Presentation - IHM

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Introduction: Context

▸ **Problem:**

  ▸ new students

  ▸ new teachers

  ▸ foreign people

  ▸ handicapped people

  ▸ large campus

easy to get lost

▸ **Starting point:**

  ▸ an initial desktop application which create a map and metadata

Introduction: Objectives

▶ Create an Android app

▶ Help the user to find his way or just his current position

▶ Secured application (with authentication)
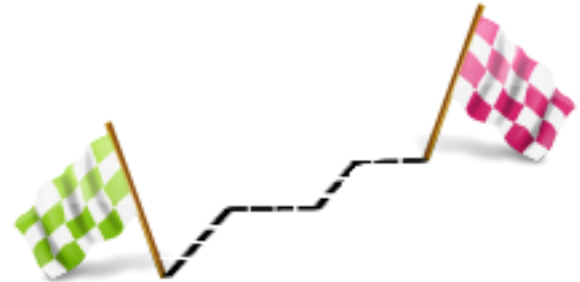
▶ QRCode reading

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Functionality

- The user side:
  - Indicate a way
  - Indicate a position
  - Use a QrCode

- The operator side:
  - Implement QrCode
  - Read XML file

Functionality: « aller vers »

1. Give a destination
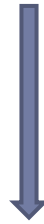2. Give his current position

→ with many different ways: QRCode or choose in list

3. display a map with his way

Functionality: « où suis-je »

Give his current position

Show his current position on the map

Functionality: QRCode (1/3)

▸ Zxing API

▸ Read a QrCode generated on the-qrcode-generator.com and get the room name

i011   i01   i124   34   46

Functionality: QRCode (2/3)

- Very easy to implement
- Many examples on internet

- DecoderActivity
- Specify layer of QRCode decoder
- drawResultPoints
- initCamera
- …

```java
public class CopyOfChoixOrigineQRCodeActivity extends DecoderActivity {

    private static final String TAG = CopyOfChoixOrigineQRCodeActivity.class
            .getSimpleName();
    private TextView statusView = null;
    private View resultView = null;
    private String salleDestination;

    @Override
    public void onCreate(Bundle icicle) {
        super.onCreate(icicle);
        setContentView(R.layout.capture);
        Log.v(TAG, "onCreate()");

        resultView = findViewById(R.id.result_view);
        statusView = (TextView) findViewById(R.id.status_view);

        Bundle b = getIntent().getExtras();
        setSalleDestination(b.getString("destinationSalle"));
    }

    @Override
    public void handleDecode(Result rawResult, Bitmap barcode) {
        drawResultPoints(barcode, rawResult);
        Intent intent = new Intent(CopyOfChoixOrigineQRCodeActivity.this,
                ItineraireActivity.class);
        intent.putExtra("destinationSalle", getSalleDestination());
        intent.putExtra("origineSalle", rawResult.getText());
        startActivity(intent);
    }

    public String getSalleDestination() {
        return salleDestination;
    }

    public void setSalleDestination(String salleDestination) {
        this.salleDestination = salleDestination;
    }
}
```

Functionality: QRCode (3/3)

Placer le code QR dans le rectangle pour le scanner.

Functionality: Read XML file

▸ Read XML output file of desktop app to get rooms

Design choice

- **Generalities:**
  - Few buttons
  - Recall selected destination

Design choice

- Option menu:
  - Give the language choice: Fr, En and Zh
    (default: french)
  - Give the color choice: blue, green, yellow, red and purple
    (default: blue)
  - Option for people with disabilities
  - Option for background color (white/black)
    (default: white)

Design feedbacks

- We asked people for feedbacks
- Many profiles
  - Students (in linguistics, science)
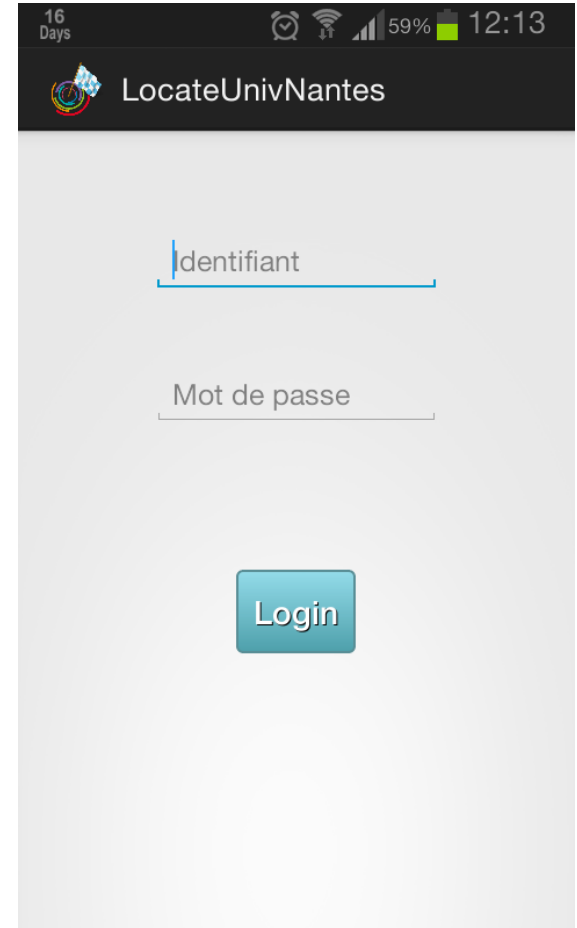 - Teachers
- Feedbacks described below

Design View (1/11)

- SplashScreen
- Lasts 2500ms
- Presents app's name & logo
- Home option in menu
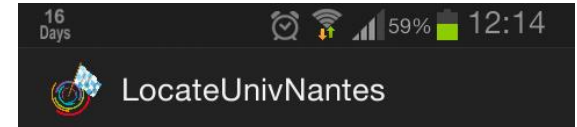
Design View (2/11)

- ▸ Authentication to CAS of Univ
- ▸ Security
- ▸ Fake ("test", "test")
- ▸ Toast and refresh if authentication failed

Design View (3/11)

- First choice for user
- 2 large buttons
- "Aller vers" for navigation
- "Où suis-je" for localisation

Design View (4/11)

- ▸ If Navigation mode only
- ▸ Expandable list of rooms by building
- ▸ Color on item selected
- ▸ Toast if no room selected

Design View (5/11)

- 2nd choice (in case of navigation)
- 1st in case of localisation
- 2 choices (QRCode or list of rooms)
- Reminder of the selected destination (if nav mode)
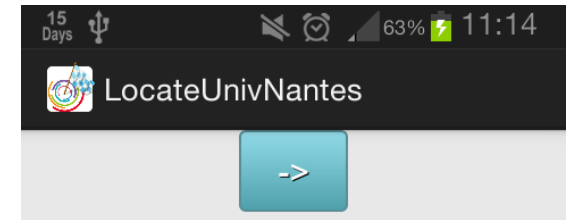
  - *People asked for reminder*

Placer le code QR dans le rectangle pour le scanner.

- ▸ Placeholder with instructions
- ▸ Zone well defined for scanning

▶ Itinerary display

▶ Map displayed by building and floor

▶ Button to change floor or building (in case of navigation)

▶ Toast reminding user choices (origin & destination if nav)

▶ Not fully implemented yet
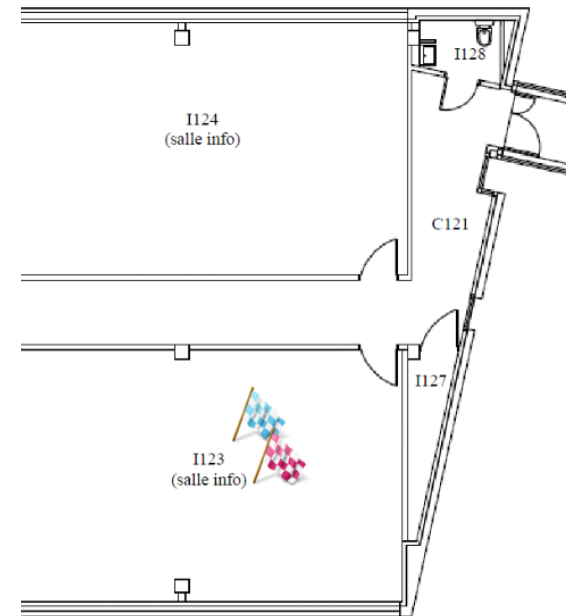
▶ *People asked for toast*

Design View (8/11)

- Menus
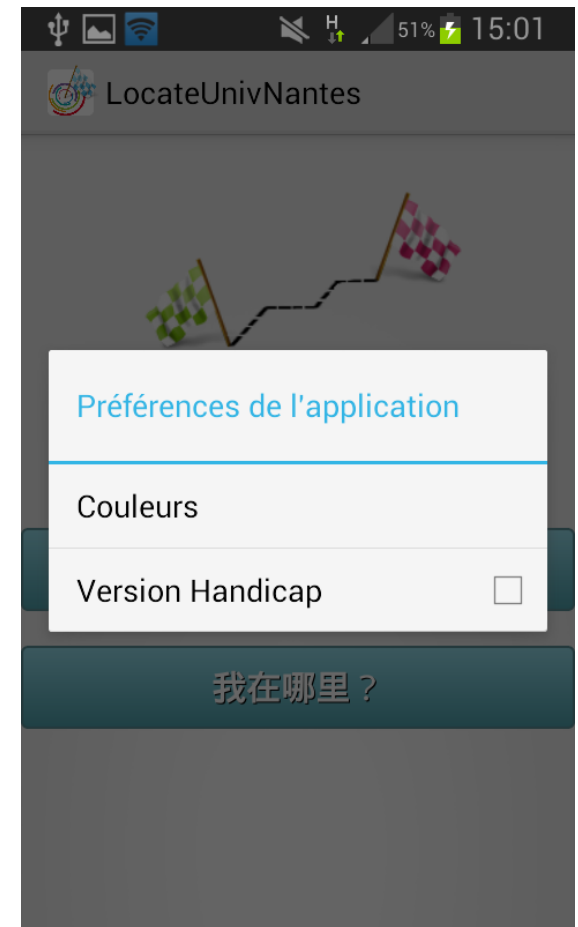- Home (go back to SplashScreen)
- Preferences
- Languages
- Informations

Design View (9/11)

- App settings
- Colors & background
- Accessibility mode
- Not implemented yet

- *University asked for accessibilty*

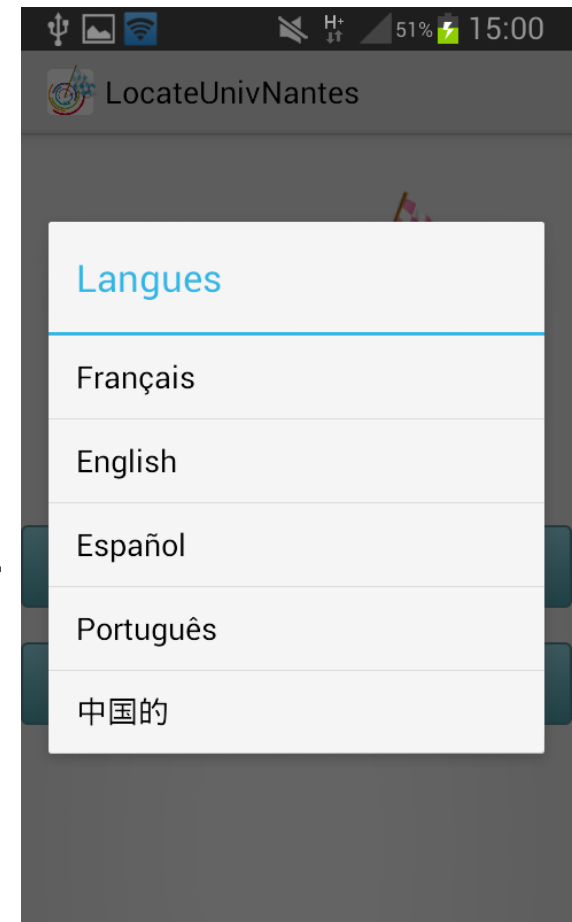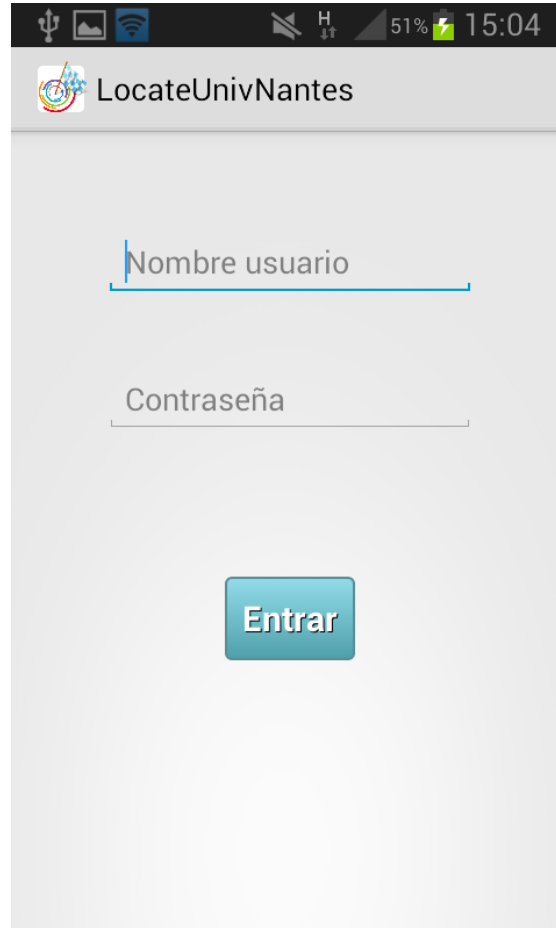# Design View (10/11)

▸ Languages

   ▸ *People asked for multi-languages*
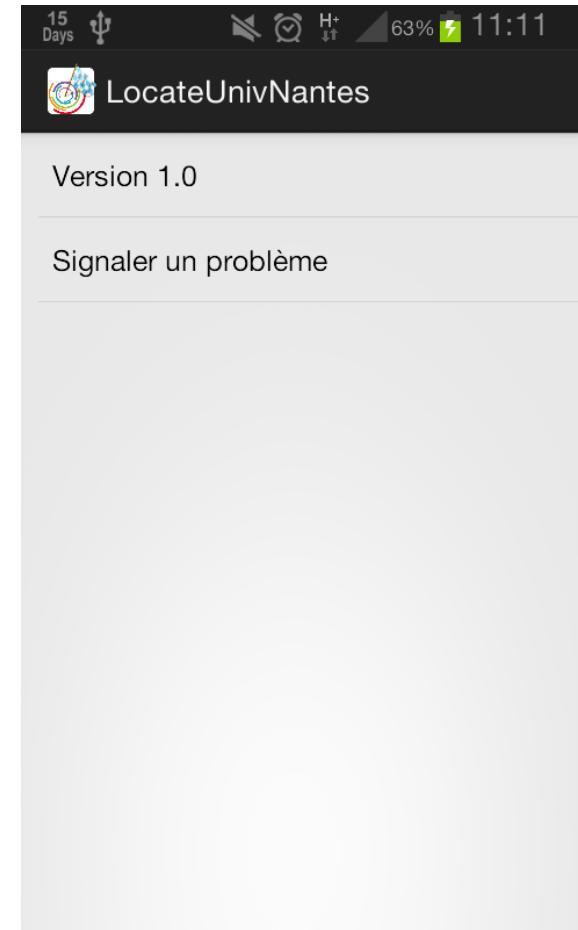   ▸ *Especially foreign languages*
students!

Design View (10/11)

Design View (11/11)

▸ Version of the app

▸ Possibility of sending bug reports (not implemented yet)

Demonstration

Context: current position by QRCode

Conclusion: Further work

- Include position computation
- Build itinerary computation
- Display flag on good position

Questions?