Scope: Development of Smart Device Applications

- Introduction: scenario, types of applications (consumer/line of business, Online/Offline, native), conceptual model—objects involved (Menu for Smart Devices —before Dashboard—, Work With for Smart Devices, Panels for Smart Devices) and their specificities. Demo: first execution, KBN, semantic domains, and integration with the device´s functionalities.
- Architecture of online applications (Rest web services)
- Developing the application online
  - Designing: a review is made of all the aspects involved in achieving a good UI
  - Themes & Images
  - Controls in layouts: specificities of some controls, managing tables, scale of images, multiple layouts by grid line, control types (SD Maps, SD Rating, etc.), Action Groups and control Tab, <section controls> in layout of Detail, specialized controls (audio, on-off selection, chronometer, search, Facebook access, and other), absolute positioning (canvas) and transformations, SD Components, multiple layouts by object (to vary by platform, orientation, size, etc.), navigation style of the application, transitions between objects, movement effects, shifting, zooming or transparencies.
  - Use of Live Editing to view changes instantly as we design
  - Behavior:
    - Orders, Searches, and Conditions
    - Events (events in client/events on the server, definition of base tables and navigations).
    - Invocation between objects (includes CallOptions).
    - Integration with other functionalities through APIs.
    - Grammar of the code of events in client (includes Composite command)
  - Caching
  - Prototyping on the various physical devices or emulators.
  - Rollout on the various platforms (including publication at stores) and automatic versioning of the application.
- Security of applications: GAM
  - Enabling integrated security through GeneXus Access Manager.
  - User authentication and Access authorization to parts of the application according to permits and user roles.
  - Authentication types (local, Facebook, Twitter, Google, Web Services, Custom, Remote).
  - Use of the GAM´s APIs.
  - Rollout of an application with GAM.
  - Possibility for a unique authentication (Single Sign On) using GAM.
- Offline Smart Device Applications
  - Introduction: types of applications (partially connected/disconnected), scenarios, Connectivity Support property to convert the application into Offline.
  - Architecture.
  - Local Database Generation.
  - Synchronization (send/receive, conflicts, synchro APIs).

- How to convert applications from Online to Offline.
- Offline with security (GAM).