
<b>TITLE</b>	SMART FARMER – IOT ENABLED SMART FARMING APPLICATION
<b>TEAM ID</b>	PNT2022TMID11130
<b>TEAM LEADER NAME</b>	Tharun Raj TR
<b>TEAM MEMBER NAME</b>	Mohith M Ranjith V Shailesh kanna R

**Connect Sensor in ESP8266**

**CIRCUIT**

**DIAGRAM:**



## Develop a Python Code:

**Code:** import time  
import sys  
import ibmiotf.application  
import ibmiotf.device  
import random

#Provide your IBM Watson Device  
Credentials  
organization = "w9kxol"  
deviceType = "123" deviceId = "1234"  
authMethod = "token" authToken =  
"987654321"

# Initialize GPIO  
def myCommandCallback(cmd):  
print("Command received: %s" %  
cmd.data['command'])  
status=cmd.data['command']  
if status=="motoron": print ("motor is

```

on")          elif status == "motoroff":          print
("motor is off") else :
    print ("please send proper command") try:
deviceOptions = {"org": organization, "type":
deviceType, "id": deviceId, "authmethod":
authMethod, "auth-token": authToken}
deviceCli
=
        ibmiotf.device.Client(deviceOptions
        ) #
        ..... exce
        pt

Exception as e:

print("Caught exception connecting device: %s" %
        str(e))

        sys.exit()

# Connect and send a datapoint "hello" with
value "world" into the cloud as an event of type
"greeting" 10 times deviceCli.connect()
while True:
    #Get Sensor Data from DHT11

    temp=random.randint(90,110)
    Humid=random.randint(60,100)

    moist=random.randint(50,120)    data = { 'temp'
:temp, 'Humid': Humid , 'moist':moist}
    #print data def myOnPublishCallback():
        pri
nt("Published Temperature = %s C" % temp,
"Humidity = %s %% "
% Humid, "soilmoisture=%s %% " % moist, "to IBM
Watson")

```

```
    success =  
    deviceCli.publishEvent("IoTSensor","json",  
    data,  
    qos=0, on_publish=myOnPublishCallback  
    )  
    if not success: print("Not  
connectedto IoTf")  
    time.sleep(10)  
  
    deviceCli.commandCallback = myCommandCallback  
  
# Disconnect the device and application from the  
clouddeviceCli.disconnect()
```

**OUTPUT:**

```
File Edit Format Run Options Windows Help
import time
import sys
import ibmiotf.application
import ibmiotf.device

#Replace your IBM Watson Device Credentials
organization = "wskcc1"
deviceType = "123"
deviceId = "1234"
authMethod = "token"
authToken = "997454321"

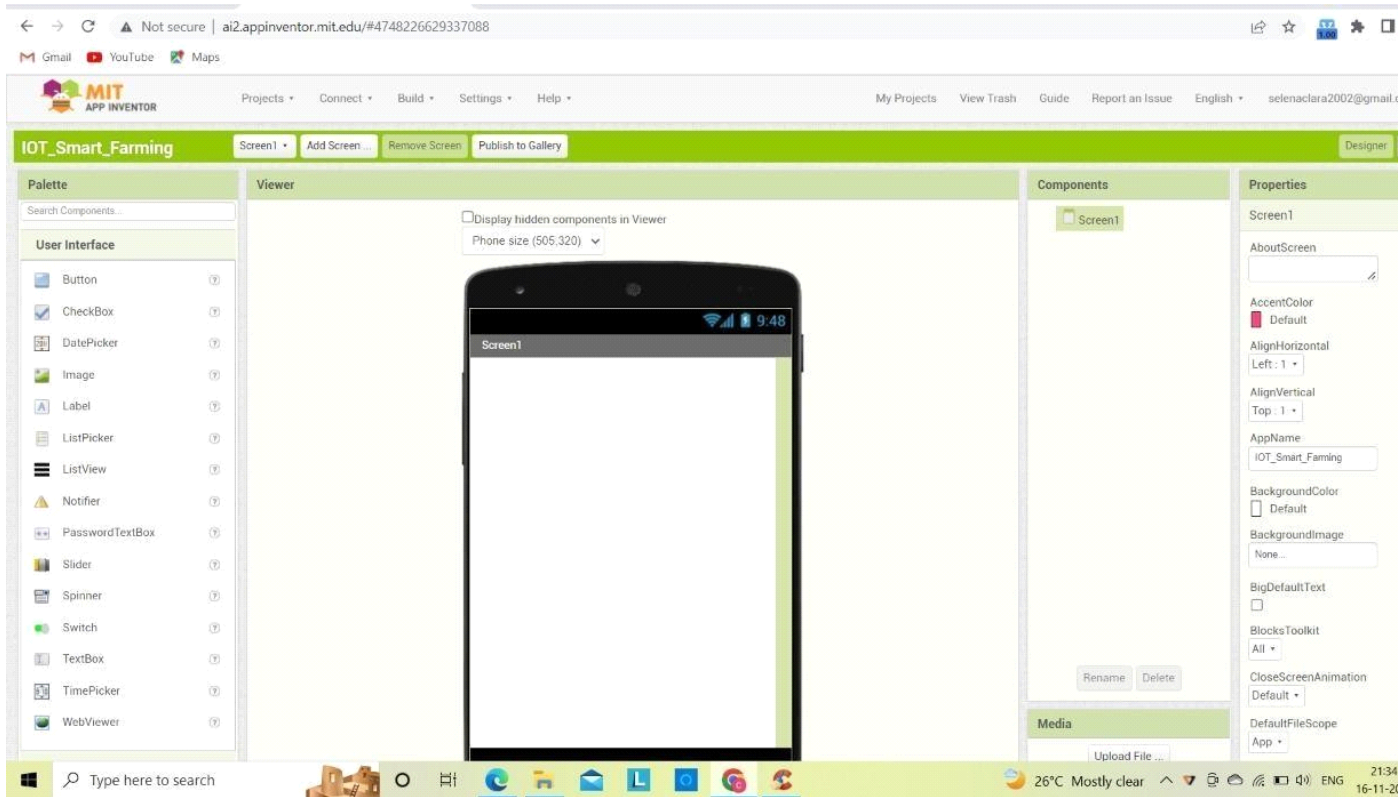
# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="motoron":
        print ("motor is on")
        #if status == "motoroff":
            print ("motor is off")
        else:
            print ("please send proper command")

try:
    deviceOptions = {"org": organization, "type":
deviceCli = ibmiotf.device.Client(deviceOptions)
#.....

except Exception as e:
    print("Caught exception connecting device: %s" %
sys.exit())
```

```
File Edit Shell Debug Console Window Help
Published Temperature = 90 C Humidity = 80 % soilmoisture=76 % to IBM Watson
Published Temperature = 105 C Humidity = 63 % soilmoisture=16 % to IBM Watson
Published Temperature = 110 C Humidity = 61 % soilmoisture=86 % to IBM Watson
Published Temperature = 100 C Humidity = 71 % soilmoisture=83 % to IBM Watson
Command received: motoron
motor is on
Published Temperature = 104 C Humidity = 81 % soilmoisture=101 % to IBM Watson
Published Temperature = 100 C Humidity = 74 % soilmoisture=78 % to IBM Watson
Published Temperature = 90 C Humidity = 89 % soilmoisture=53 % to IBM Watson
Published Temperature = 105 C Humidity = 68 % soilmoisture=115 % to IBM Watson
Published Temperature = 94 C Humidity = 85 % soilmoisture=81 % to IBM Watson
Published Temperature = 100 C Humidity = 82 % soilmoisture=74 % to IBM Watson
Published Temperature = 97 C Humidity = 65 % soilmoisture=61 % to IBM Watson
Published Temperature = 104 C Humidity = 93 % soilmoisture=85 % to IBM Watson
Published Temperature = 104 C Humidity = 88 % soilmoisture=81 % to IBM Watson
Published Temperature = 101 C Humidity = 97 % soilmoisture=100 % to IBM Watson
Published Temperature = 101 C Humidity = 82 % soilmoisture=78 % to IBM Watson
Published Temperature = 100 C Humidity = 76 % soilmoisture=88 % to IBM Watson
Published Temperature = 103 C Humidity = 66 % soilmoisture=96 % to IBM Watson
Published Temperature = 98 C Humidity = 97 % soilmoisture=71 % to IBM Watson
Published Temperature = 110 C Humidity = 94 % soilmoisture=81 % to IBM Watson
Published Temperature = 104 C Humidity = 68 % soilmoisture=119 % to IBM Watson
Published Temperature = 97 C Humidity = 88 % soilmoisture=79 % to IBM Watson
Published Temperature = 104 C Humidity = 71 % soilmoisture=116 % to IBM Watson
Published Temperature = 98 C Humidity = 84 % soilmoisture=111 % to IBM Watson
Published Temperature = 89 C Humidity = 88 % soilmoisture=75 % to IBM Watson
Published Temperature = 104 C Humidity = 87 % soilmoisture=87 % to IBM Watson
Published Temperature = 96 C Humidity = 92 % soilmoisture=91 % to IBM Watson
Published Temperature = 92 C Humidity = 70 % soilmoisture=79 % to IBM Watson
Published Temperature = 104 C Humidity = 79 % soilmoisture=88 % to IBM Watson
Published Temperature = 96 C Humidity = 87 % soilmoisture=104 % to IBM Watson
Published Temperature = 103 C Humidity = 74 % soilmoisture=88 % to IBM Watson
Published Temperature = 88 C Humidity = 71 % soilmoisture=102 % to IBM Watson
```

**Develop an application with MIT APP  
inventor:Mobile App opening page:**



## Mobile App Log in Page:

IBM x IBM-EPBL x (1) Whats/ x Service Di x IBM Wats: x Node-RED x Node-RED x MIT App i x caliper pin: x +

Not secure | ai2.appinventor.mit.edu/#6171529952755712

MIT APP INVENTOR

smart\_farming Screen3 Add Screen ... Remove Screen Publish to Gallery

Palette

Search Components...

User Interface

- Button (1)
- CheckBox (1)
- DatePicker (1)
- Image (1)
- Label (1)
- ListPicker (1)
- ListView (1)
- Notifier (1)
- PasswordTextBox (1)
- Slider (1)
- Spinner (1)
- Switch (1)
- TextBox (1)
- TimePicker (1)
- WebViewer (1)

Layout

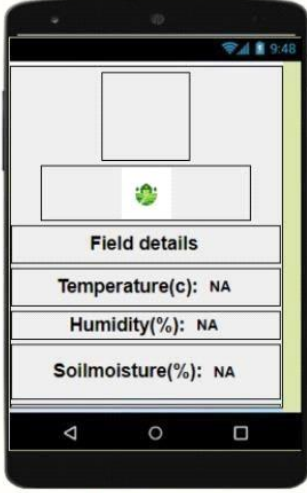
Media

Drawing and Animation

Viewer

Display hidden components in Viewer

Phone size (505,320)



Non-visible components

Components

- Screen3
  - VerticalArrangement1
    - HorizontalArrangement1
      - Image1
    - HorizontalArrangement2
      - Label1
    - HorizontalArrangement3
      - Label2
    - HorizontalArrangement4
      - Label3
    - HorizontalArrangement5
      - Label4
    - HorizontalArrangement6
      - Label5
    - HorizontalArrangement7
      - Label7
    - HorizontalArrangement8
      - Label8
    - HorizontalArrangement9
      - Label6

Media

- download(1).png
- download.jpg
- download.png
- field-fa\_84049.jpg

Properties

Button2

BackgroundColor

White

Enabled

FontBold

FontItalic

FontSize

14.0

FontTypeface

sans serif

Height

Automatic

Width

Automatic

Image

None

Shape

rounded

ShowFeedback

Text

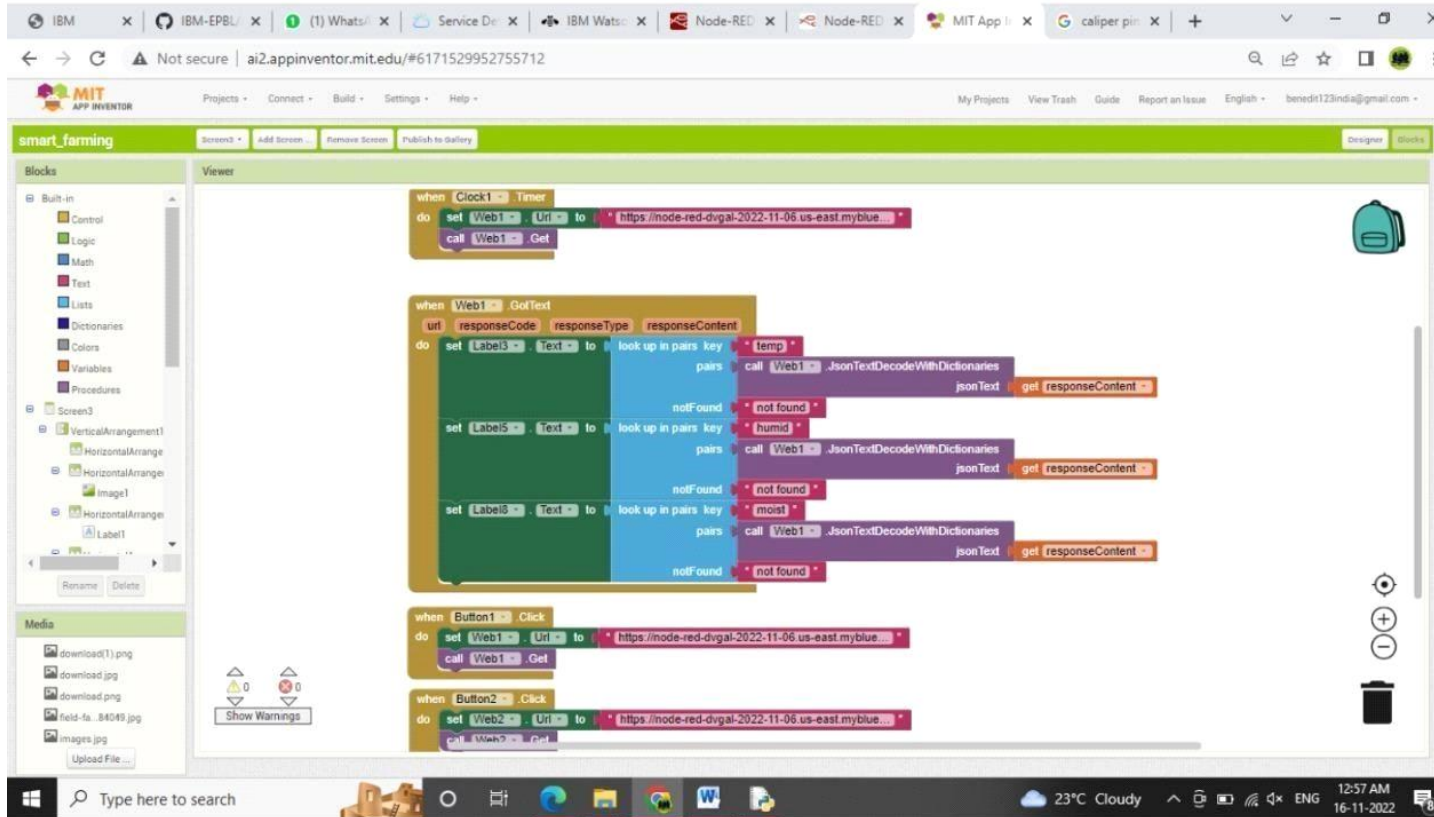
Motor off

TextAlignment

center

1

23°C Cloudy 12:58 AM 16-11-20



## JIRA Software Sprint Planning:



 Smart Farmer - IoT (IoT) Software project

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

 Springer Springer

Year	Costs	2000
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 Project logo

Results on a more managerial project  
 (Sapienthouse)

## Project: V - Smart Express - Self-Organized, Subject Learning Applications

## All apartments

Completed 100/100

Downloaded from <http://ajph.org/>

GETTING STARTED

Establishing Node-Red connection

[NODE-RED](#)

Connecting application with Node-Red and further application development

[NODE-RED](#)

Testing developed application and writing install of hardware

BY PROVIDING A GUIDE

Connect the hardware with AWS Cloud and API integrations

[APPLICATION DEVELOPMENT](#)

Application development for project

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