Homestay App Specification

Types

Base classes from requirement's class diagram:

$$[Admin, Profile, File, DateRange]$$

The System

The system must hold a schema by itself with the purpose of declaring its elements as well as its invariants:

HomestayApp

$Students : \mathbb{P}\, Profile$
$Hosts : \mathbb{P}\, Profile$
$Manager : \mathbb{P}\, Admin$
$Requests : Students \rightarrow Hosts$

$Students \in Profile$
$Hosts \in Profile$
$Students \cap Hosts = \varnothing$
$\forall\, s : Students \mid s \in \mathrm{dom}\, Requests \bullet \#(s \lhd Requests) \leq 3$