Project Report

## Mobile Computing - 2013/04

Course: MEIC

Campus: Alameda

Group: 7

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## 1. Achievements

*Describe which features of the project specification were implemented by filling out the following table. For each feature, indicate its implementation state. If partially implemented, describe what was achieved. Feel free to add any other features you have incorporated into the project.*

|  |  |
| --- | --- |
| **Feature** | **Implemented (Fully / Partially / Not implemented)?** |
| Game scene | Fully |
| Movement and life cycle of players | Fully |
| Bomb drop off and explosion | Fully |
| Movement and life cycle of robots | Fully |
| Collision detection | Fully |
| Score and game duration | Fully |
| Pausing / resuming the game | Fully |
| Handling of relevant activity lifecycle events (e.g., pressing home button) | Fully |
| Level selection | Fully |
| Multiplayer support | Fully |
| Clients leaving / joining the game | Fully |
| Server hand-over | Fully |
| Group merging (or group splitting) | Fully |
|  |  |

## 2. Specification

*Draw and describe the activity wireframe of your program. Describe any other additional relevant details regarding the program behavior that have not been specified by the faculty.*

## 2. Design

*Describe the design of your program. This includes: the architecture of the program (single player, multiplayer centralized, multiplayer decentralized), the respective internal structure in terms of Android components (activities, services, and broadcast receivers) and threads, description of the game loop (i.e., handling input events, updating game state, and refreshing the display), description of consistency and network protocols (e.g., for formation and disaggregation of groups, handling failures, hand-over the server role, merging or splitting groups), etc. While describing the program design, indicate to what extent you took into account relevant issues to mobile computing, such resource efficiency, performance, fault tolerance, and usability. Discuss how the involved trade-offs affected your design decisions (e.g., in the game synchronization protocols, game scene refreshing algorithms, etc.).*

## 3. Implementations Choices

*Describe any relevant implementation choices, e.g., the targeted testing platform (WDSim or real devices), external libraries used, etc.*

## 4. Conclusions

*State the conclusions of this work. Please provide some input on how the practical component of the course could be improved in future editions.*