# CRC Model

Optimistic Newts

| Enterprise Business Rules | **User** | |
|---|---|---|
| Responsibilities | | Collaborators |
| <ul><li>id</li><li>username</li><li>password</li><li>location</li><li>interests</li><li>rating</li><li>numRatings</li><li>loginStatus</li><li>friends</li><li>conversations</li><li>getId()</li><li>getUsername()</li><li>setUsername()</li><li>getPassword()</li><li>setPassword()</li></ul> | <ul><li>getLocation()</li><li>getInterests()</li><li>setLocation()</li><li>addInterest()</li><li>removeInterest()</li><li>getRating()</li><li>addRating()</li><li>login()</li><li>logout()</li><li>addFriend()</li><li>removeFriend()</li><li>getFriends()</li><li>addConversation()</li><li>removeConversation()</li><li>getConversations()</li></ul> | <ul><li>Conversation</li></ul> |

## Enterprise Business Rules

## Conversation

| Responsibilities | | Collaborators |
|---|---|---|
| ● id | ● getLocation() | ● User |
| ● title | ● setLocation() | ● Message |
| ● topic | ● getLocationRadius() | |
| ● location | ● setLocationRadius() | |
| ● locationRadius | ● getMinRating() | |
| ● minRating | ● setMinRating() | |
| ● maxSize | ● getMaxSize() | |
| ● closingTime | ● setMaxSize() | |
| ● isOpen        #public | ● getClosingTime() | |
| ● messages | ● setClosingTime() | |
| ● users | ● getMessages() | |
| ● getId() | ● addMessage() | |
| ● getTitle() | ● removeMessage() | |
| ● setTitle() | ● getUsers() | |
| ● getTopic() | ● addUser() | |
| ● setTopic() | ● removeUser() | |

| Enterprise Business Rules | **Message** | |
|---|---|---|
| Responsibilities | | Collaborators |
| • body<br>• author<br>• writtenAt　　# set to time of<br>　constructor call<br>• lastUpdatedAt<br>• getBody()<br>• setBody()<br>• getAuthor()<br>• getWrittenAt()<br>• getLastUpdatedAt()<br>• setLastUpdatedAt() #set to time<br>　of method call. Make this private<br>　and call inside of setBody() | | • User |

| Enterprise Business Rules | ConversationQueue | implements Queue<Conversation> |
|---|---|---|

| Responsibilities | | Collaborators |
|---|---|---|
| For Queue interface<br>• add()<br>• element()<br>• offer()<br>• peek()<br>• poll()<br>• remove()<br>• + some Collection interface methods | ConversationQueue specific:<br>• conversations (heap)<br>• location<br>• locationRadius<br>• Interests<br>• getLocation()<br>• getLocationRadius()<br>• getInterests()<br>• toKeyedConversation() | • Conversation<br>• KeyedConversation |

| Application Business Rules | **UserManager** | **implements InputBoundary** |
|---|---|---|
| Responsibilities | | Collaborators |
| • user<br>• UserInteractor(User)<br>• Create User<br>• Login User<br>• Delete User | • request(RequestModel) | • User<br>• RequestModel (data structure) |

| Application Business Rules | **ConversationManager** | **implements InputBoundary** |
|---|---|---|
| Responsibilities | | Collaborators |
| • conversation<br>• ConversationInteractor(Conversation)<br>• Create Conversation<br>• Change Conversation Status<br>• Add Messages to conversation | • request() | • Conversation<br>• RequestModel |

| Application Business Rules | MessageManager | implements InputBoundary |
|---|---|---|
| Responsibilities | | Collaborators |
| ● message<br>● MessageInteractor(Message)<br>● Creates messages<br>● Updates messages | ● request() | ● Message<br>● RequestModel |

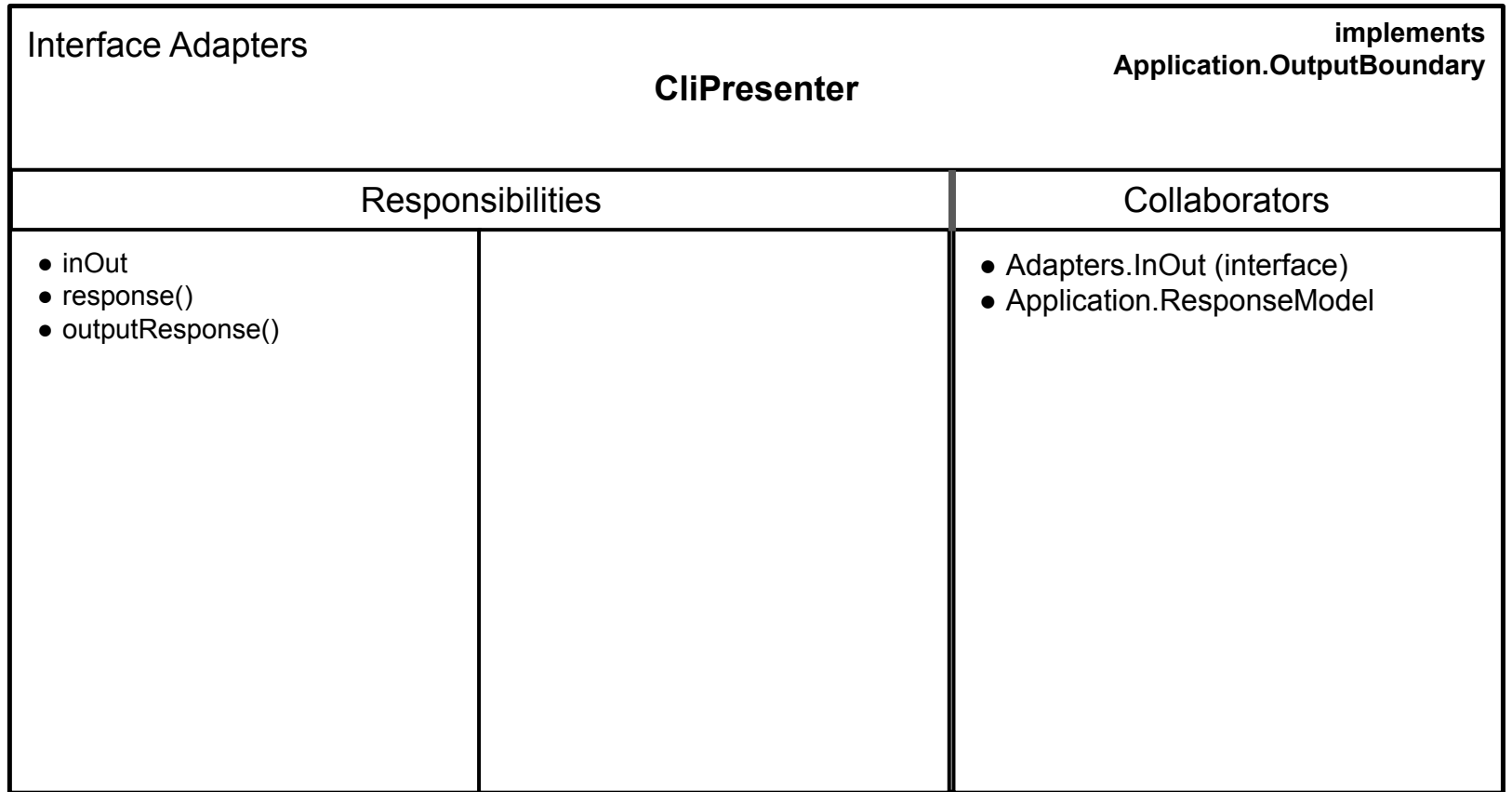| Application<br>Business Rules | ConversationQueueManager | | **implements InputBoundary** |
|---|---|---|---|
| **Responsibilities** | | | **Collaborators** |
| • conversationQueue<br>• ConversationQueueInteractor(ConversationQueue)<br>• Creates a new ConversationQueue<br>• Dequeues Conversations from the ConversationQueue | • request() | | • ConversationQueue<br>• RequestModel |

## Interface Adapters

## CliController

| Responsibilities | | Collaborators |
|---|---|---|
| ● inOut<br>● Validate input<br>● Call appropriate interactor<br>● Control Cli menu flow | | ● Application.RequestModel<br>● Application.InputBoundary<br>● Adapters.InOut (interface)<br>● Many Interactors |

| Interface Adapters | | implements Application.OutputBoundary |
|---|---|---|
| | **CliPresenter** | |

| Responsibilities | | Collaborators |
|---|---|---|
| ● inOut<br>● response()<br>● outputResponse() | | ● Adapters.InOut (interface)<br>● Application.ResponseModel |

| Frameworks & Drivers | **CliDriver** | **implements Adapters.StringInOut** |
|---|---|---|

| Responsibilities | | Collaborators |
|---|---|---|
| ● reader<br>● getInput()<br>● sendOutput() | | |