



# Ch.26 Testing Mobile Applications





## 26.1 Mobile App Testing Strategy Questions

- Do you have to build a fully functional prototype before you test with users?
- Should you test with the user's device or provide a device for testing?
- What devices and user groups should you include in testing?
- When is lab testing versus remote testing appropriate?





## 26.2 Mobile Testing Guidelines

- Understand the network landscape and device landscape.
- Conduct testing in uncontrolled real-world test conditions.
- Select the right automation test tool.
- Identify the most critical hardware/ platform combinations to test.
- Check the end-to-end functional flow in all possible platforms at least once.
- Conduct performance, GUI, and compatibility testing using actual devices.
- Measure MobileApp performance under realistic network load conditions.





## 26.3 Mobile App Testing

- **Conceptual Testing**
- **Unit and System Testing**
- **User Experience Testing**
- **Stability Testing**
- **Connectivity Testing**
- **Performance Testing**
- **Compatibility Testing**
- **Security Testing**
- **Certification Testing**





## 26.4 Automated Testing

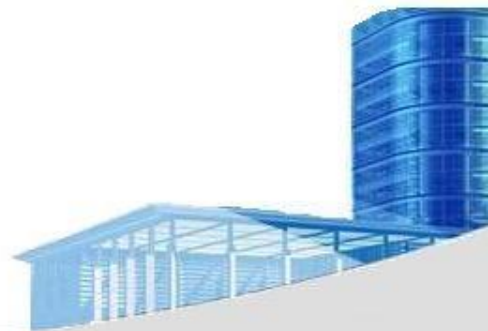
- **Feasibility analysis**
- **Proof of concept**
- **Best practice test framework**
- **Customize testing tools**
- **Test under real world conditions**
- **Rapid defect resolution**
- **Reuse of test scripts**





## 26.5 Stress Test Cases

- **Running several mobile apps on the same device**
- **Infecting system software with viruses or malware**
- **Attempting to take over a device and use it to spread spam**
- **Force the mobile app to process inordinately large numbers of transactions**
- **Storing large amounts of data on the device**





## 26.6 Mobile Usability Elements

- **Functionality**
- **Information architecture**
- **Screen Design**
- **User input mechanisms**
- **Mobile context taken into account**
- **Interface usability**
- **Trustworthiness**
- **Feedback**
- **Help facilities**





## 26.7.1 Specialized Usability Tests

- **Gestures**
- **Voice input and recognition**
- **Virtual keyboard input**
- **Alerts and errors**
- **Case Study**





案卷拍拍

现场抓拍

记录查询<sup>2</sup>



现场微信

12:30 20''

12:31 10''

拍照

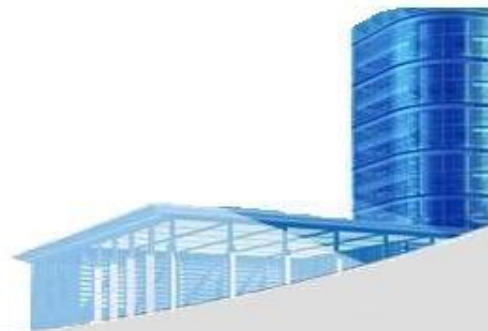
按住说话

确认上报



## 26.7.2 “现场抓拍”测试用例要点

- 能否成功调用摄像头进行拍照？
- 能否成功调用麦克风发布语音消息？
- 语音消息过长（**30**秒以上）上传失败，是否有提示弹出？
- 语音消息过多（**3**条以上）上传失败，是否有提示弹出？
- 点击“确认上报”能否正确上报？上报成功后是否有提示？
- 遇到网络连接错误是否有警告？
- 上报成功后“记录查询”模块是否自动增加一条新的记录？





## 26.8.1 Mobile App Testing Tools

- **Mobile page compliance checkers**
- **Mobile browser emulators**
- **Device emulators**
- **Key logging and playback**
- **Network monitors**
- **Mobile analytics collectors**





## 26.8.2 Tool Sample: 某在线测试云平台

- 云测试：一键提交，多设备多系统全自动测试服务
- 安装卸载测试：检测安装/卸载**APP**是否能正常完成
- 遍历测试：遍历**APP**所有控件，并记录崩溃现象和操作路径。
- **UI**适配测试：判断**APP**是否完美匹配所有屏幕尺寸
- 稳定性测试：对**APP**进行压力测试
- 云调试远程可视化调试，快速定位并调试
  - 提供百余种真机测试机和模拟器
  - 降低开发成本
  - 针对某款测试机单独安装**APP**，对操作过程进行日志跟踪，远程可视化调试
- 在线测试云平台
  - 百度移动云测试中心：<http://mtc.baidu.com/>
  - Testin 云测：<http://www.testin.cn/>





# 26.8.2 Tool Sample: 某在线测试云平台



终端选择 今日您已测试0台，本次可选终端700台(每台手机最多能测5次/日，相同APP最多能测3次/日)

应用需至少选择5款以上机器进行测试后才可提交上架至手机助手，详情请参考[帮助文档](#)

注：标注 ( Hot ) 为目前市场主流，标注 ( New ) 为新加入分类

品牌名称：

- |                                |                              |                                |                               |                                    |                              |                               |                             |
|--------------------------------|------------------------------|--------------------------------|-------------------------------|------------------------------------|------------------------------|-------------------------------|-----------------------------|
| <input type="checkbox"/> Dell  | <input type="checkbox"/> HTC | <input type="checkbox"/> LG    | <input type="checkbox"/> OPPO | <input type="checkbox"/> TCL(包括电视) | <input type="checkbox"/> 三星  | <input type="checkbox"/> 中兴   | <input type="checkbox"/> 华为 |
| <input type="checkbox"/> 华硕    | <input type="checkbox"/> 夏新  | <input type="checkbox"/> 小米    | <input type="checkbox"/> 摩托罗拉 | <input type="checkbox"/> 朵唯        | <input type="checkbox"/> 步步高 | <input type="checkbox"/> 海信   | <input type="checkbox"/> 海尔 |
| <input type="checkbox"/> 百度易手机 | <input type="checkbox"/> 索尼  | <input type="checkbox"/> 索尼爱立信 | <input type="checkbox"/> 联想   | <input type="checkbox"/> 酷派        | <input type="checkbox"/> 金立  | <input type="checkbox"/> 阿尔卡特 | <input type="checkbox"/> 魅族 |

系统版本：

- |   |  |   |   |
|---|--|---|---|
| <input type="checkbox"/> android 2.2.2                  | <input type="checkbox"/> android 2.3.3 | <input type="checkbox"/> android 2.3.4                  | <input type="checkbox"/> android 2.3.5                  |
| <input type="checkbox"/> android 2.3.6 <span>HOT</span> | <input type="checkbox"/> android 2.3.7 | <input type="checkbox"/> android 4.0.3 <span>HOT</span> | <input type="checkbox"/> android 4.0.4 <span>HOT</span> |
| <input type="checkbox"/> android 4.1.1                  | <input type="checkbox"/> android 4.1.2 | <input type="checkbox"/> android 4.2.1 <span>NEW</span> | <input type="checkbox"/> android 4.2.2                  |
| <input type="checkbox"/> android 4.3                    | <input type="checkbox"/> android 4.4.2 |   |   |

分辨率：

- |   |                                   |                                   |                                    |                                  |   |                                  |   |
|---|-----------------------------------|-----------------------------------|------------------------------------|----------------------------------|---|----------------------------------|---|
| <input type="checkbox"/> 1080x1920                | <input type="checkbox"/> 1280x720 | <input type="checkbox"/> 1280x800 | <input type="checkbox"/> 1920x1080 | <input type="checkbox"/> 240x320 | <input type="checkbox"/> 320x480 <span>HOT</span> | <input type="checkbox"/> 480x320 | <input type="checkbox"/> 480x800 <span>HOT</span> |
| <input type="checkbox"/> 480x854 <span>HOT</span> | <input type="checkbox"/> 540x960  | <input type="checkbox"/> 720x1280 | <input type="checkbox"/> 800x1280  | <input type="checkbox"/> 854x480 | <input type="checkbox"/> 960x540                  |                                  |   |