Security Low Level Design - SafeRide

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Security Overview

Purpose

The purpose of security is to provide a component which handles authentication and authorization of users in our system. Security is integral in the log-in and registration process, as well as making sure users have the valid credentials to view certain parts of the SafeRide website.

Security UML

The UML diagram represents relationship between classes as well as rough methods and fields present within them. These classes are meant to be interactable with any manager class that needs to authorize and authenticate objects.

```
┌─────────────────────────────┐              ┌─────────────────────────────┐
│        <<interface>>        │              │        <<interface>>        │
│        IAuthenticate        │              │         IAuthorize          │
├─────────────────────────────┤              ├─────────────────────────────┤
│                             │              │                             │
│  + bool Authenticate(Function function,    │  + bool Authorize(Function function, Object
│           Object object)    │              │             object          │
│                             │              │                             │
└─────────────────────────────┘              └─────────────────────────────┘
              ↑                                             ↑
              └──────────────────────────────────────────┘
                        implements

┌─────────────────────────────┐
│        <<interface>>        │
│          ISecurity          │
├─────────────────────────────┤
│  + bool Authenticate(Function function, Object object)
│  + bool Authorize(Function function, Object object)
└─────────────────────────────┘
              ↑
              │
          implements

┌─────────────────────────────┐
│         UserSecurity        │
├─────────────────────────────┤
│         + User user         │
├─────────────────────────────┤
│  + bool UserAuthenticate(Object user)
│   + bool UserAuthorize(Object user)
│ + bool Authenticate(Function function, Object user)
│  + bool Authorize(Function function, Object user)
└─────────────────────────────┘
```