Project Centric Learning

Fundamentals of Innovation and Venture Development in Entrepreneurship – III

This is to certify that the pcl entitled

[Drone Redzone]

is the bonafide record of pcl work done by

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Note:

Table of contents will be different from Research project/Patent/Mobile APP

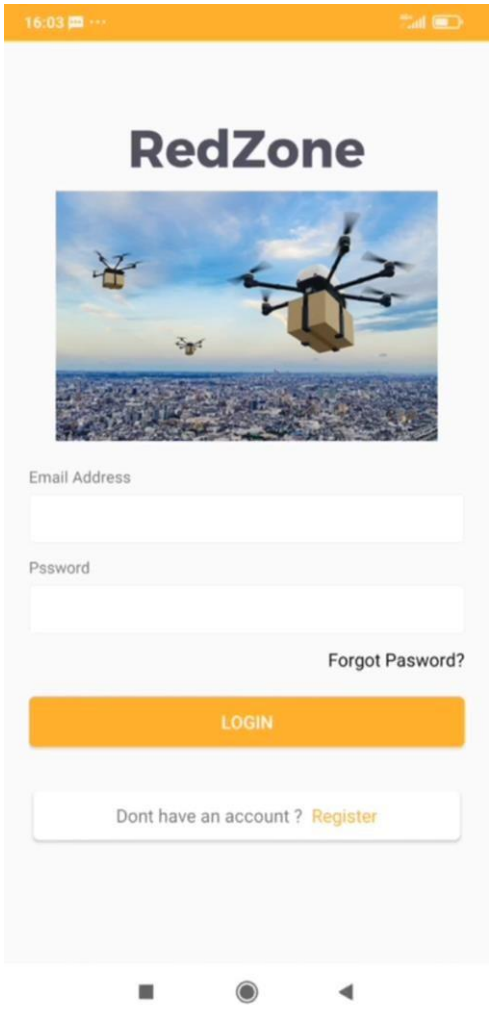
INTRODUCTION

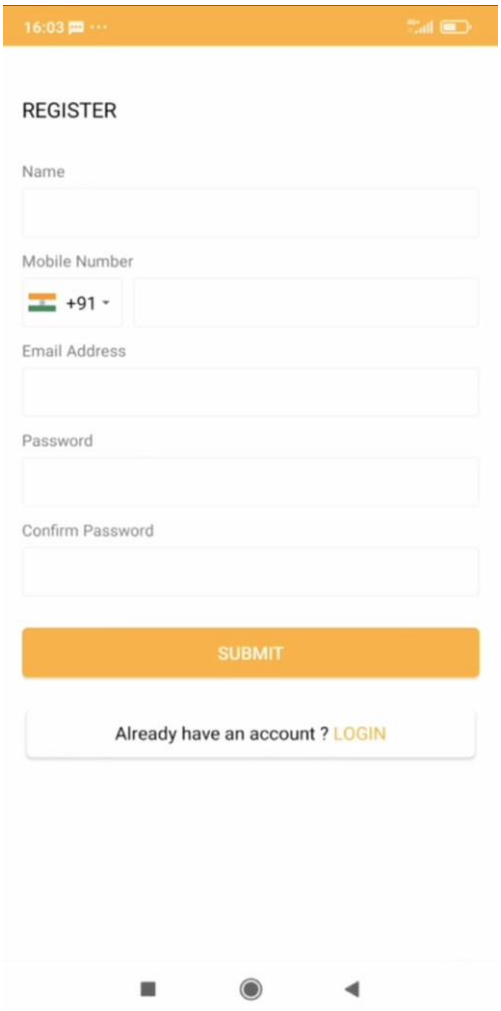
Drone is an unmanned aircraft which is formally called as unmanned aerial vehicles (UAVs) or unmanned aerial system. A drone refers to any aerial vehicle that receives remote commands from a pilot or relies on software for autonomous flight. Many drones display features like cameras for collecting visual data and propellers for stabilizing their flight patterns. Sectors like videography, search and rescue, agriculture and transportation have adopted drone technology. A flying robot that are remote controlled and fly up to a specified limit. Now a days drones are used in may areas like photography, delivering goods, filming, searching and helping people at the time of natural disasters, photography, and may more.

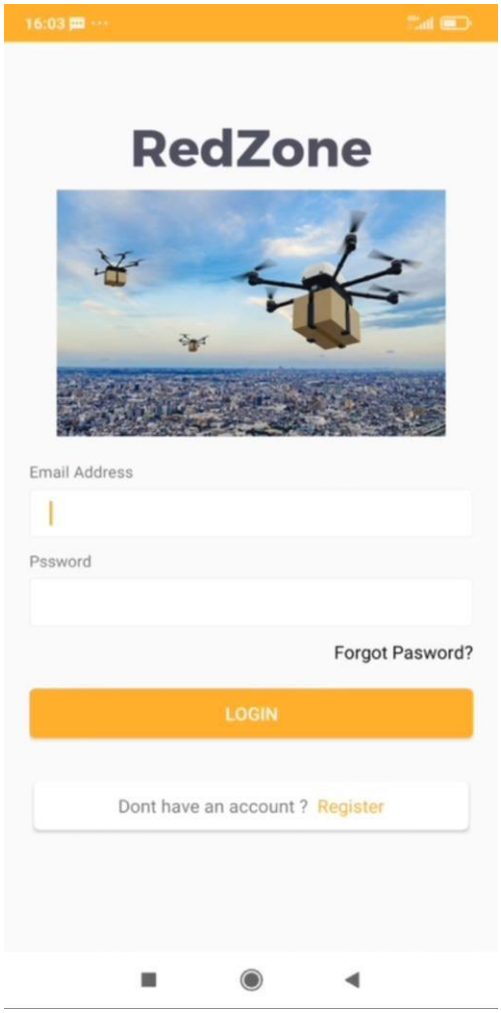
Red zone is the 'no-drone zone' within which drones can be operated only after a permission from the Central Government. The airspace map may be modified by authorised entities from time to time. Drone Redzone is an application used to flag the locations of private properties by the user by setting and location & radius of the property. The details are sent to companies so that they can avoid the locations. During the deliveries, to maintain the privacy of the user and also to avoid the government & security based properties. To maintain the confidentiality so this App act as a bridge between the User, Company, Government to maintain the easy flow of new age deliveries.

Drone Redzone is a application through which the users can restrict the drones to fly above their private properties. That can be done by selecting the location and fixing the radius of the property. Once the radius is fixed that particular area is created as redzone so now it is not possible for the drone to enter the restricted area. The drone would find a different way to complete its task. In near future the use of drones would become even more common. So this application would help the users to protect their area from drones been flying over their private area.

INTREFACE DESIGN



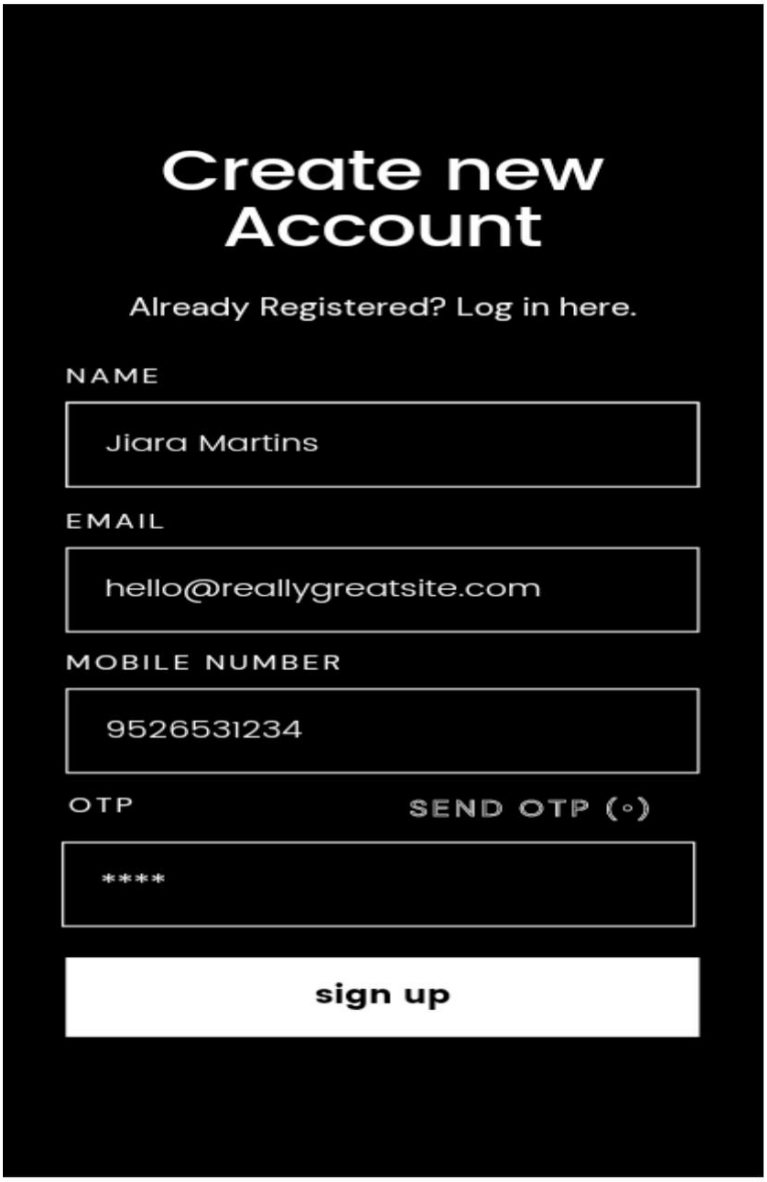



16:03
RedZone
Email Address
Pssword
Forgot Pasword?
LOGIN
Dont have an account ? Register


16:03
Welcome
CREATE NEW RED ZONE
VIEW PREVIOUS RED ZONE MARKED
RAISE A COMPLAINT

DEVELOPMENT OF APPLICATION

Signup Page



Login Page


Login
Sign in to continue
MOBILE NUMBER
Jiara Martins
OTP
SEND OTP (◦)
******
Register
Forgot password
sign in

Home page


Home page
User:sooya
Create new red zone
View previous red zones marked
Raise a complaint

Create a new Red Zone

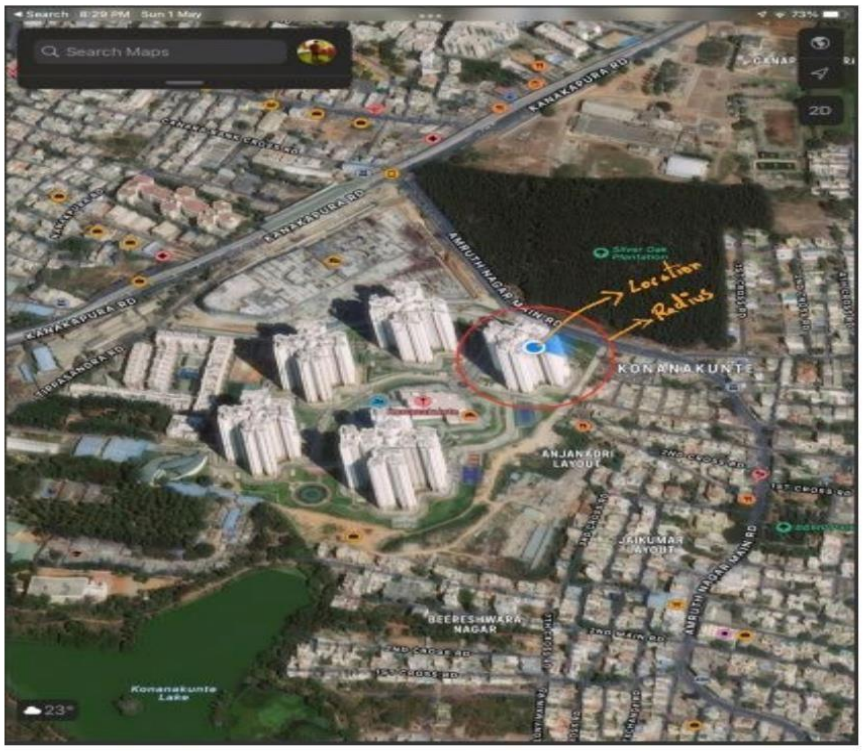
1) Set Location

2) Set Radius

3) Upload Ownership Documents

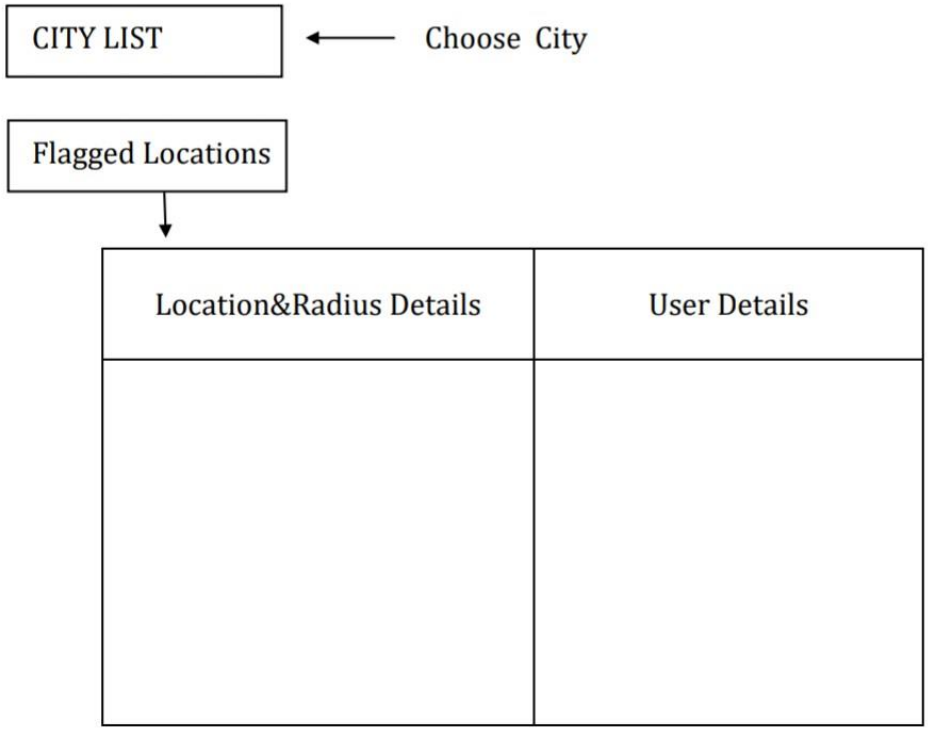
4) Submit the details

SET LOCATION AND RADIUS



Admin & Company Panel

Admin and company get the details of new red zone. The Data is later sent to their company Database so that they can avoid the Flagged locations. In their Future Deliveries. So that the Privacy is maintained.



Transfer the Dump Details to the company Database and FLAG the Locations.

Coding part

Main Activity

```
package com.comviva.dronedetection; import
androidx.appcompat.app.AppCompatActivity; import
android.content.Intent; import android.os.Bundle;
import android.view.View;
import static maes.tech.intentanim.CustomIntent.customType; public
class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState); setContentView(R.layout.activity_main);
}
/* public void slideUp(View view){
startActivity(new Intent(MainActivity.this, RegisterActivity.class));
customType(MainActivity.this,"left-to-right");
}*/
}
```

Login Activity

```
package com.comviva.dronedetection; import
androidx.appcompat.app.AppCompatActivity; import
androidx.appcompat.widget.AppCompatButton; import
android.content.Intent; import android.os.Bundle;
import android.view.View; import
android.widget.EditText;

import android.widget.Toast;
```

```
import com.comviva.dronedetection.typeface.CustomFontTextView;
import static maes.tech.intentanim.CustomIntent.customType; public
class LoginActivity extends AppCompatActivity {
EditText email_et,password_et;
AppCompatButton login_btn;
CustomFontTextView register_tv;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_login); email_et =
findViewById(R.id.email_et); password_et =
findViewById(R.id.password_et); login_btn =
findViewById(R.id.login_btn); register_tv =
findViewById(R.id.register_tv);
login_btn.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) { if(email_et.getText().toString().isEmpty()){
Toast.makeText(LoginActivity.this,"please enter email",Toast.LENGTH_SHORT).show();
}else if(password_et.getText().toString().isEmpty()){
Toast.makeText(LoginActivity.this,"please enter password",Toast.LENGTH_SHORT).show();
}else {
if(email_et.getText().toString().equals("admin@gmail.com")&&password_et.getText().toString().equ
als("12345678")){
Intent intent = new Intent(LoginActivity.this,MainActivity.class); startActivity(intent);
}else{
Toast.makeText(LoginActivity.this,"Email/Password you entered is
incorrect",Toast.LENGTH_SHORT).show();
}
}
}
});
 register_tv.setOnClickListener(new View.OnClickListener() {
 @Override
```

```
public void onClick(View v) {
startActivity(new Intent(LoginActivity.this, RegisterActivity.class)
customType(LoginActivity.this,"left-to-right");
}
});
```

Register Activity

```
package com.comviva.dronedetection; import
androidx.appcompat.app.AppCompatActivity; import
androidx.appcompat.widget.AppCompatButton; import
androidx.appcompat.widget.AppCompatEditText; import
android.content.Intent; import android.os.Bundle; import
android.os.Handler; import android.view.View; import
android.widget.Button; import android.widget.EditText;
import android.widget.Toast;
import com.comviva.dronedetection.typeface.CustomFontTextView;
import static maes.tech.intentanim.CustomIntent.customType; public
class RegisterActivity extends AppCompatActivity {
AppCompatButton submit_button;
CustomFontTextView login_tv;
Handler handler;
AppCompatEditText firstName_et,mobile_et,email_et,password_et,confPassword_et;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState); setContentView(R.layout.activity_register);
submit_button = findViewById(R.id.submit_button); login_tv =
findViewById(R.id.login_tv); firstName_et =
findViewById(R.id.firstName_et); mobile_et = findViewById(R.id.mobile_et);
email_et = findViewById(R.id.email_et); password_et =
findViewById(R.id.password_et); confPassword_et =
findViewById(R.id.confPassword_et); submit_button.setOnClickListener(new
View.OnClickListener() {
```

```
@Override
public void onClick(View v) {
if(firstName_et.getText().toString().isEmpty()){
Toast.makeText(RegisterActivity.this,"please enter Name",Toast.LENGTH_SHORT).show();
}else if(mobile_et.getText().toString().isEmpty()){
Toast.makeText(RegisterActivity.this,"please enter Mobile No",Toast.LENGTH_SHORT).show();
}else if(email_et.getText().toString().isEmpty()){
Toast.makeText(RegisterActivity.this,"please enter email",Toast.LENGTH_SHORT).show();
}else if(password_et.getText().toString().isEmpty()){
Toast.makeText(RegisterActivity.this,"please enter password",Toast.LENGTH_SHORT).show();
}else if(confPassword_et.getText().toString().isEmpty()){
Toast.makeText(RegisterActivity.this,"Re Enter your Password",Toast.LENGTH_SHORT).show();
}else if (password_et.getText().toString().equals(confPassword_et.getText().toString())){
Toast.makeText(RegisterActivity.this,"Confirm Password Does Not
Match",Toast.LENGTH_SHORT).show();
}else {
Toast.makeText(RegisterActivity.this,"Registration successful",Toast.LENGTH_SHORT).show();
Intent intent = new Intent(RegisterActivity.this, LoginActivity.class);
intent.addFlags(Intent.FLAG_ACTIVITY_CLEAR_TOP | Intent.FLAG_ACTIVITY_NEW_TASK);
startActivity(intent); finish();
}
}
});
login_tv.setOnClickListener(new View.OnClickListener() {
@Override public void
onClick(View v) {
startActivity(new Intent(RegisterActivity.this, LoginActivity.class));
customType(RegisterActivity.this,"left-to-right");
}
});
}
}
```

Splash Screen Activity package

```
com.comviva.dronedetection; import
androidx.appcompat.app.AppCompatActivity; import
android.app.Activity; import android.content.Intent;
import android.net.ConnectivityManager; import
android.os.Bundle; import android.os.Handler;
import android.widget.Toast;
public class SplashScreenActivity extends AppCompatActivity { private
Activity activity;
Handler handler; @Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_splash_screen);
activity = SplashScreenActivity.this; isInternetOn();
}
public void isInternetOn() { handler =
new Handler();
handler.postDelayed(new Runnable() {
@Override

public void run() {
Intent intent = new Intent(activity, LoginActivity.class);
intent.addFlags(Intent.FLAG_ACTIVITY_CLEAR_TOP | Intent.FLAG_ACTIVITY_NEW_TASK);
startActivity(intent); finish(); }
}, 1000);
}
}
```

IMPLEMENTATION OF DRONE REDZONE

The implementation of this idea is quite simple and can be easily done by anyone. Initially, the user who wants to create a drone redzone has to follow the following steps:

1) Sign Up to the page by providing all the necessary details to the application(example: name, email id etc.) and create an account

2) Login to the page by providing the personal details of the user.(example: phone number and OTP)

3) After the following the above steps, now the user will be able to see a home page of the application which would offer 3 options as choice to the user

- Create Red Zone
- View previous red zones marked
- Raise a complaint

4)For creating the red zone area, the user needs to follow the steps as follows:

- Setting up the location where red zone is wanted
- Setting the radius of the red zone
- Uploading the ownership documents without which the user would be deprived of the rights to mark the redzone area.
- Submitting all the necessary details for the application.

4) After following all the above steps, the idea of marking an area as a Drone Red zone will be implemented.

MARKET SURVEY

Ministry of Civil Aviation releases India's airspace map for drone operations. Taking another step towards realising our collective vision of an **Aatmanirbhar Bharat**, the Central Government under the leadership of Prime Minister Shri Narendra Modi, has released India's airspace map for drone operations on 24 September 2021. The map is available on DGCA's digital sky platform. The drone airspace map comes as a follow-through of the liberalized Drone Rules, 2021 released by the Central Government on 25 August 2021, the PLI scheme for drones released on 15 September 2021 and the Geospatial Data Guidelines issued on 15 Feb 2021. All these policy reforms will catalyse supernormal growth in the upcoming drone sector.

- Owning and operating drones in India:

The Directorate General of Civil Aviation (DGCA) has released regulations for the operation of civil drones in India. Here is a brief overview of what you need to know:

- Registration and Licensing: All drones must be registered with the DGCA, and operators must have a license to fly them. Registrations can be done on the "Digital Sky platform"

operated by the DGCA which provides a single-window online platform for drone registrations and approvals related to drone operations.

- Operator Requirements: Operators must be over 18 years of age, have completed a training course from a DGCA-approved institution, and pass a written exam. Once the drone operation license is issued, it is valid for 10 years.

- Restrictions on Use: There are restrictions on where and when operators can fly drones. For example, operators cannot fly near airports or in densely populated areas.

To operate a drone in India, you must be registered with the DGCA and have a license to fly it. You must be over 18 years of age, have passed 10th standard exams, and have completed a training course from a DGCA-approved institution. You will also need to pass a written exam.

Once the exam is passed, you will receive a remote pilot certificate from the DGCA via the Digital Sky Platform within 15 days. Once the certificate is issued, it is valid for 10 years.

Under the new rules, a certificate is not required for operating nano drones (weighing less than 250 grams) and non-commercial micro drones (weighing less than 2 KG).

- Restrictions there on the use of drones in India.

Drone ownership and operation are far more simplified under the 2021 Rules than earlier regulations. But some restrictions are in place with specific emphasis on approvals, licenses, uses and compliances and drone operators must be aware of them to ensure full compliance with all applicable laws.

Green, Yellow, and Red Zones

The Indian Ministry of Civil Aviation (MoCA) has also deployed an interactive airspace map on the Digital Sky Platform for the convenience of drone operators and all other stakeholders. The map is color-coded into Green, Yellow, and Red zones.

While no permission is required to fly drones in the green zones, yellow zones are controlled airspace and need special permission to enter. Red zones are strictly no-fly zones. Red zones include areas such as military bases or nuclear power plants and other sensitive areas are restricted due to the risk of accidents or national security purposes.

- Restriction on speed and elevation

Operators should not fly Nano and micro drones over 50 ft. above ground level and above a speed of 25 m/s.

- **No permission - No Take-off**

In India, before every operation of a drone, permission is mandatory. Drone operators can see permission *via* a mobile app (*covered under the digital sky platform*) which automatically grants or rejects the permission. The specifications of drones permitted for use in India require them to be incapable of take-off without permission.

Operators of drones must ensure that they comply with all these restrictions. Failure to do so could result in penalties, including a fine of up to **INR 1,00,000**.

- India's ban on drone imports

As of February 2022, India has banned the import of all drones and components that can assemble to create drones. It is done to encourage the domestic drone manufacturing industry to become a global drone hub by 2030. Some exceptions are there to this import ban for the defense industry, security purposes, and research and development of the technology.

The Indian government's ban on the import of drones is based on a two-pronged strategy: Firstly, that the development of indigenous technology will lead to a demand for products and drone-related services in local markets and will also enable the creation of employment opportunities. Secondly, to ensure the regulation of drone technology and to prevent its misuse within Indian territories leading to defense-related risks including information leaks.

Drones are becoming increasingly popular for both recreational and commercial purposes all over the world. In India, the publication of the Drone Rules, 2021 and the Drone (Amendment) Rules, 2021 make the operation of drones simpler than ever before. Along with the notification of these Rules, a ban on the import of drones seeks to push the Indian manufacturing sector to rapidly assimilate technology to cater to the needs of the Indian market. The Indian government's ambitious goal of becoming a global drone hub by 2030 is supported by new regulations and rules. It is crucial to be familiar with these rules and regulations before operating a drone in India.