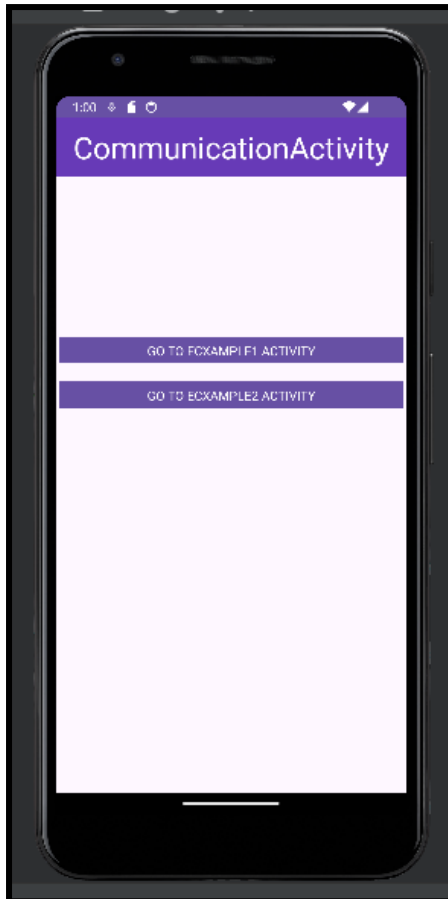


TP3 : Communication entre les activités et autre composants (Intent)

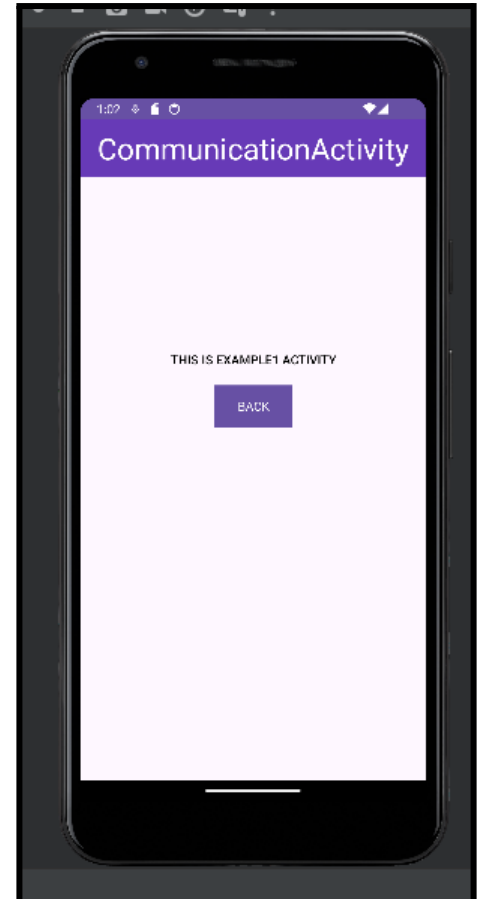
1-Utilisation explicite d'intent

1.1-Démarrage d'une activité sans retour

MainActivity



Example 1 Activity



MainActivity code:

```
public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button example1=findViewById(R.id.button1);
        example1.setOnClickListener(v -> {

            Intent MyIntent1 = new Intent( packageContext: MainActivity.this, example_one_activity.class);
            //StartExample1Activity
            startActivity(MyIntent1);

        });
    }
}
```

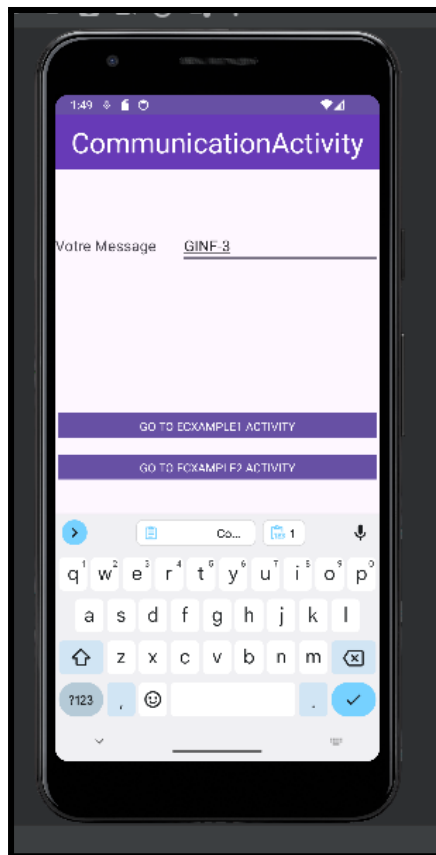
Example 1 Activity code:

```
public class example_one_activity extends AppCompatActivity {

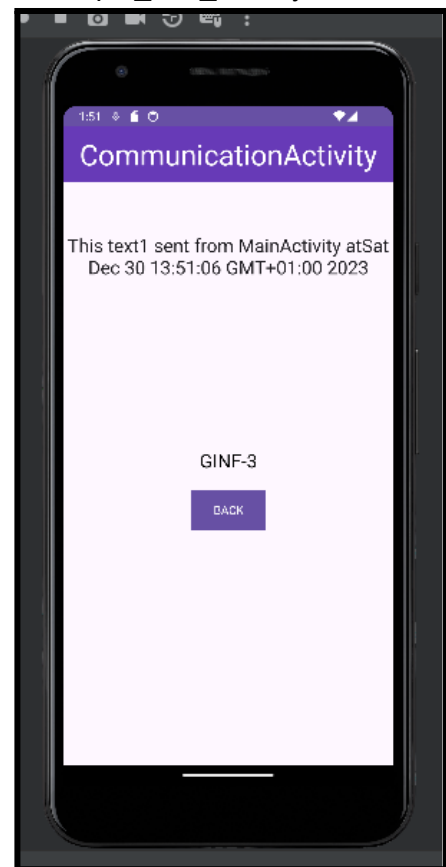
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_example_one);
        Button example1_go_back = findViewById(R.id.go_back);
        example1_go_back.setOnClickListener(V->{example_one_activity.this.finish();});
    }
}
```

1.2-Transmission de données avec la méthode putExtra()

MainActivity



example_one_activity



MainActivity code:

```
message.setOnClickListener(v->{
    message.setText("");
});
example1.setOnClickListener(v -> {

    Intent MyIntent1 = new Intent( packageContext MainActivity.this, example_one_activity.class);
    MyIntent1.putExtra( name: "text1", value: "This text1 sent from MainActivity at"+ new Date());
    MyIntent1.putExtra( name: "Message", message.getText().toString() );
    startActivity(MyIntent1);

});
```

example_one_activity code:

```
19 TextView textMessage=findViewById(R.id.ms);
20 TextView textView1 = findViewById(R.id.ms1);
21 Intent intent = getIntent();
22 // Parameter in Intent, sent from MainActivity
23 String value1 = intent.getStringExtra( name: "text1");
24 // Parameter in Intent, sent from MainActivity
25 String Message = intent.getStringExtra( name: "Message");
26 textView1.setText(value1);
27 textMessage.setText(Message);
28
29 Button example1_go_back = findViewById(R.id.go_back);
30 example1_go_back.setOnClickListener(V->{example_one_activity.this.finish();});
31
32 }
33 }
```

1.3-Transmission de données en utilisant un objet Bundle

MainActivity modification dans le code:

```
Bundle myBundle = new Bundle();
myBundle.putString("text1","This text1 sent from MainActivity at"+ new Date());
myBundle.putString("Message", message.getText().toString());
MyIntent1.putExtras(myBundle);
startActivity(MyIntent1);
```

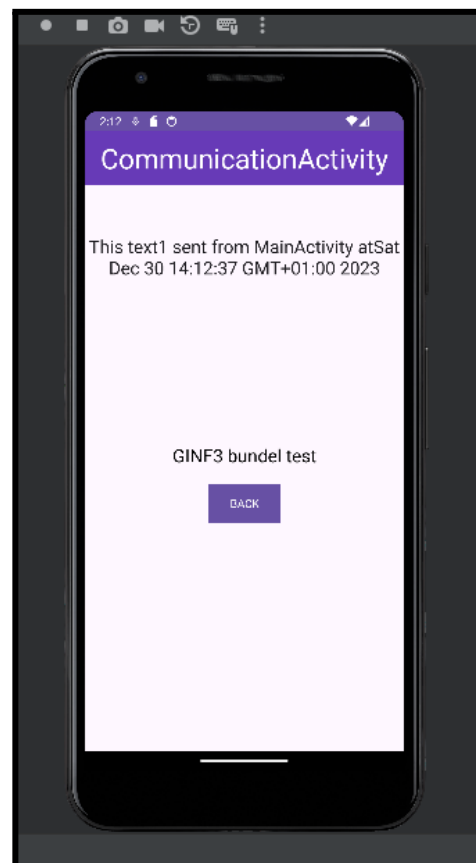
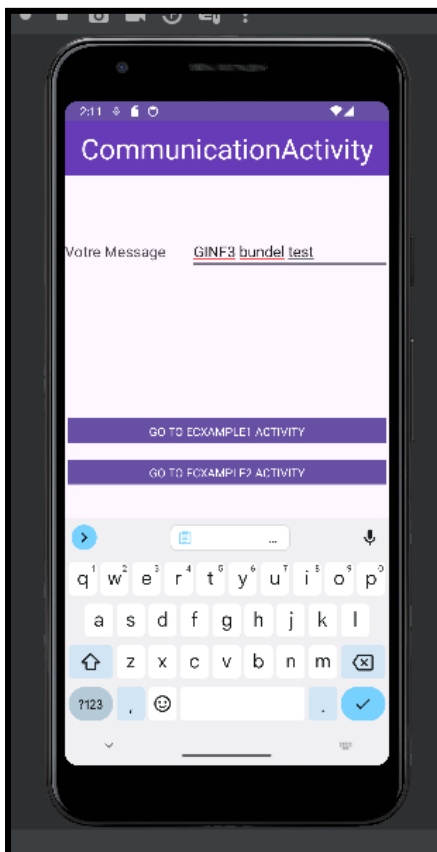
example_one_activity modification dans le code:

```
Bundle myBundle = getIntent().getExtras();
String value1 = myBundle.getString( key: "text1");
String Message = myBundle.getString( key: "Message");
TextView textMessage=findViewById(R.id.ms);
TextView textView1 = findViewById(R.id.ms1);
textView1.setText(value1);
textMessage.setText(Message);

textView1.setText(value1);
textMessage.setText(Message);

Button example1_go_back = findViewById(R.id.go_back);
example1_go_back.setOnClickListener(V->{example_one_activity.this.finish();});
```

test:



1.4-Démarrage d'une activité avec un retour

MainActivity code:

```
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    Button example1=findViewById(R.id.button1);
    Button example2=findViewById(R.id.button2);

    EditText message=findViewById(R.id.back_message);
    EditText message=findViewById(R.id.message);

    example2.setOnClickListener(v->{
        Intent intent = new Intent( packageContext: MainActivity.this, ReturnResultActivity.class);
        intent.putExtra( name: "text1", value: "This text1 sent from MainActivity at"+ new Date());
        intent.putExtra( name: "Message", message.getText().toString() );
        startActivityForResult(intent, SECOND_ACTIVITY_REQUEST_CODE);
    });

    message.setOnClickListener(v->{
        message.setText("");
    });
    example1.setOnClickListener(v -> {

        Intent MyIntent1 = new Intent( packageContext: MainActivity.this, example_one_activity.class);
        MyIntent1.putExtra( name: "text1", value: "This text1 sent from MainActivity at"+ new Date());
        MyIntent1.putExtra( name: "Message", message.getText().toString() );

        /* // Put parameters sing Bundle
        Bundle myBundle = new Bundle();
        myBundle.putString("text1","This text1 sent from MainActivity at"+ new Date());
        myBundle.putString("Message", message.getText().toString());
        MyIntent1.putExtras(myBundle);
        */

        startActivity(MyIntent1);
    });
}
```

OnActivityResult method code:

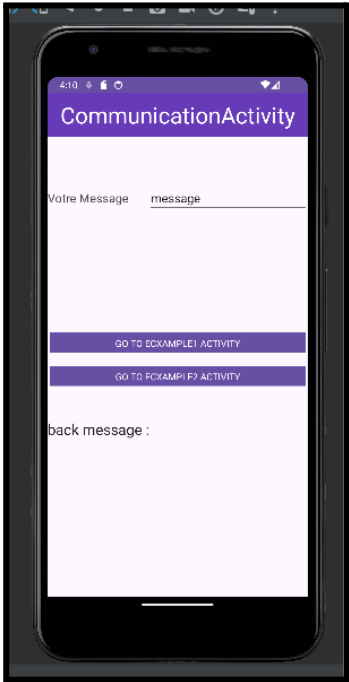
```
@Override
protected void onActivityResult(int requestCode, int resultCode, Intent data)
{
    super.onActivityResult(requestCode, resultCode, data);
    // check that it is the SecondActivity with an OK result
    if (requestCode == SECOND_ACTIVITY_REQUEST_CODE) {
        switch (resultCode) {
            case RESULT_OK: {
                Toast.makeText( context: this, text: "Action validée",
                    Toast.LENGTH_LONG).show();
                // get String data from Intent
                String returnString = data.getStringExtra( name: "KeyName");
                // set text view with string
                editText.setText(returnString);
            }
            case RESULT_CANCELED: {
                Toast.makeText( context: this, text: "Action annulée",
                    Toast.LENGTH_LONG).show();
                // get String data from Intent
                String returnString = data.getStringExtra( name: "KeyName");
                // set text view with string
                editText.setText(returnString);
            }
        }
    }
}
```

ReturnResultActivity code:

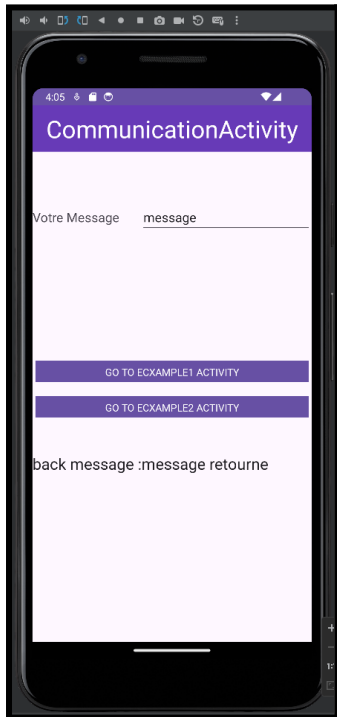
```
1 package com.example.tp3;
2
3 import ...
4
5
6
7
8
9
10
11 public class ReturnResultActivity extends AppCompatActivity {
12     TextView textViewMessage;
13     Button btnBack ;
14     Button btnCancel;
15
16     @Override
17     protected void onCreate(Bundle savedInstanceState) {
18         super.onCreate(savedInstanceState);
19         setContentView(R.layout.activity_return_result);
20         this.textViewMessage = (TextView) this.findViewById(R.id.textView3);
21         this.btnBack = (Button) this.findViewById(R.id.btnBack);
22         this.btnCancel=(Button) findViewById(R.id.btnCancel);
23         Intent MyIntent = getIntent();
24         String Message = MyIntent.getStringExtra( name: "Message");
25         textViewMessage.setText(Message);
26
27         btnBack.setOnClickListener(v -> {
28             EditText edtMessageBack = (EditText) findViewById(R.id.message);
29             String stringToPassBack = edtMessageBack.getText().toString();
30             // put the String to pass back into an Intent and close this activity
31             Intent intent = new Intent();
32             intent.putExtra( name: "keyName", stringToPassBack);
33             setResult(RESULT_OK, intent);
34             finish();
35         });
36
37         btnCancel.setOnClickListener(v -> {
38             Intent intent = new Intent();
39             intent.putExtra( name: "keyName", value: "Action Cancelled");
40             setResult(RESULT_CANCELED, intent);
41             finish();
42         });
43     }
44 }
```

test:

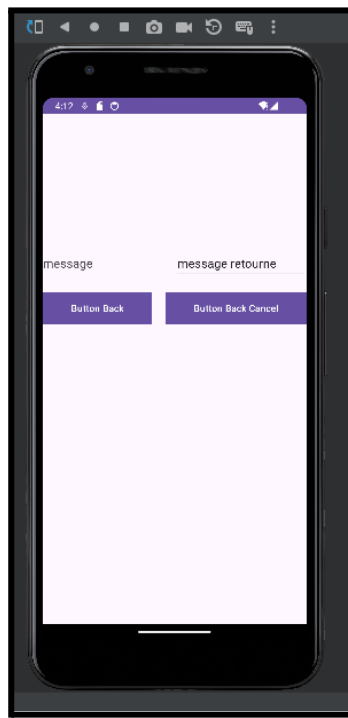
MainActivity



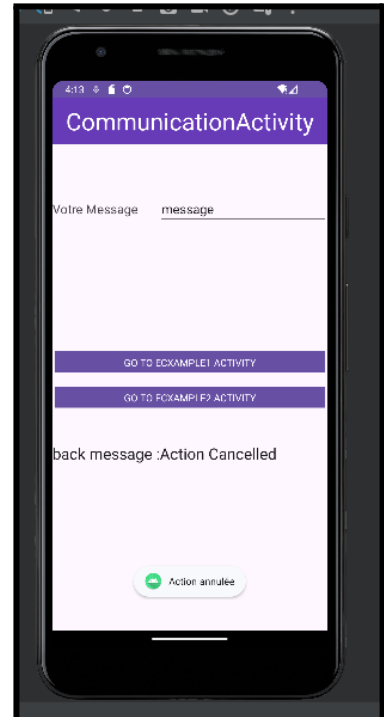
test button back



ReturnResultActivity



test button cancel



1.5-Remplacer startActivityForResult par ActivityResultLauncher

MainActivity modification dans le code:

```
private ActivityResultLauncher<Intent> launcher;

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    Button example1=findViewById(R.id.button1);
    Button example2=findViewById(R.id.button2);

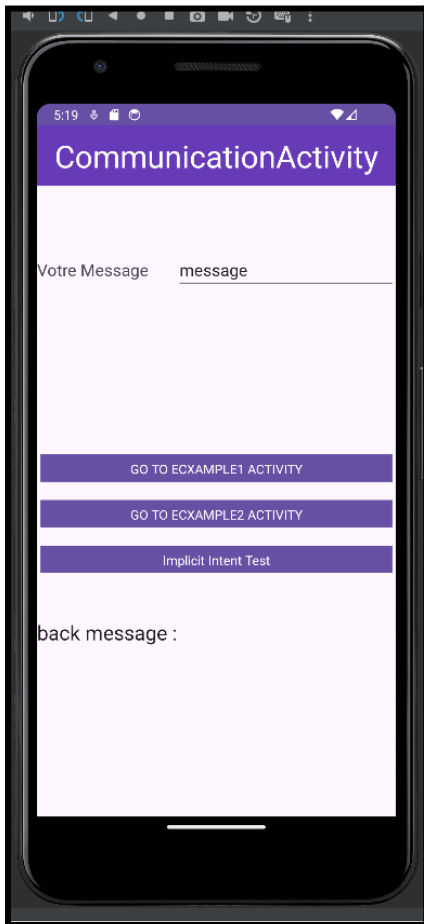
    edtMessage=findViewById(R.id.back_message);
    EditText message=findViewById(R.id.message);

    launcher = registerForActivityResult(new ActivityResultContracts.StartActivityForResult(),
        result -> {
            if (result.getResultCode() == RESULT_OK) {
                Toast.makeText( context: this, text: "Action validée", Toast.LENGTH_LONG).show();
                Intent data = result.getData();
                if (data != null) {
                    String returnString = data.getStringExtra( name: "keyName");
                    edtMessage.setText(returnString);
                }
            } else if (result.getResultCode() == RESULT_CANCELED) {
                Toast.makeText( context: this, text: "Action annulée", Toast.LENGTH_LONG).show();
                Intent data = result.getData();
                if (data != null) {
                    String returnString = data.getStringExtra( name: "keyName");
                    edtMessage.setText(returnString);
                }
            }
        });

    example2.setOnClickListener(v->{
        Intent intent = new Intent( packageContext: MainActivity.this,ReturnResultActivity.class);
        intent.putExtra( name: "text1", value: "This text1 sent from MainActivity at"+ new Date());
        intent.putExtra( name: "Message", message.getText().toString() );
        //startActivityForResult(intent, SECOND_ACTIVITY_REQUEST_CODE);
        launcher.launch(intent);
    });
}
```

2-Utilisation implicite d'intent

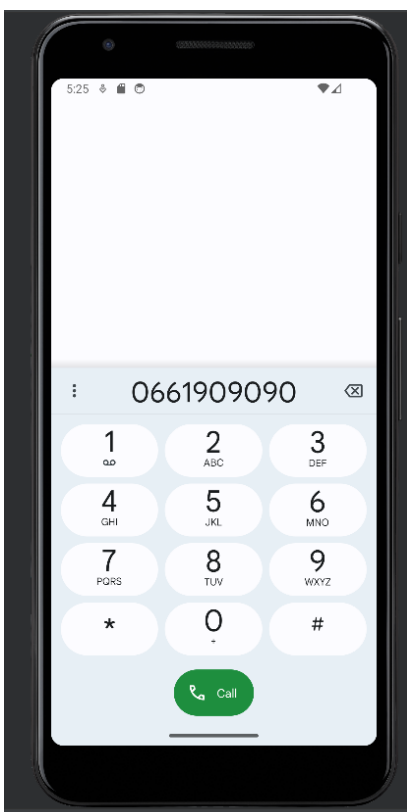
MainActivity



MainActivity.xml (button)

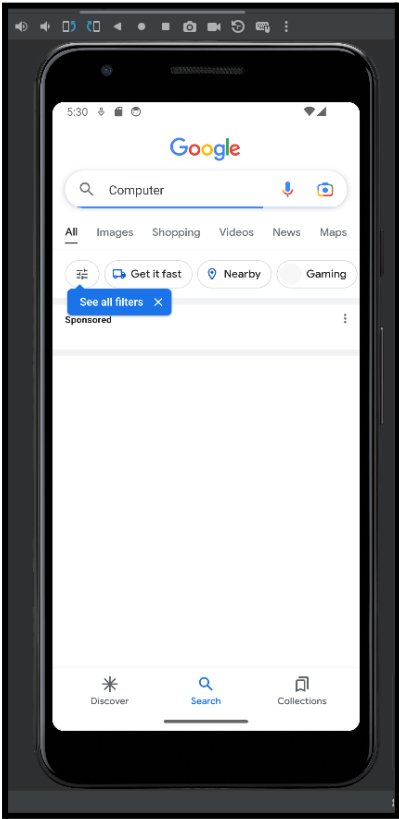
```
<Button
    android:id="@+id/btnImplicitIntent"
    android:layout_width="match_parent"
    android:layout_height="30dp"
    android:layout_marginLeft="4dp"
    android:layout_marginTop="20dp"
    android:layout_marginRight="4dp"
    android:background="#0B8080"
    android:gravity="center_vertical|center_horizontal"
    android:padding="2dp"
    android:onClick="TestImplicit"
    android:text="Implicit Intent Test"
    android:textAppearance="@style/TextAppearance.AppCompat.Body1"
    android:textColor="#FFFFFF" />
```

Composition d'un numéro de téléphone
pour effectuer un appel



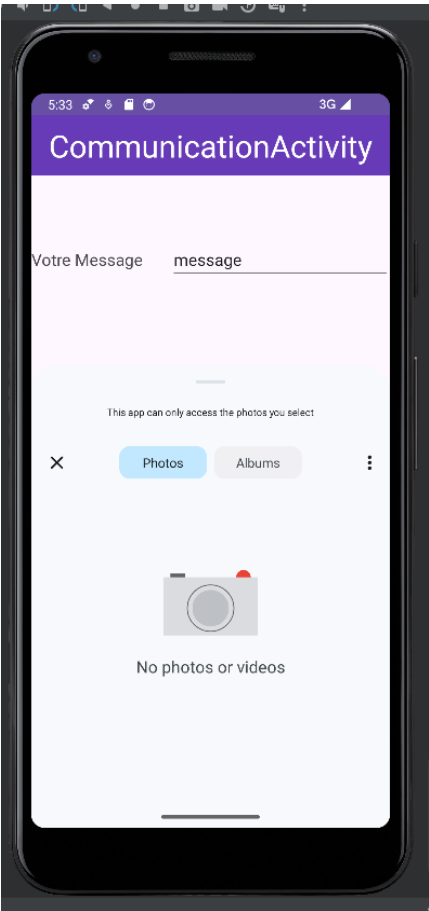
```
public void TestImplicit(View view){
    Intent intent = new Intent();
    intent.setAction(Intent.ACTION_DIAL);
    intent.setData(Uri.parse("tel:0661909090"));
    startActivity(intent);}
}
```

Recherche sur internet par un mot clé



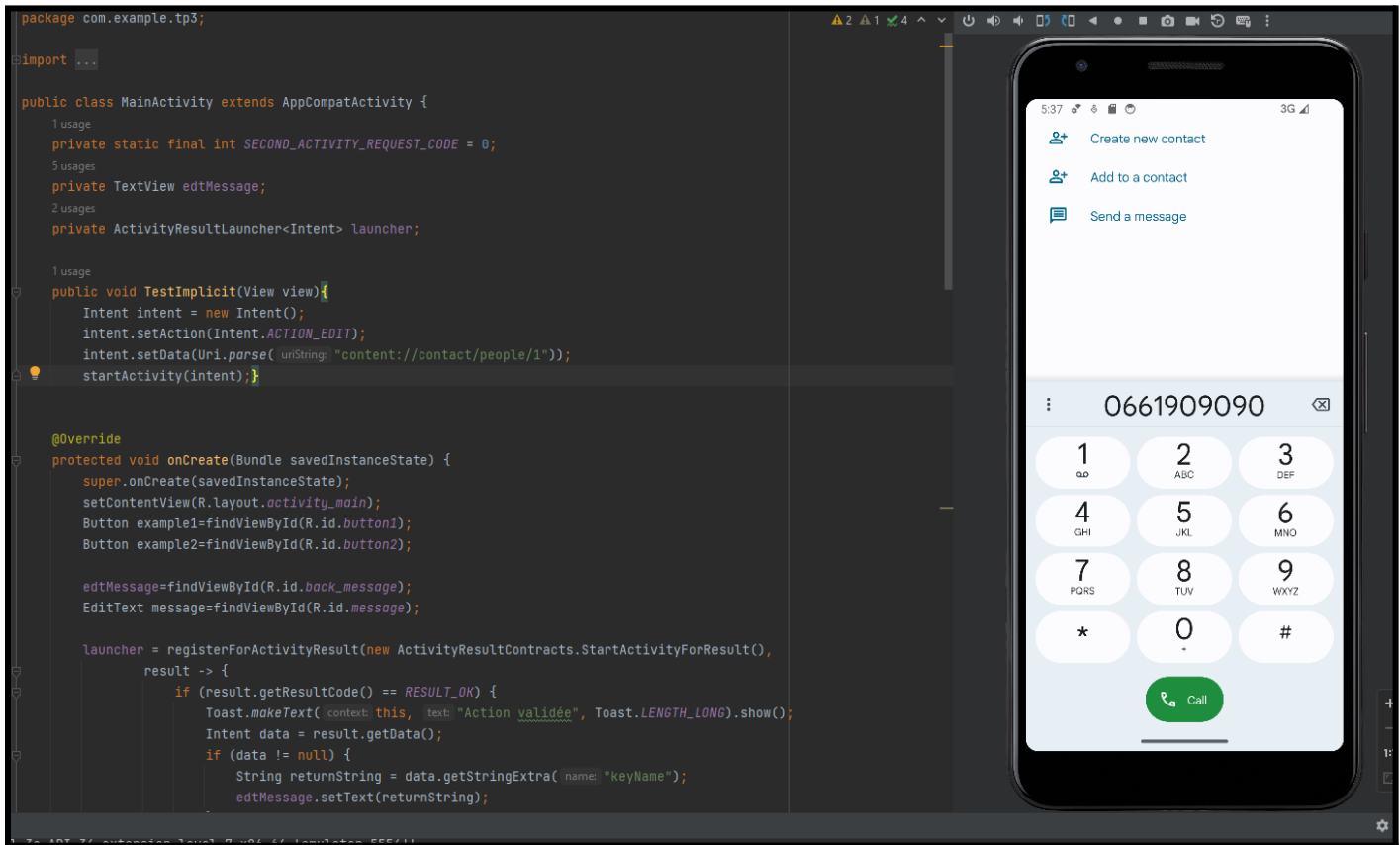
```
1 usage
public void TestImplicit(View view){
    Intent intent = new Intent();
    intent.setAction(Intent.ACTION_WEB_SEARCH);
    intent.putExtra(SearchManager.QUERY, value: "Computer");
    startActivity(intent);}
```

Ouverture de la Galerie photos

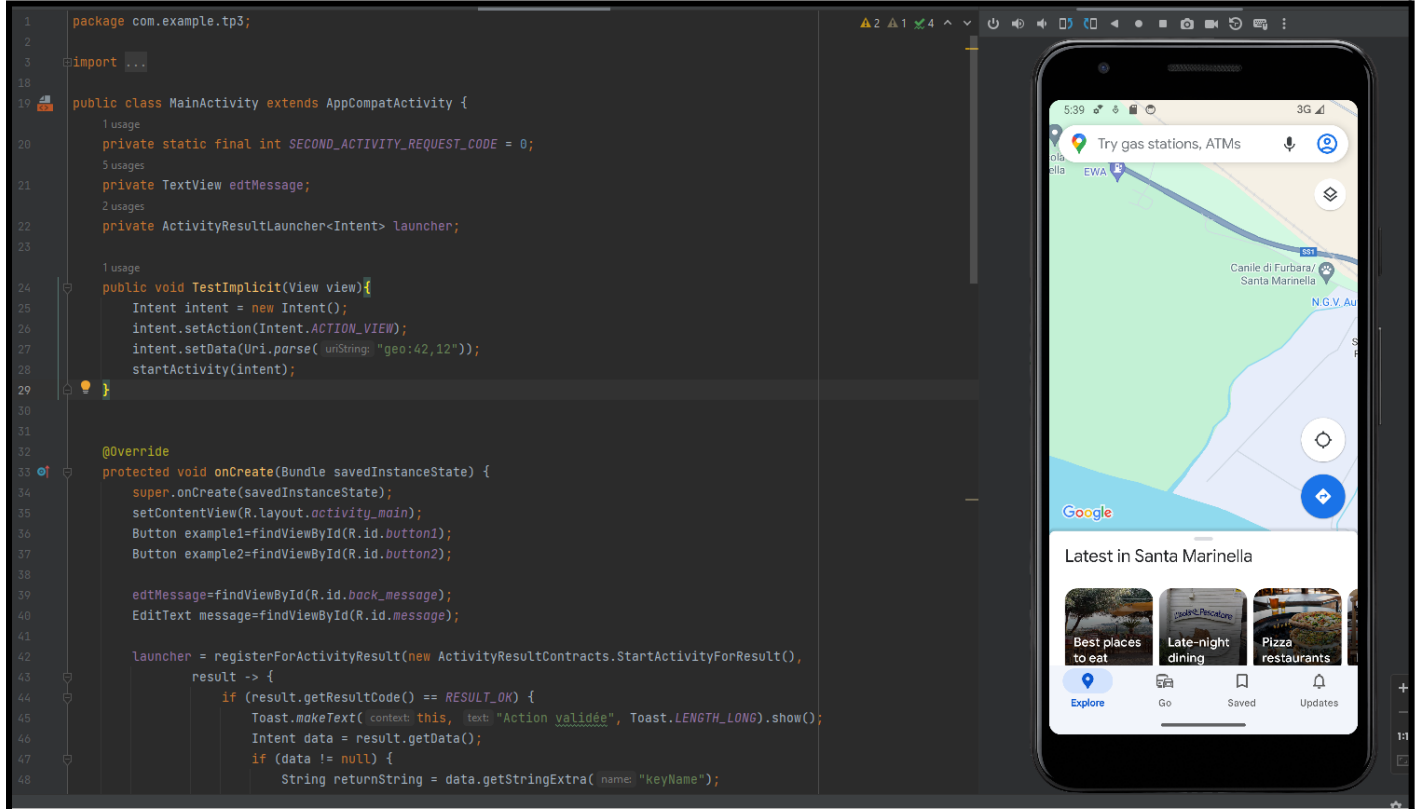


```
1 usage
public void TestImplicit(View view){
    Intent intent = new Intent();
    intent.setAction(Intent.ACTION_GET_CONTENT);
    intent.setType("image/pictures/*");
    startActivity(intent); }
```

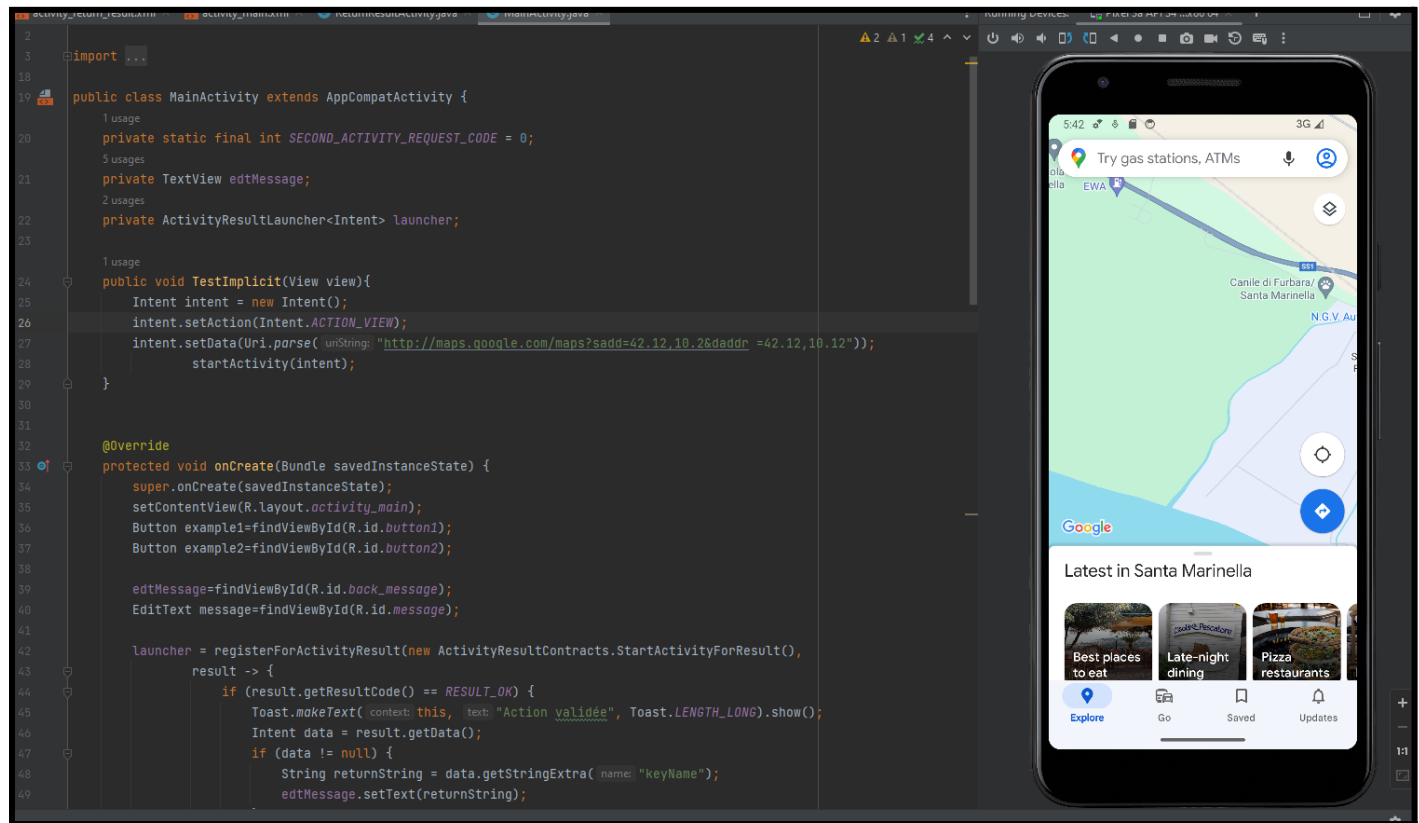

Edition d'un contact par numéro de contact



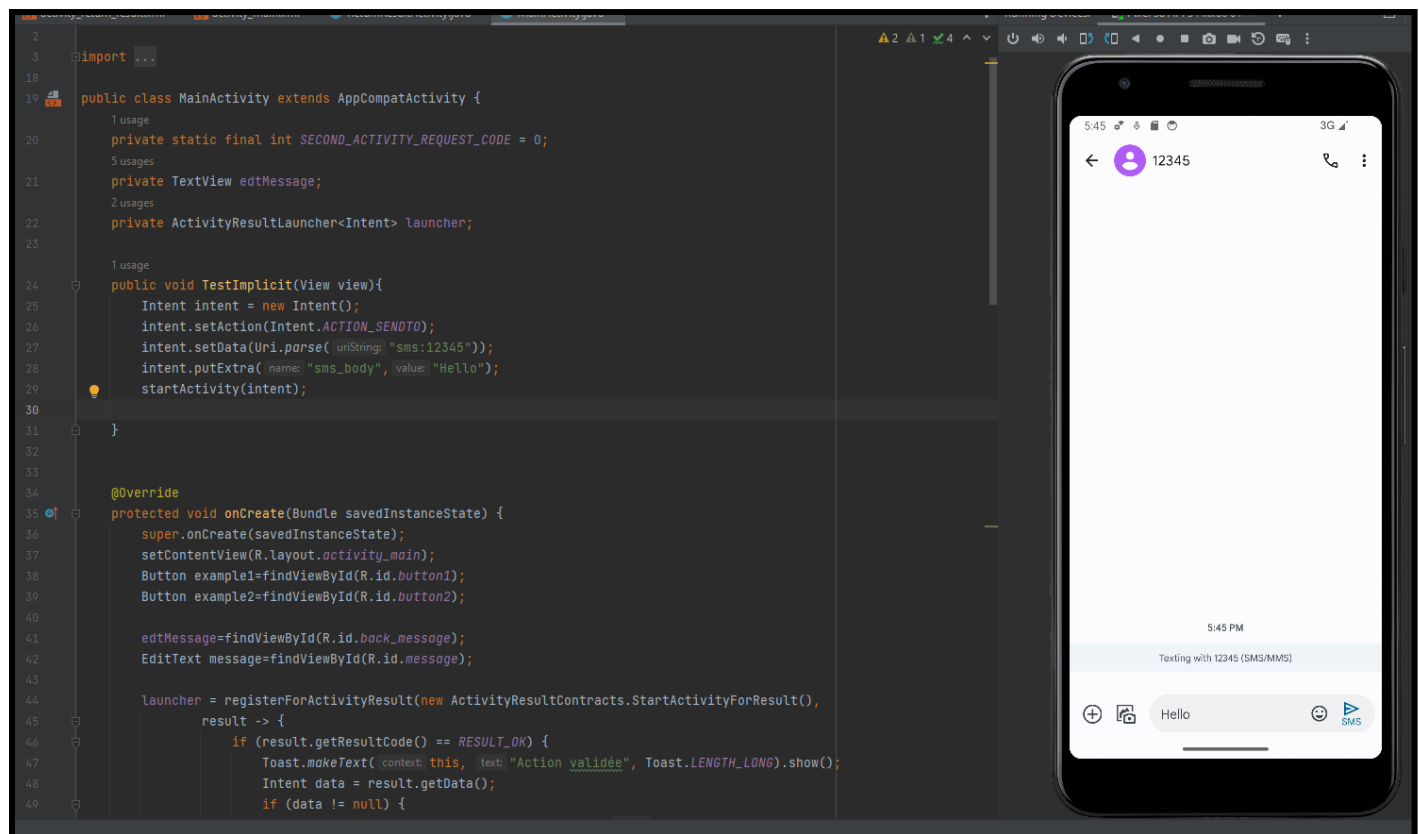
Ouverture d'un éditeur de géolocalisation pour visualiser une position



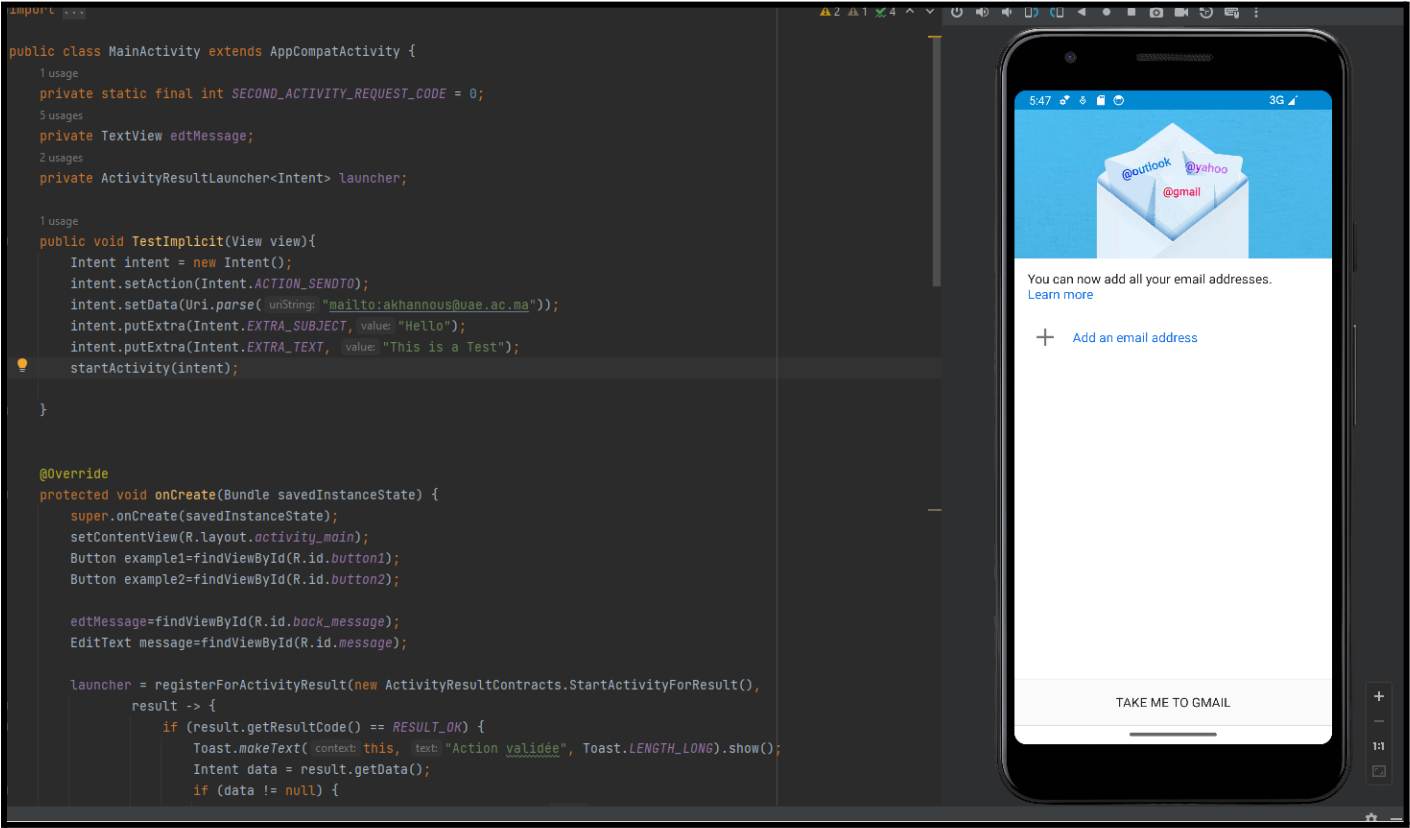
Affichage d'une position sur google maps directement à partir d'un lien



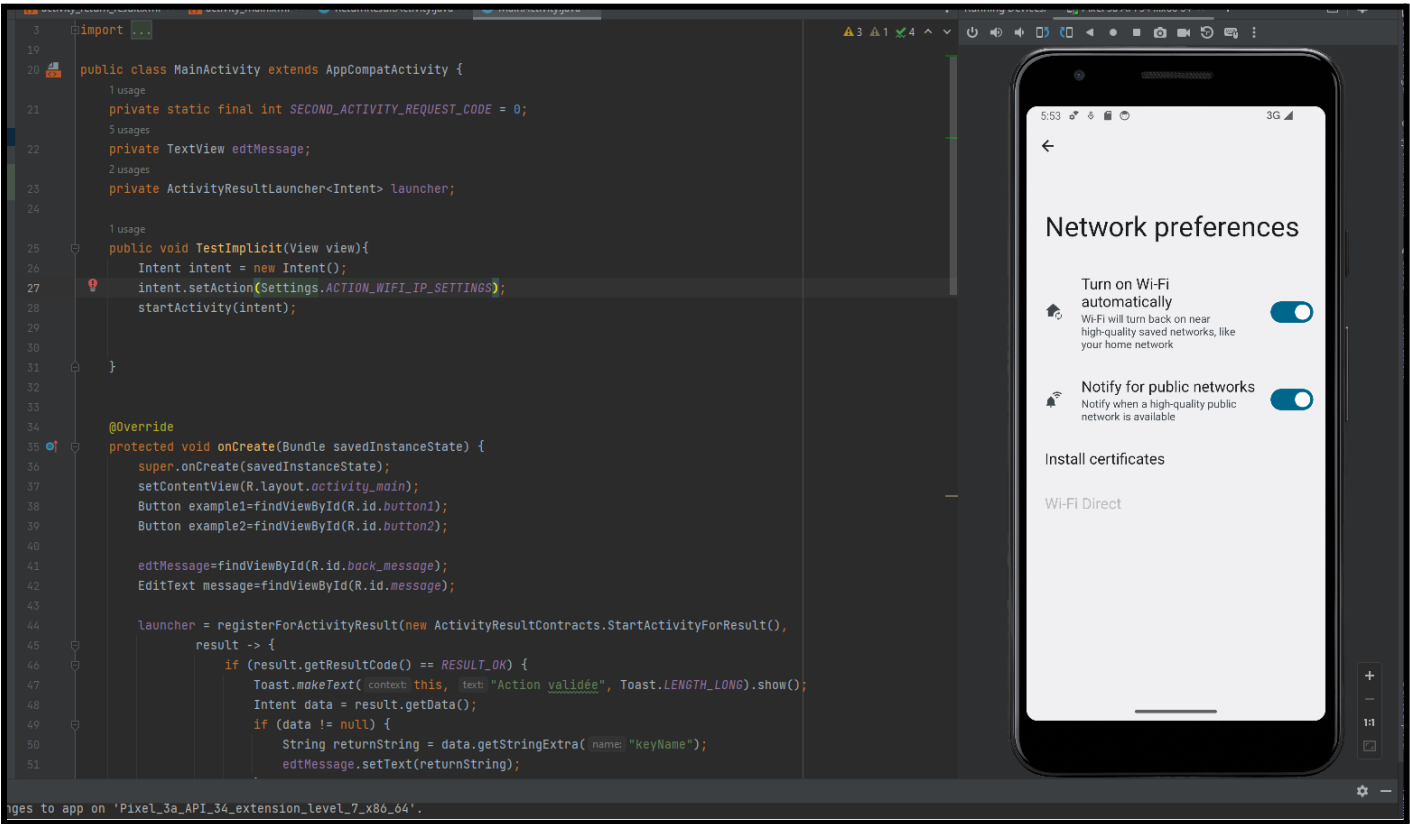
Envoyer un message SMS, tout en envoyant comme data le numéro et aussi le corps du SMS



Envoyer un email en spécifiant l'@ de destination, l'objet et le corps comme Extra avec l'intent



Ouverture de fenêtre de paramètres WIFI



Forcer Android d'afficher toutes les applications susceptibles d'envoyer un message même s'il y en a déjà une application définie comme par défaut (Utilisation d'une boîte de dialogue : Chooser)

