MedAnnot

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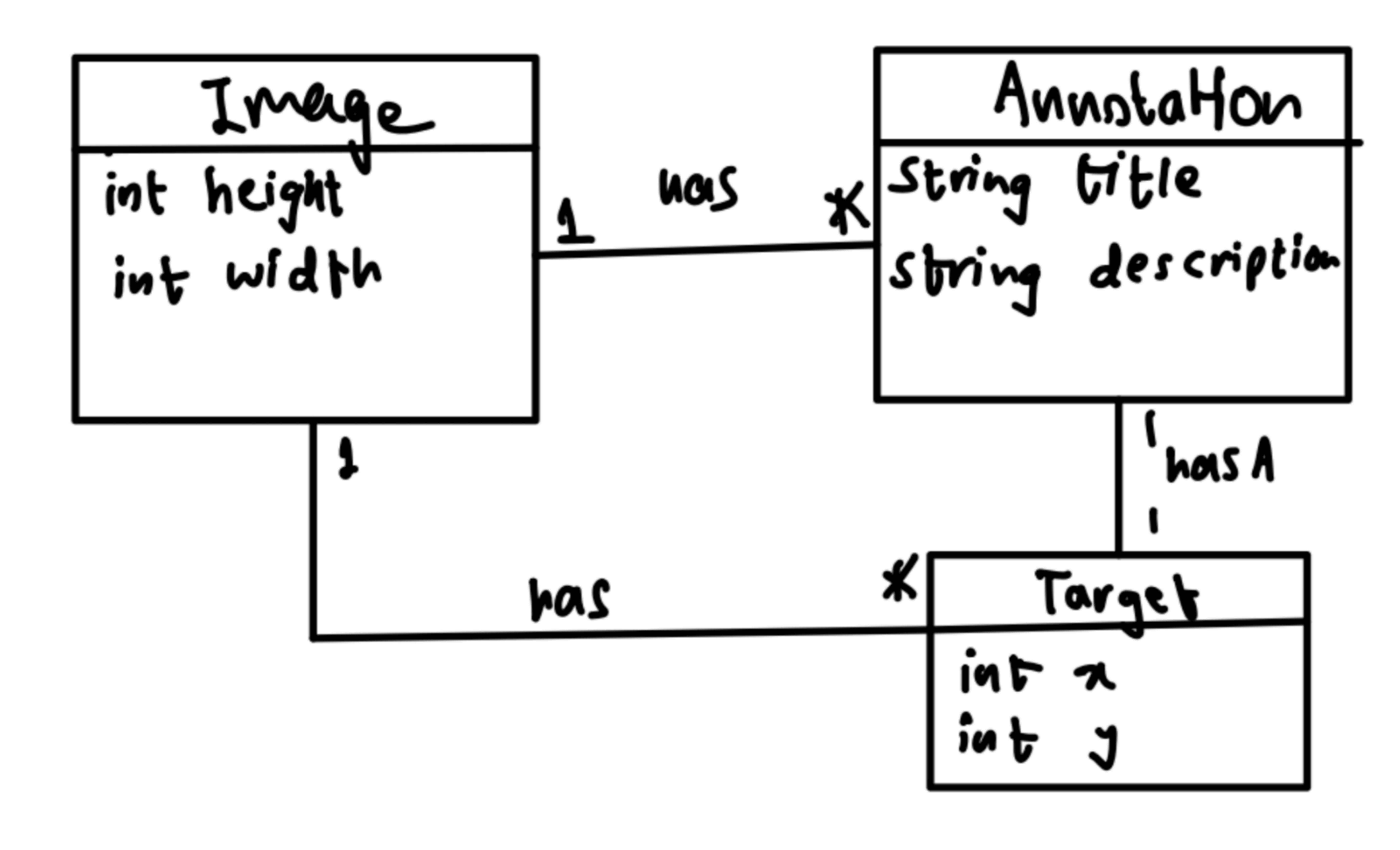
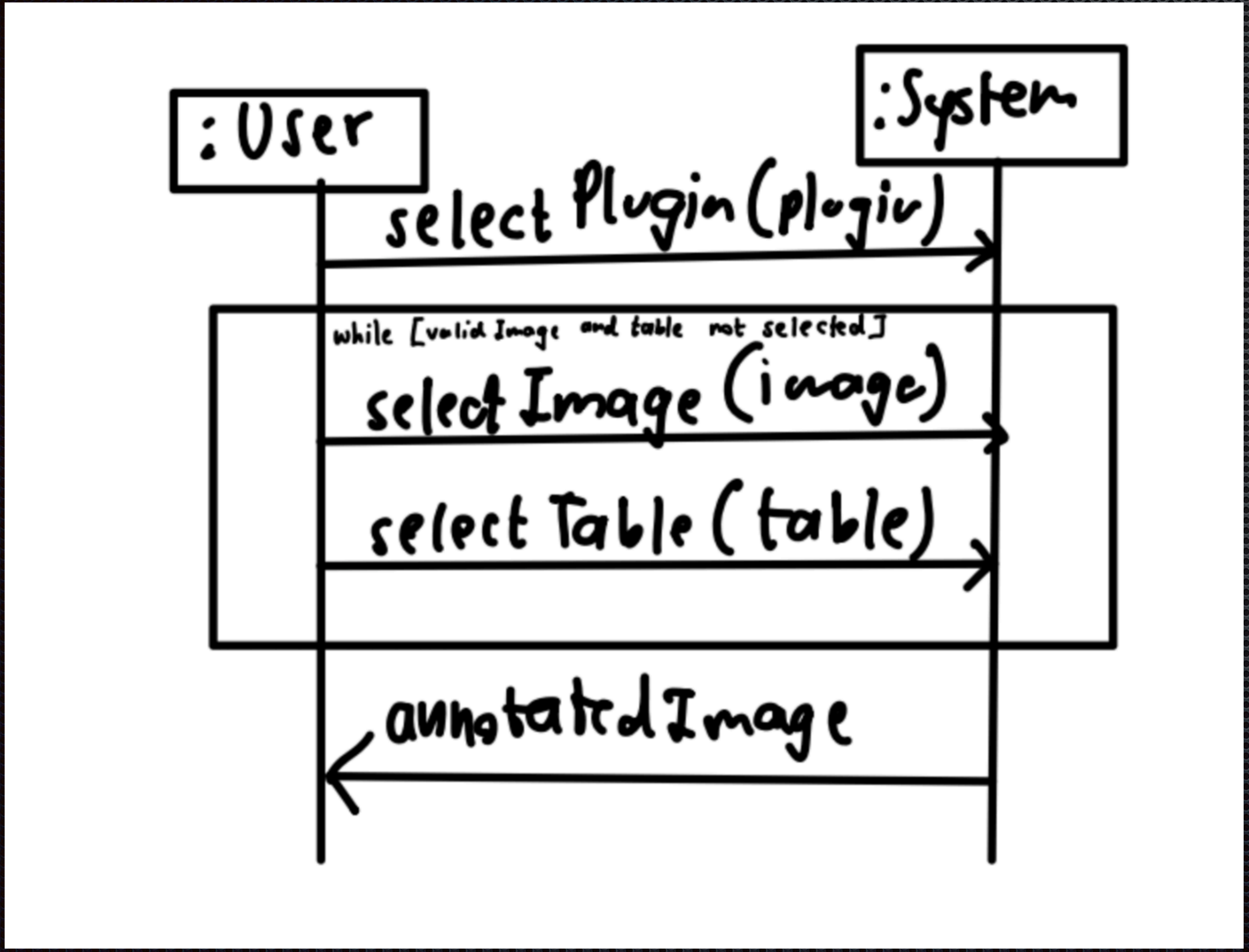
Generality vs Specificity

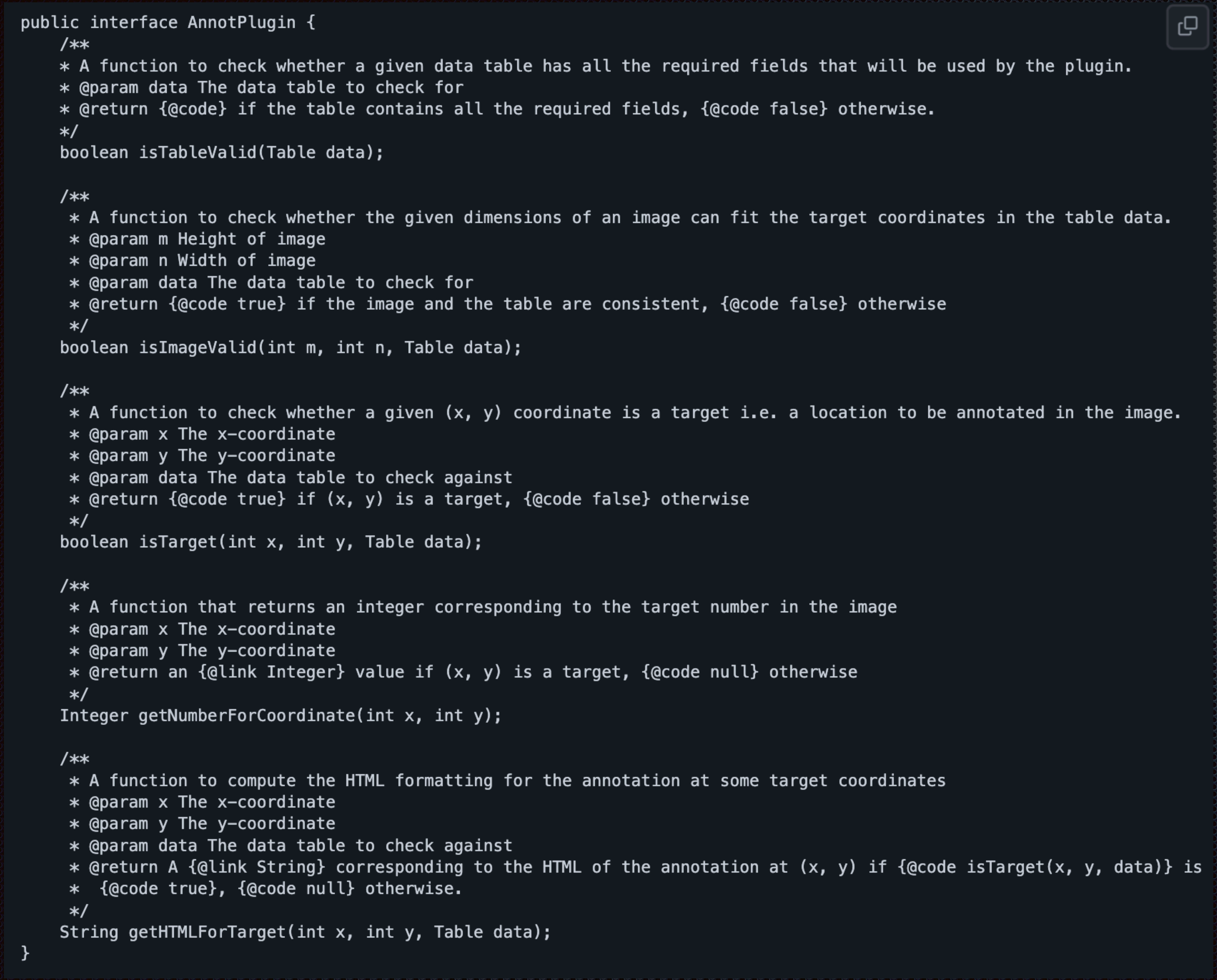
- Domain Engineering
- Key Abstraction
- Reusable Functionality
- Potential Flexibility

Domain Model



System Sequence Diagram





```java
public interface AnnotPlugin {
    /**
    * A function to check whether a given data table has all the required fields that will be used by the plugin.
    * @param data The data table to check for
    * @return {@code} if the table contains all the required fields, {@code false} otherwise.
    */
    boolean isTableValid(Table data);

    /**
     * A function to check whether the given dimensions of an image can fit the target coordinates in the table data.
     * @param m Height of image
     * @param n Width of image
     * @param data The data table to check for
     * @return {@code true} if the image and the table are consistent, {@code false} otherwise
     */
    boolean isImageValid(int m, int n, Table data);

    /**
     * A function to check whether a given (x, y) coordinate is a target i.e. a location to be annotated in the image.
     * @param x The x-coordinate
     * @param y The y-coordinate
     * @param data The data table to check against
     * @return {@code true} if (x, y) is a target, {@code false} otherwise
     */
    boolean isTarget(int x, int y, Table data);

    /**
     * A function that returns an integer corresponding to the target number in the image
     * @param x The x-coordinate
     * @param y The y-coordinate
     * @return an {@link Integer} value if (x, y) is a target, {@code null} otherwise
     */
    Integer getNumberForCoordinate(int x, int y);

    /**
     * A function to compute the HTML formatting for the annotation at some target coordinates
     * @param x The x-coordinate
     * @param y The y-coordinate
     * @param data The data table to check against
     * @return A {@link String} corresponding to the HTML of the annotation at (x, y) if {@code isTarget(x, y, data)} is
     *  {@code true}, {@code null} otherwise.
     */
    String getHTMLForTarget(int x, int y, Table data);
}
```

```
public interface AnnotFramework {
    /**
     * Takes in the input image which is an m x n png file that is converted using a Table of the data and
     * the relevant plugin to an annotated image diagram.
     * @param image The image to process
     * @param data The data table based on which the plugin will create the annotations in the image
     * @param plugin The plugin that will process the data and the table to produce the image
     * @return {@code true} if the render was successful, {@code false} otherwise
     */
    Boolean render(Image image, Table data, AnnotPlugin plugin);
}
```