**CrowdAcademy Models Documentation**

**User Model**

The **User** model represents a user of the CrowdAcademy platform.

**Fields:**

* **username** (StringField): The username of the user. Required and unique.
* **email** (EmailField): The email address of the user. Required and unique.
* **password** (StringField): The password of the user. Required.
* **role** (StringField): The role of the user, chosen from predefined options (**super\_admin**, **admin**, **instructor**, **student**). Required.
* **permissions** (ListField of StringField): List of permissions granted to the user.
* **profile** (EmbeddedDocumentField): Embedded document containing user profile information.
* **lessons\_created** (ListField of ReferenceField): List of lessons created by the user.
* **lessons\_enrolled** (ListField of ReferenceField): List of lessons in which the user is enrolled.
* **challenges\_created** (ListField of ReferenceField): List of challenges created by the user.
* **challenges\_solved** (ListField of ReferenceField): List of challenges solved by the user.
* **payment\_methods** (ListField of EmbeddedDocumentField): List of payment methods associated with the user.
* **payments** (ListField of EmbeddedDocumentField): List of payments made by the user.
* **created\_at** (DateTimeField): Timestamp indicating when the user was created.
* **updated\_at** (DateTimeField): Timestamp indicating when the user was last updated.

**Meta:**

* **collection**: Specifies the collection name for the model in the database.

**Lesson Model**

The **Lesson** model represents a lesson in the CrowdAcademy platform.

**Fields:**

* **title** (StringField): The title of the lesson. Required.
* **content** (StringField): The content or description of the lesson. Required.
* **author** (ReferenceField): Reference to the user who authored the lesson. Required.
* **duration** (IntField): Duration of the lesson in minutes.
* **format** (StringField): Format of the lesson (e.g., online, in-person).
* **location** (StringField): Location of the lesson if applicable.
* **price** (DecimalField): Price of the lesson.
* **created\_at** (DateTimeField): Timestamp indicating when the lesson was created.
* **description** (StringField): Additional description of the lesson.
* **status** (StringField): Status of the lesson (e.g., planned, ongoing, completed).
* **instructor\_id** (ReferenceField): Reference to the instructor's ID.
* **scheduled\_time** (DateTimeField): Scheduled time for the lesson.
* **resources** (EmbeddedDocumentListField): List of resources associated with the lesson.
* **feedback** (EmbeddedDocumentListField): List of feedback provided for the lesson.
* **level** (StringField): Difficulty level of the lesson (e.g., Beginner, Intermediate, Advanced).

**Meta:**

* **collection**: Specifies the collection name for the model in the database.
* **indexes**: List of indexes for faster lookup.

**Challenge Model**

The **Challenge** model represents a challenge in the CrowdAcademy platform.

**Fields:**

* **challenge\_id** (StringField): Identifier for the challenge.
* **title** (StringField): Title of the challenge. Required.
* **description** (StringField): Description of the challenge. Required.
* **status** (StringField): Status of the challenge (e.g., active, completed, archived).
* **author** (ReferenceField): Reference to the user who created the challenge. Required.
* **created\_at** (DateTimeField): Timestamp indicating when the challenge was created.
* **resources** (EmbeddedDocumentListField): List of resources associated with the challenge.
* **feedback** (EmbeddedDocumentListField): List of feedback provided for the challenge.
* **price** (DecimalField): Price of the challenge.
* **tags** (ListField of StringField): List of tags associated with the challenge.

**Meta:**

* **indexes**: List of indexes for faster lookup.

**PaymentMethod Model**

The **PaymentMethod** model represents a payment method used by users in the CrowdAcademy platform.

**Fields:**

* **name** (StringField): Name of the payment method.
* **type** (StringField): Type of the payment method (e.g., credit card, PayPal).
* **details** (StringField): Additional details or information about the payment method.

**Meta:**

* **collection**: Specifies the collection name for the model in the database.

**Payment Model**

The **Payment** model represents a payment made by users in the CrowdAcademy platform.

**Fields:**

* **amount** (DecimalField): Amount of the payment.
* **currency** (StringField): Currency of the payment (e.g., USD, EUR).
* **date** (DateTimeField): Date and time when the payment was made.
* **method** (ReferenceField): Reference to the payment method used for the payment.
* **user** (ReferenceField): Reference to the user who made the payment.

**Meta:**

* **collection**: Specifies the collection name for the model in the database.

**Profile Model**

The **Profile** model represents the profile of a user in the CrowdAcademy platform.

**Fields:**

* **full\_name** (StringField): Full name of the user.
* **bio** (StringField): Biography or description of the user.
* **avatar** (StringField): URL or path to the user's profile picture.

**Meta:**

* **collection**: Specifies the collection name for the model in the database.