

# Specification of Software 2015/16

## 2<sup>nd</sup> Project Report

Daiane Oliveira  
ist423160

Tiago Diogo  
ist173559

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### 1 PROJECT APPROACH

Given the operations and restrictions presented in the project statement the group decided to use a hierarchical approach, where each machine would be responsible for a specific group of operations and restrictions. This allows the use of a refinement process where each machine considers a single dimension and is then refined and expanded with the operations and restrictions of the next dimension. The used machines are explained in the following section, ordered by the refining sequence (each item refines the previous).

### 2 SIGNATURES MODELING AND EXPLANATION

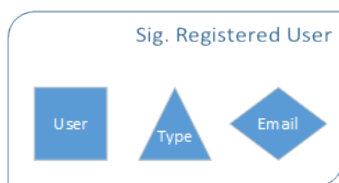


Figure 2.1: Flower one.

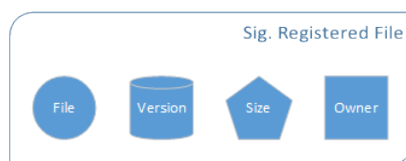


Figure 2.2: Flower two.

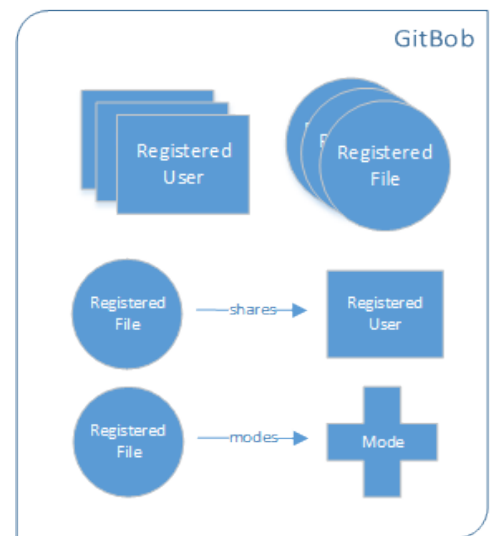


Figure 2.3: Flower one.

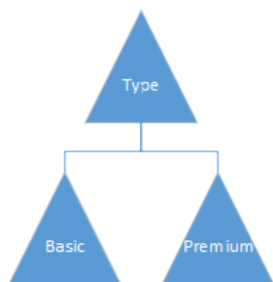


Figure 2.4: Flower two.

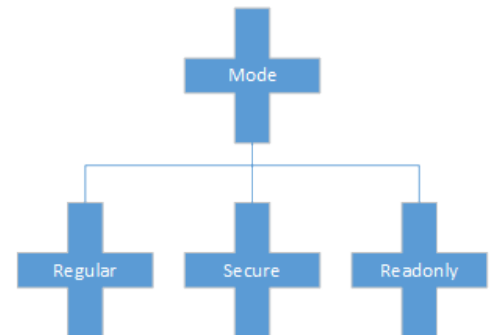


Figure 2.5: Flower two.

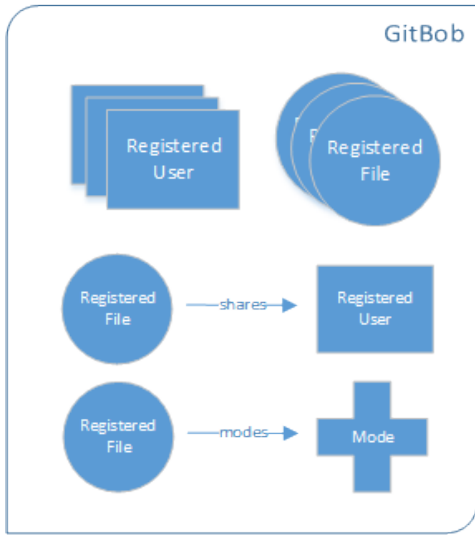


Figure 2.6: Flower one.

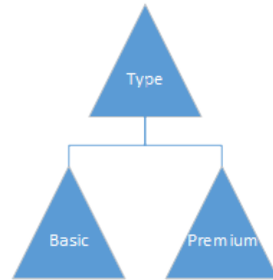


Figure 2.7: Flower two.

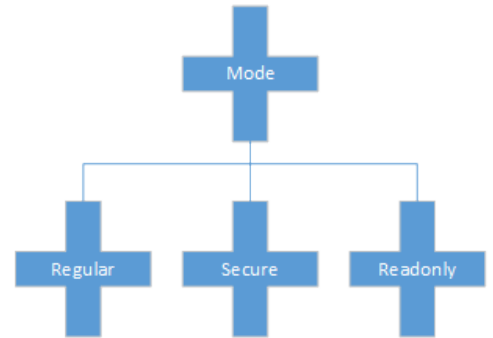


Figure 2.8: Flower two.

### 3 INTERACTIVE PROVER

The following profs were not automatically proved and required the group intervention

**Machine mac\_files** uploadFile/inv4/INV

**Machine mac\_backups** uploadFileWithBackup/inv2/INV

**Machine mac\_shares** addFile/inv2/INV

**Machine mac\_backups** addFile/inv3/INV

**Machine mac\_shares** downgradeBasic/inv6/INV

**Machine mac\_backups** uploadFileWithBackup/inv2/INV

**Machine mac\_shares** uploadFile/inv5/INV