More Sophisticated Behaviour

Technical Support System V1.0

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Lectures and Labs

- The Tech Support System lectures and labs are based on examples in Chapter 5 of:
  - Objects First with Java
    - A Practical Introduction using BlueJ, © David J. Barnes, Michael Kölling

Topic List

1. Recap of Library Classes (**Java’s API**).
2. **Interface Vs Implementation**.
3. Technical Support System **V1**:
   - Overview of the System
   - Three Classes:
     1. **InputReader** class
     2. **Responder** class
     3. **SupportSystem** class

Technical Support System **V1**

01

Console based system.

02

Textual dialog system

- you enter text on the console and the system will provide a response.

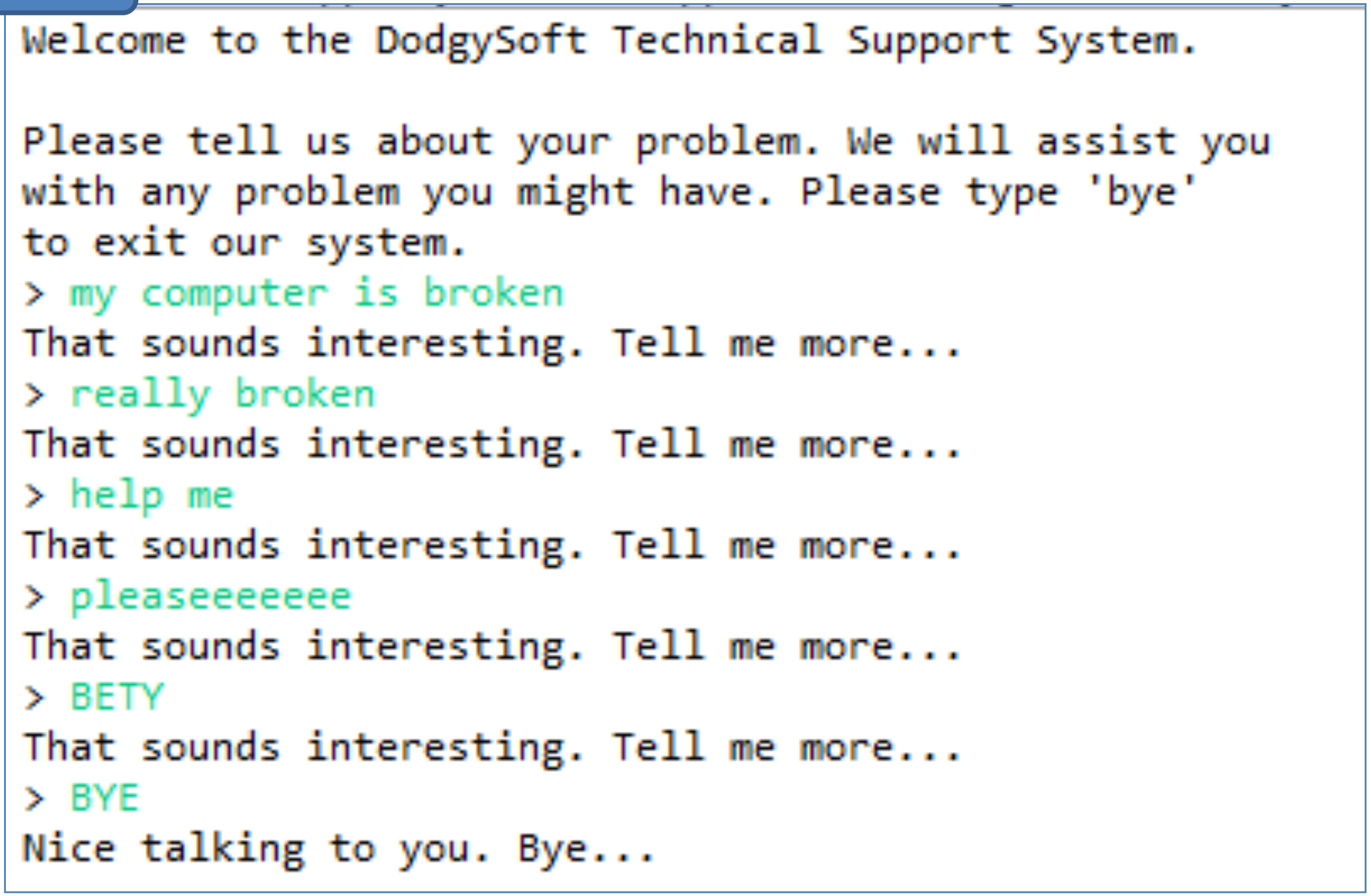
03

System always responds with the same String:

- *"That sounds interesting. Tell me more..."*

Technical Support System V1

Sample



```
Welcome to the DodgySoft Technical Support System.

Please tell us about your problem. We will assist you
with any problem you might have. Please type 'bye'
to exit our system.
> my computer is broken
That sounds interesting. Tell me more...
> really broken
That sounds interesting. Tell me more...
> help me
That sounds interesting. Tell me more...
> pleaseeeeeee
That sounds interesting. Tell me more...
> BETY
That sounds interesting. Tell me more...
> BYE
Nice talking to you. Bye...
```

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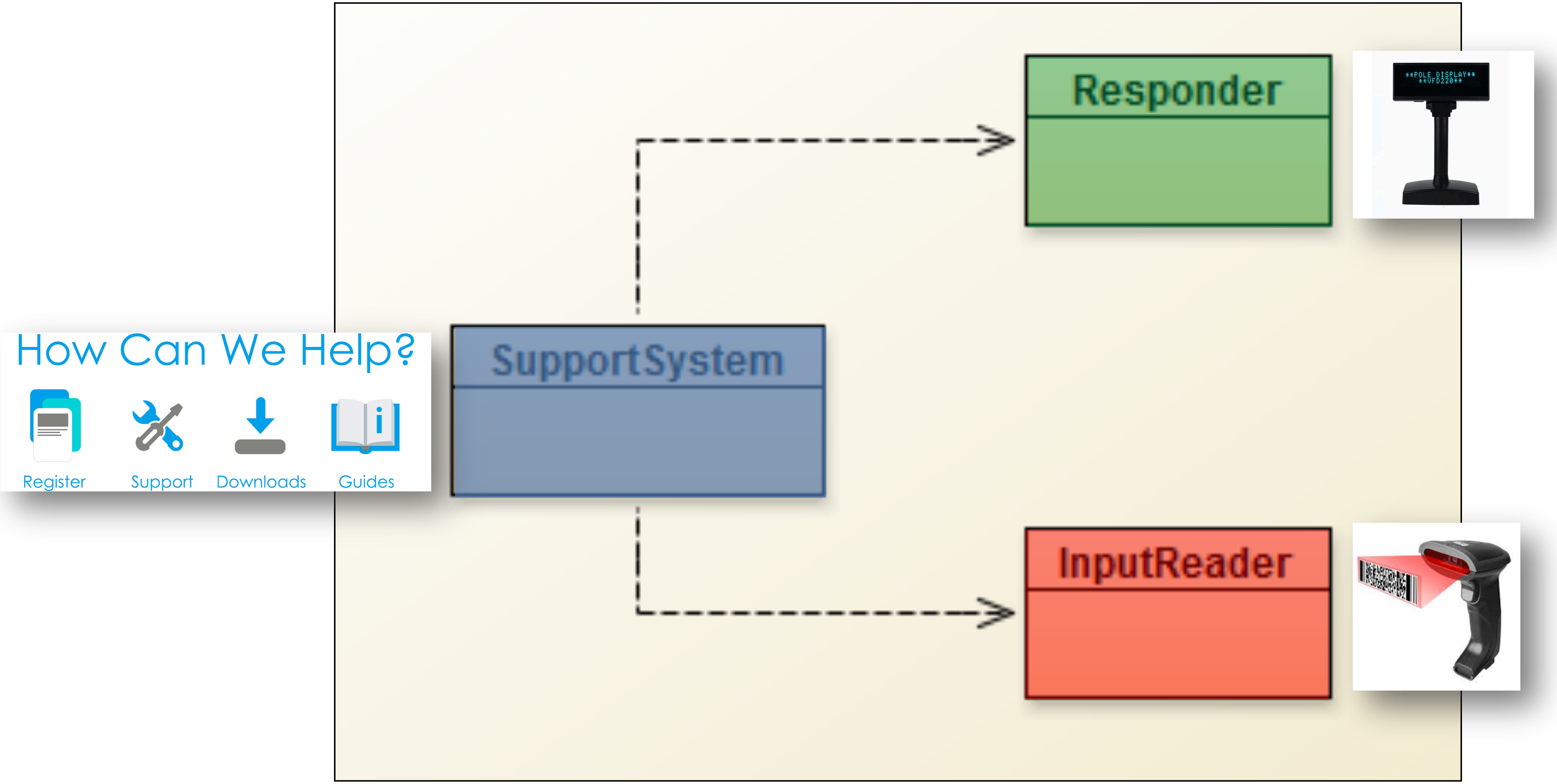
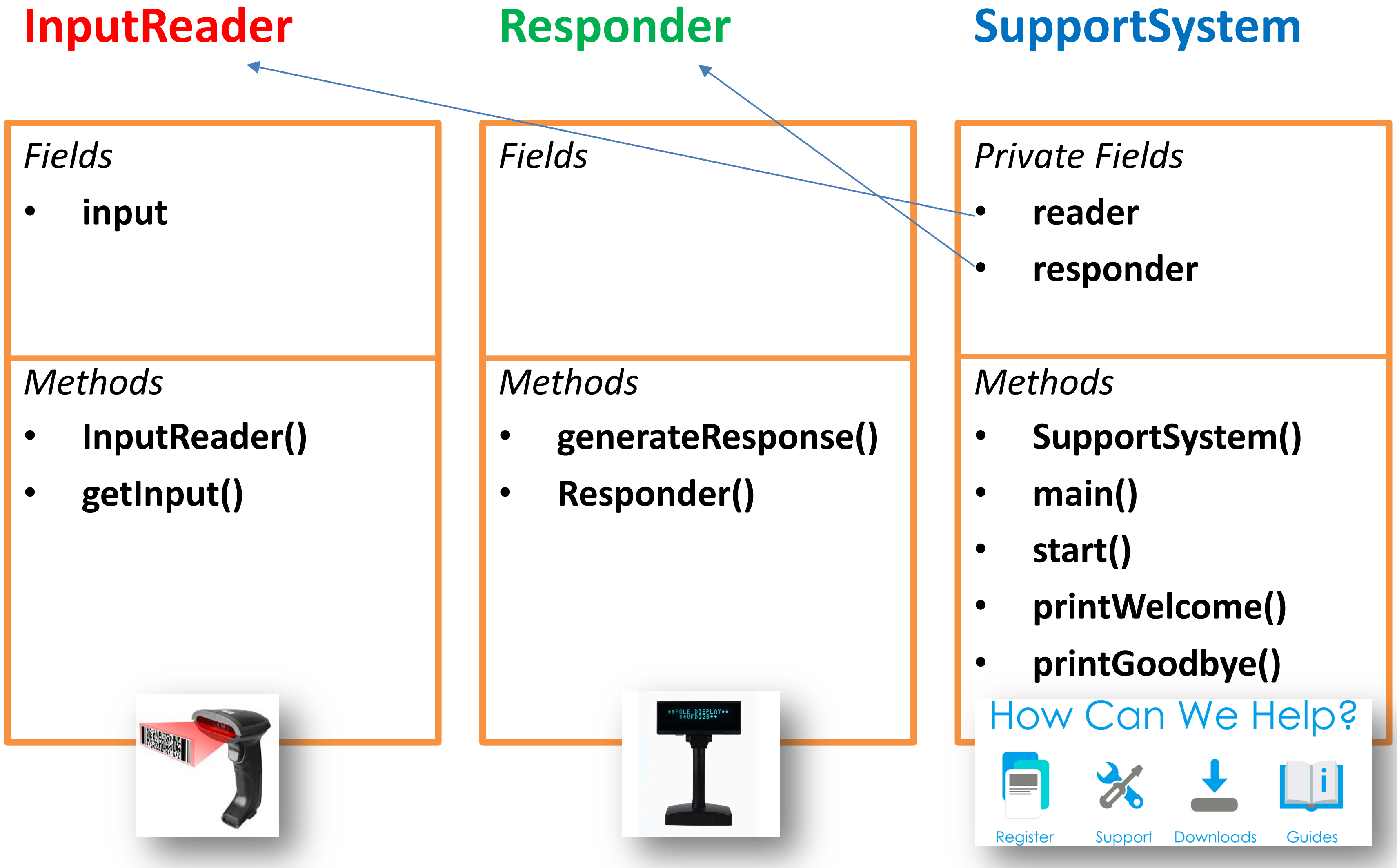
Class Diagram



Three Classes



InputReader

Fields

- **input**

Methods

- **InputReader()**
- **getInput()**

Responder

Fields

Methods

- **generateResponse()**
- **Responder()**

SupportSystem

Private Fields

- **reader**
- **responder**

Methods

- **SupportSystem()**
- **main()**
- **start()**
- **printWelcome()**
- **printGoodbye()**

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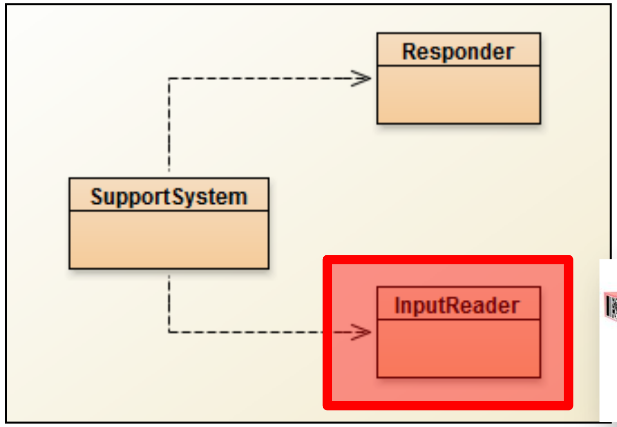
```java
import java.util.Scanner;

public class InputReader{

    Scanner input;

    public InputReader(){
        input = new Scanner(System.in);
    }

    /**
     * Read a line of text from the console and return it as a String.
     *
     * @return  A String typed by the user.
     */
    public String getInput() {
        System.out.print("> ");              // print prompt
        String inputLine = input.nextLine().trim().toLowerCase();
        return inputLine;
    }
}
```



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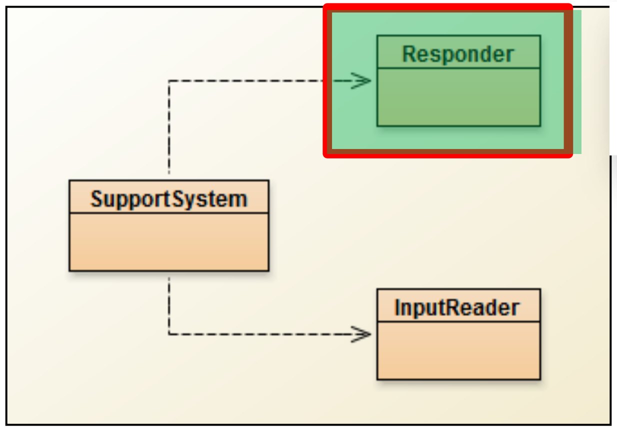
```
public class Responder{

   /**
    * Construct a Responder - nothing to do
    */
    public Responder(){
    }

    /**
    * Generate a response.
    * @return   A string that should be displayed as the response
    */
    public String generateResponse(){
         return "That sounds interesting. Tell me more...";
    }
}
```



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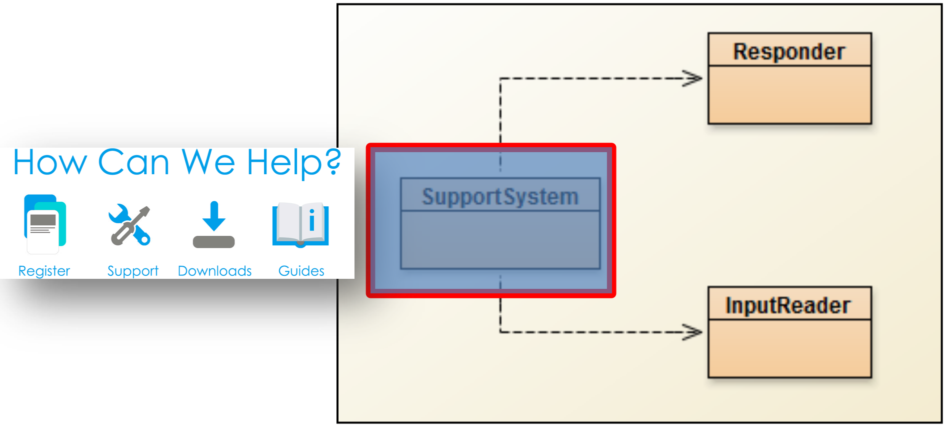
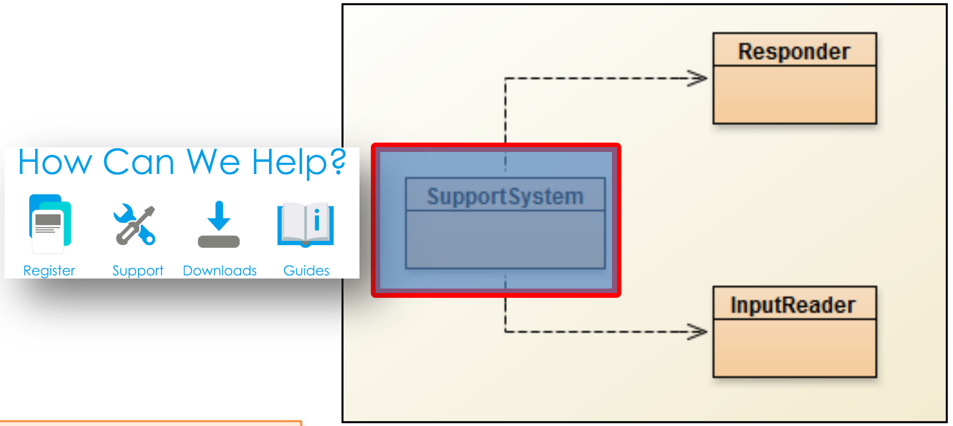
```
public class SupportSystem{
    private InputReader reader;
    private Responder responder;

    public SupportSystem() {
        reader = new InputReader();
        responder = new Responder();
    }

    public static void main(String[] argvs){
        SupportSystem app = new SupportSystem();
        app.start();
    }

    public void start(){
        printWelcome();
        String input = reader.getInput();
        while(! input.startsWith("bye")) {
            String response = responder.generateResponse();
            System.out.println(response);
            input = reader.getInput();
        }
        printGoodbye();
    }
```

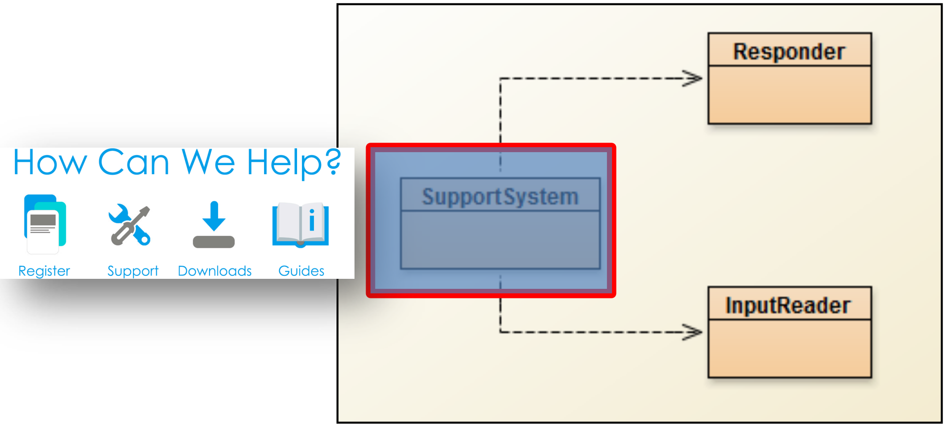
More on next slide >>





```
private void printWelcome(){
      System.out.println("Welcome to the DodgySoft Technical Support System.");
      System.out.println();
      System.out.println("Please tell us about your problem. We will assist you");
      System.out.println("with any problem you might have. Please type 'bye'");
      System.out.println("to exit our system.");
  }

  private void printGoodbye(){
      System.out.println("Nice talking to you. Bye...");
  }

}
```

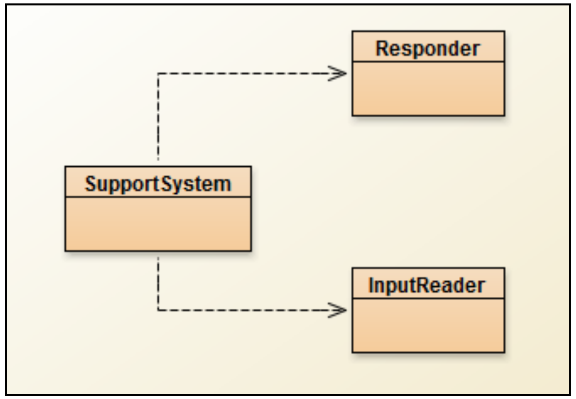
Main loop structure

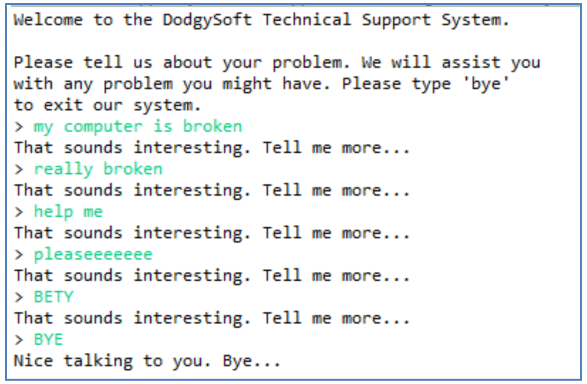


```
public void start(){
    printWelcome();
    String input = reader.getInput();
    while(! input.startsWith("bye")) {
        String response = responder.generateResponse();
        System.out.println(response);
        input = reader.getInput();
    }
    printGoodbye();
}
```

```
Get input
while(input does not start with "bye"){
    do something (i.e. print response)
    Get some new input
}
```

Three Classes





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Any Questions?