# Project scenarios

## Scenario I

* ***Scenario Title*** – a single visitor wants to enter the pool.
* ***Actor*** – Bob, a middle-aged man, the community resident.
* ***Setting*** – the swimming pool entrance, the front guard desk.
* ***Scenario Goal*** – check if the incoming person (Bob) is authorized to enter the pool.
* ***Scenario Narrative*** – Bob would like to swim in the open-air pool for the next hour or so. He is the community resident, paid the membership fees, and has the right to use the pool every day, on working hours. Bob would like to pass the controller’s desk without any delay. Bob does not have any documents or IDs with him; he wears only swim trunks and flip-flops.

The front guard (controller) is supposed to ask Bob’s name or address. The controller enters the name or address data into the system and selects the person’s profile from a short-list of search results. If the search results are empty, the controller checks for spelling. If the system returned too many results, the controller types-in additional qualifying info about the person (full address, name, date of birth if necessary).

Then the controller checks whether the selected profile corresponds to Bob by the photo, gender, age (date of birth if there is a doubt), address, and name. If Bob’s look matches his data in the system and the system indicates that Bob is authorized, the controller admits Bob to the pool. Otherwise, the controller doesn’t allow Bob to enter the pool. In such the case, the controller should explain the reason for denial and give instructions to Bob on how to get access to the pool if necessary.

* ***Utility Analysis***
  + *Benefits*
    - enhanced access control, unauthorized persons are not permitted even if they used to have a valid pass.
    - no need to manually produce a pass (fill in, print, cut, laminate).
  + *Costs*
    - initial setup of the database, including taking a photo of each authorized person;
    - time needed for a routine check of every incoming visitor;
    - a computer (laptop) for running the application.
  + *Risks*
    - fail to recognize a person by photo due to change in the look (e.g., a new beard);
    - delays in database synchronization (resulting in admission/non-admission errors);
    - errors in the database (e. g. misspelled address or name).

## Scenario II

* ***Scenario Title*** – a family of visitors wants to enter the pool.
* ***Actors*** – A family of four: Mike (age 37, a father), Suzan (age 32, a mother), Sam (age 9, son), Mary (age 5, daughter).
* ***Setting*** – the swimming pool entrance, the front guard desk.
* ***Scenario Goal*** – check if the incoming persons are authorized to enter the pool if there are any restrictions imposed on them
* ***Scenario Narrative*** – the family would like to swim in the open-air pool. There is no issue with authorization (each family member is authorized to use the pool). However, there are several additional restrictions imposed on children:
  + Sam is not allowed to swim alone despite being able to swim. He must be accompanied by at least one adult at all time. Only children aged at least 11 can swim alone given that they pass a swimming test;
  + Mary is not allowed to swim alone and must be accompanied by an adult too. However, due to her age (0 to 6), she must also wear a safety-vest or at least inflatable armbands.

Like in the scenario I, the family does not have any documents with them and want to pass the check-point as quickly as possible.

The front guard (controller) asks for the family’s address, enters the address into the system, and finds the profiles of Mike, Suzan, Sam, and Mary. The controller pays additional attention to the restrictions imposed on children. In this case, the guard must check whether Mary has inflatable armbands. If the baby has no armbands, the controller must pass over a safety-vest and insist on wearing it. Also, the controller checks the age of very young visitors. Babies up to 3 years old must wear swim diapers. Babies without swim diapers are not permitted to the pool.

* ***Utility Analysis***
  + *Benefits*
    - improved safety. The application minimizes the risks of child drowning;
    - improved hygiene around the pool due to the obligatory wearing of swim diapers by toddlers.
  + *Costs*
    - time needed to check every member of the group, including children;
    - a computer (laptop) for running the application;
  + *Risks*
    - fail to recognize a child (photos become outdated very fast);
    - delays in the database synchronization;
    - errors in the database.