# Application for Bike Sharing Risk assessment

Cristian Hasna<sup>1</sup> Marțincu Petru<sup>1</sup> Mircea Rares - Gabriel<sup>1</sup>

## Risk event

#### 1. Stolen bike

- Timeframe: Anytime
- Probability: Crime rate for the current city.
- Impact: Number of available bikes decreases.
- Factors: Weak security such as no locker or a weak type of locker.

#### 2. Too many idle bikes

- Timeframe: Anytime
- Probability: Medium High
- Impact: Too many bikes are left unused, deeming them costly to run.
- Factors: No study is being made before launching the app in the specific city, thus having a low demand and a great supply will only rise the number of idle bikes.

### 3. Waiting time for a bike is big

- Timeframe: Anytime
- Probability: Medium High
- Impact: Very few bikes have been bought, waiting time for a bike will rise sharply when the demand is big.
- Factors: Few bikes have been bought in a city where the demand is high, thus creating a situation of high demand low supply.

<sup>&</sup>lt;sup>1</sup> Faculty of Computer Science, "Alexandru Ioan Cuza" University, Graduate Student

### 4. Users are holding on to the bikes

• Timeframe: Anytime

• Probability: Low - Medium

- Impact: Number of available bikes decreases. Some users will go and claim that bike, but won't have access to it, given the fact that their access is blocked.
- Factors: Some users hide the bikes in the appartment blocks where the GPS signal is weak, and other users are obstructed.

#### 5. Defect bikes

• Timeframe: Anytime

• Probability: Low - Medium

• Impact: Bike becomes unusuable. Money has to be spent to fix it.

• Factors: Gradual degradation to the bikes, because of little to none maintenance. Some users might abuse them and wreck them, rendering the bikes unusuable. Force majeure.