A Smart Mobility Serious Game Concept and Business Development Study

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Outline

- The concept
  - ⇨ a serious game to support green and collaborative mobility
- Fun and personal improvement
  - ⇨ Virtual bank, competitions and social networking
- Potential business analysis
  - ⇨ Value proposition
  - ⇨ Potential customers
  - ⇨ Financing
  - ⇨ Value chain

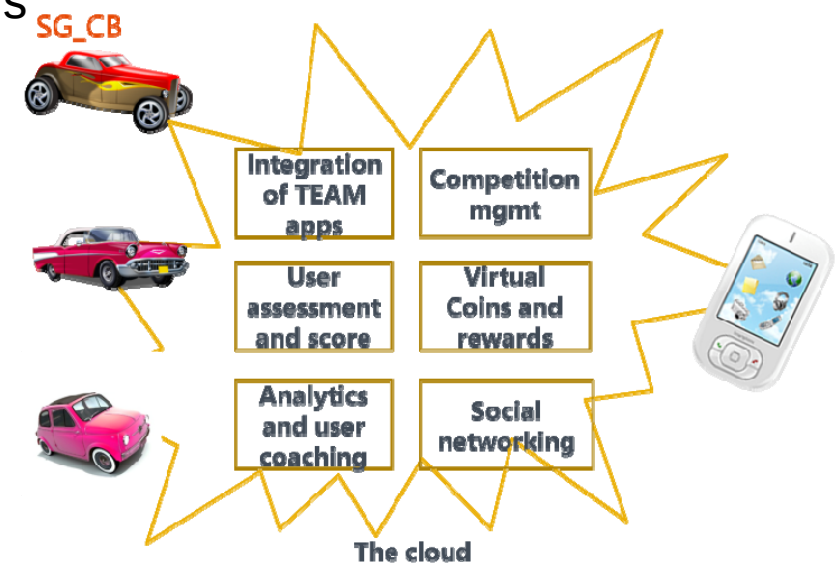
Context

- Serious games (SGs) are gaining attention in the **infomobility and transportation area**
  - ⇨ Practice in the context is promising to improve drive style
  - ⇨ Driver in the field can exploit his experience

- **TEAM EU FP7 project**
  - ⇨ Develop a cloud-based system of apps for smart and collaborative mobility
    - Sample apps: eco friendly parking, collaborative public transport optimization, collaborative navigation, collaborative planning, etc.
    - Among them, a serious game for collaborative green mobility

SG for collaborative green mobility

- A tool for personal improvement through self and social competition
  - ⇨ Combination of different **user performance evaluators**
    - Based on the other TEAM apps
  - ⇨ User is motivated to improve performance
  - ⇨ Support to a community of users
    - Share events, results and related info
- Service-Oriented architecture
  - ⇨ Evaluators
  - ⇨ Services



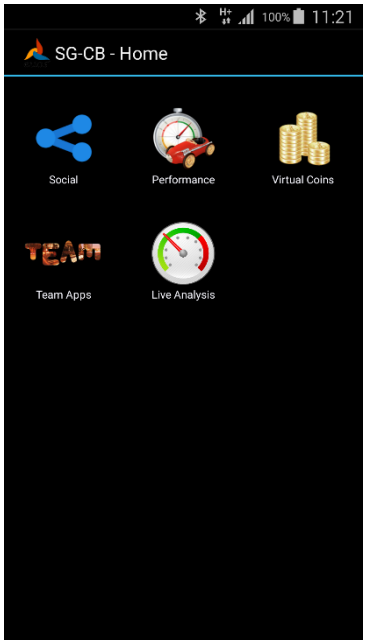
Evaluators

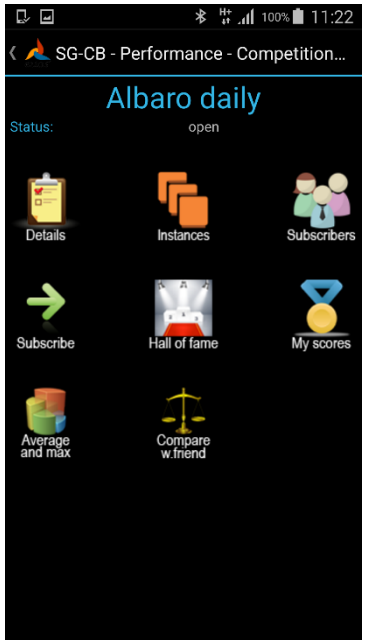
- "Virtual sensors" for user evaluation
  - ⇨ Criteria related to green and collaborative driving/mobility

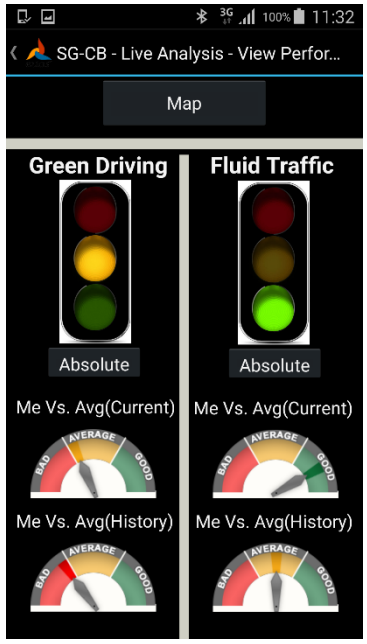
⇨ Currently implemented evaluators are based on TEAM apps
- ⇨ Eco-Friendly parking
- ⇨ Collaborative automotive navigation
- ⇨ Co-modal travel planning/coaching
- ⇨ Green Drive
- ⇨ Collaborative Public Transport Optimiziation

Screenshots

- System functionalities illustrated through snapshots of the SG_CB smartphone client app





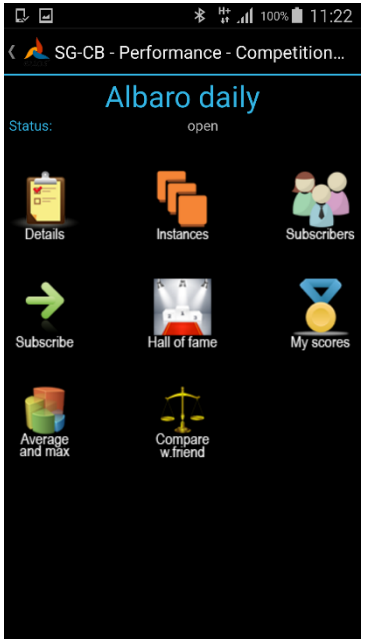


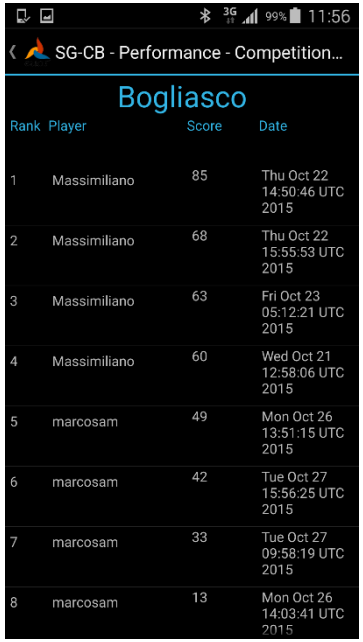
Virtual Bank game service

- Management of “virtual coins”
  - Gained by behaving well according to the evaluators
  - Usable to acquire real-world items
    - Bus tickets, parking slots, etc.
  - And virtual items
    - Access premium levels in the TEAM apps
- Gamification effects
  - Saturation
  - “happy hours”
  - “happy areas”

Competition game service

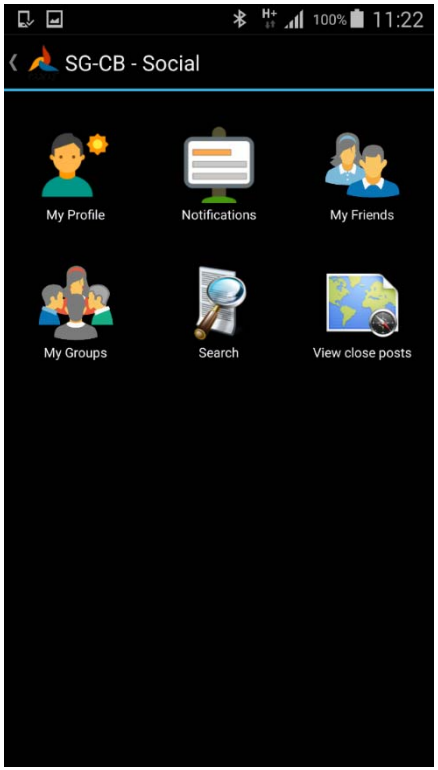
- Competitions
  - Organized in geographic areas and/or time periods
  - Users
    - Subscribe
    - Watch rankings in real-time
    - Comparison with self and friends
  - Best performers rewarded with virtual coins and notified through the social network



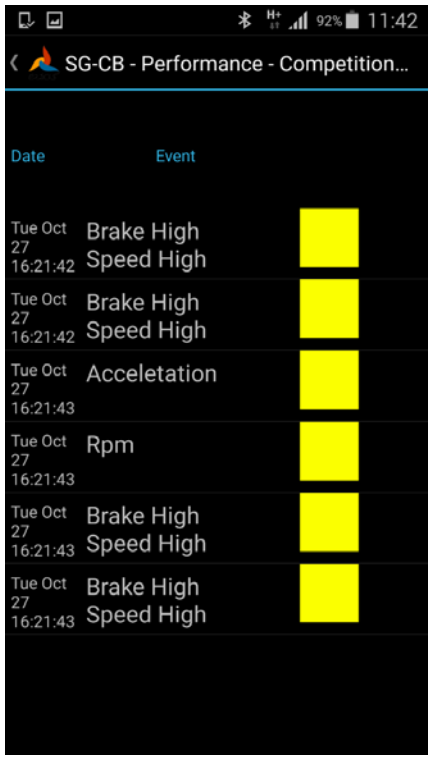


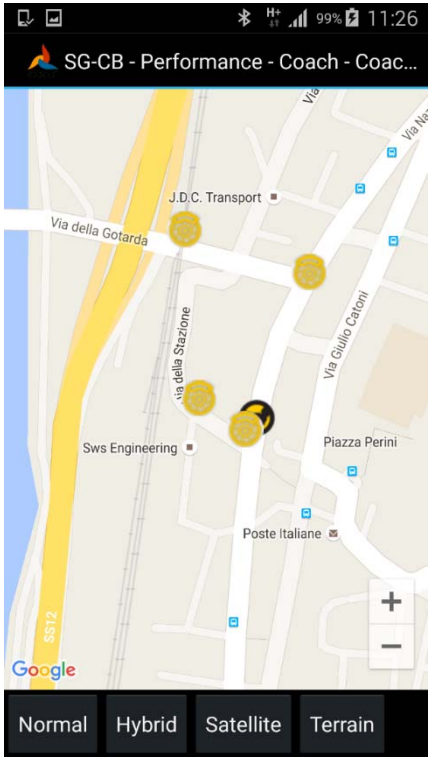
Basic social networking service

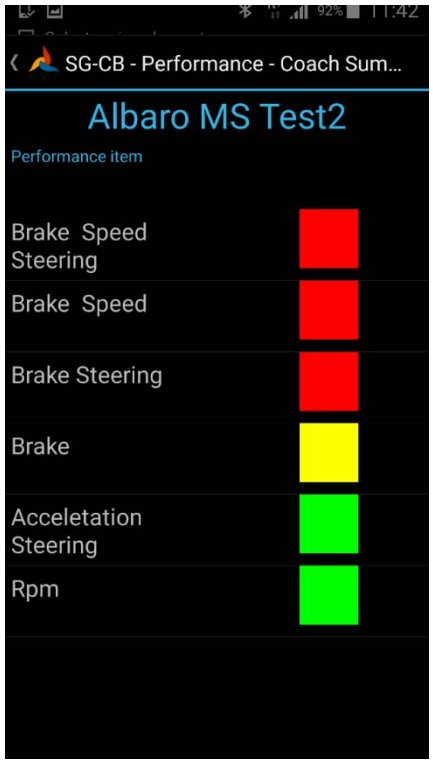
- Friends
- Groups
- Posting
  - ⇨ on walls
  - ⇨ on maps
- Notifications
  - ⇨ E.g., about competition results



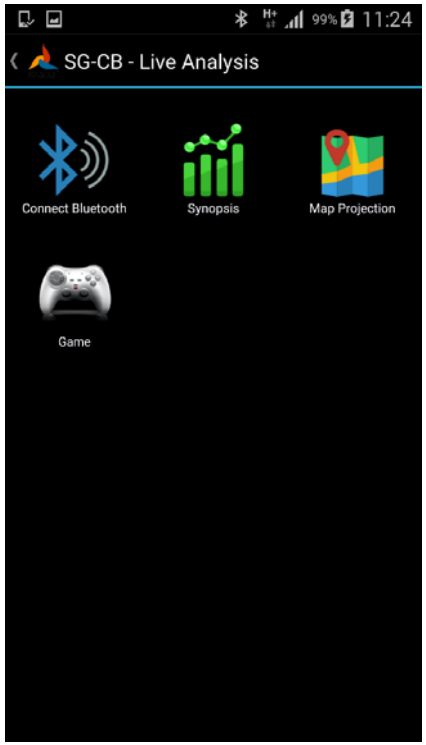
Performance events and summary

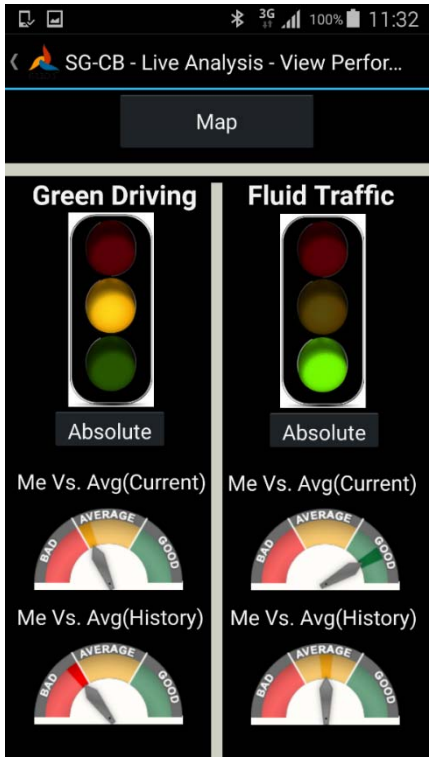


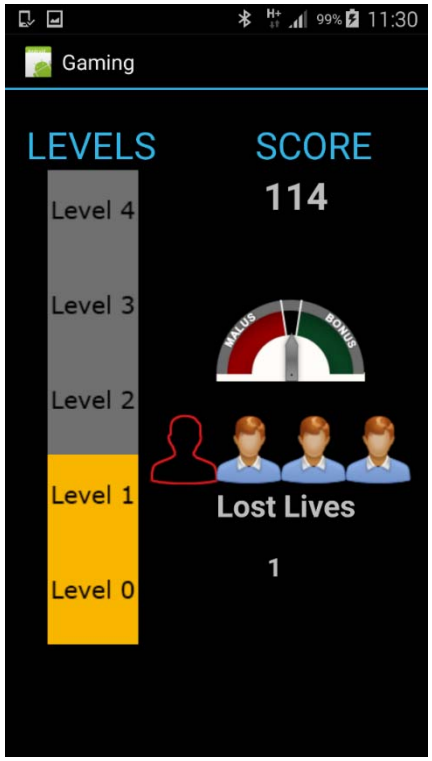




Real-time performance







Business Analysis: Value Proposition

- Value for **drivers**:
  - The system promotes green and collaborative driving
  - The apps provide new mobility services
  - The SG closes a “virtuous cycle”
    - Engages, challenges and motivates users towards improving the use of apps

- Value for **stakeholders**:
  - Cities can benefit from virtuous user behaviors
    - Traffic, navigation, parking
    - Optimized use of resources
  - Manufacturers can be in contact with a community of users
    - New ways to advertise products
    - A sign of eco-friendliness

Business Analysis: Potential Customers

- **End-users**
  - Better driving experience
  - Improve green and collaborative drive style, in the long run
- **Stakeholders**
  - Local authorities
  - OEMs
  - Infrastructure operators
- **Third parties**
  - App and evaluator developers (new mobility services)
  - Social networking
  - Availability of a mass of new, geo-referenced data about green and collaborative driving
    - Privacy issues

Business Analysis: Financing

- At least at the beginning, subscription should be **free**
  - ⇨ Quick growth of the community is key to the success
  - ⇨ **Freemium** access could be considered

- **Advertising**
  - ⇨ Also based on location and other user profile data
- **Investors**
  - ⇨ “smart cities” interested in eco-friendly behavior
  - ⇨ OEM corporate communities
- The game incentivizes the use of the other apps and evaluators
  - ⇨ **joint venture** with apps
  - ⇨ Selling usage data

Business Analysis: Value Chain

Virtual sensors

Mobility support apps and evaluators

Cloud platform

Social gaming services

Data

Geo-localized, individual and combined

Providers

Social network, navigation suppliers

End-users

Discounts, pay-back

Stakeholders

Mobility suppliers, corporate comm.s, cities, insurances, companies for ads

Conclusions

- An ecosystem for connected, collaborative and green mobility
- The SG as a tool to incentivize and improve the use
  - ⇨ Personal improvement through behavior analysis, competition and socialization
- Related business
  - ⇨ Value for drivers
    - Better performance, use of resources, rewards
  - ⇨ Value for stakeholders
    - Virtuous user behaviors, contact with a community
  - ⇨ Advertising
    - Promotion of new mobility services
  - ⇨ Freemium approach
- Concept and infratsructure may be used in different domains, also for other SGs

Thank you!
Questions?

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