

Code Implementation:

Product Schema:

```
const mongoose = require('mongoose');

const productSchema = new mongoose.Schema({
  name: String,
  categories: [String],
  variants: [
    {
      color: String,
      size: String,
      price: Number,
      stock: Number
    }
  ],
  reviews: [
    {
      user: mongoose.ObjectId,
      rating: { type: Number, min: 1, max: 5 },
      comment: String
    }
  ]
});

module.exports = mongoose.model('Product', productSchema);
```

Aggregation Query (Average Rating):

```
const result = await Product.aggregate([
  { $match: { _id: productId } },
  { $unwind: "$reviews" },
  { $group: {
    _id: null,
    avgRating: { $avg: "$reviews.rating" }
  }}
]);
```