ESPNGen

Project Group #35
CSCI5448
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Objectives

- Describe a high level overview of ESPNGen
- Demonstrate the ability to “Signup as a Journalist”
- Demonstrate the ability to “Submit News” as a Journalist
- Demonstrate the ability to “View News” as a User (if time permits)
- Describe significant design choices and patterns that were used in the development of the application

Use Case: Journalist Signup

- Demonstration of ESPNGen
  - Showing the ability to “Signup as a Journalist”

Use Case: Submit News

- Demonstration of ESPNGen
  - Showing the ability to “Submit News” as a Journalist

Use Case: View News

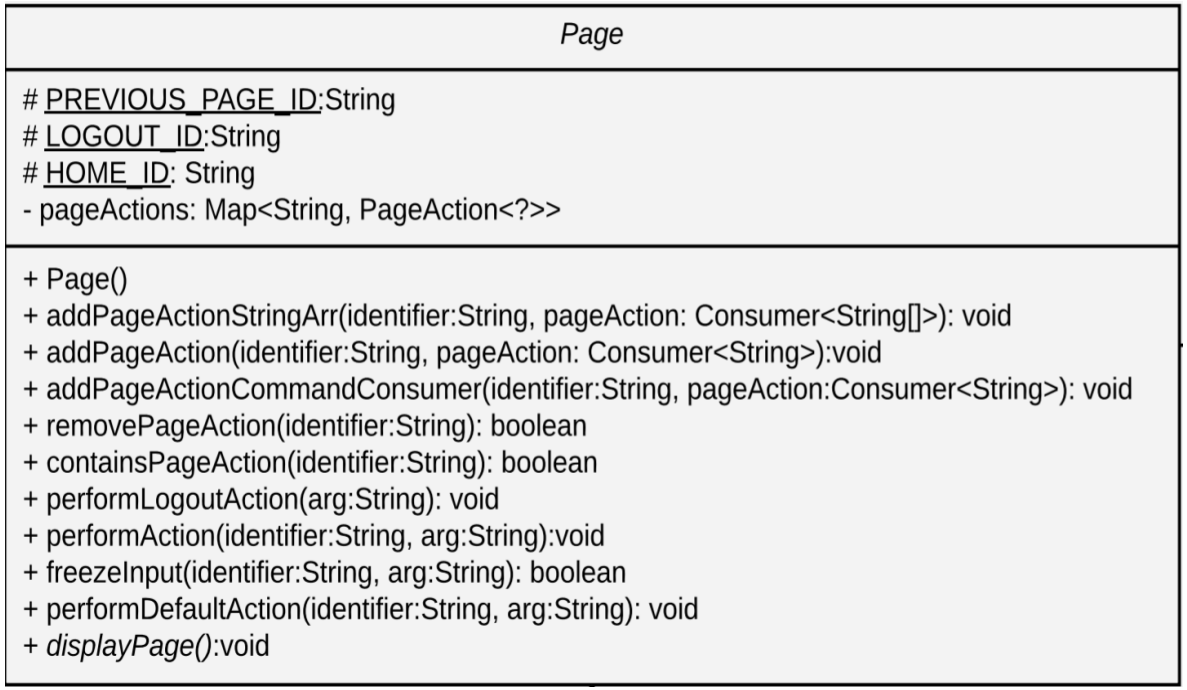
- Demonstration of ESPNGen
  - Showing the ability to “View News” as a User

- Note:
  - This Use Case Demonstration may be skipped if time is running short.

Design: Page and PageAction

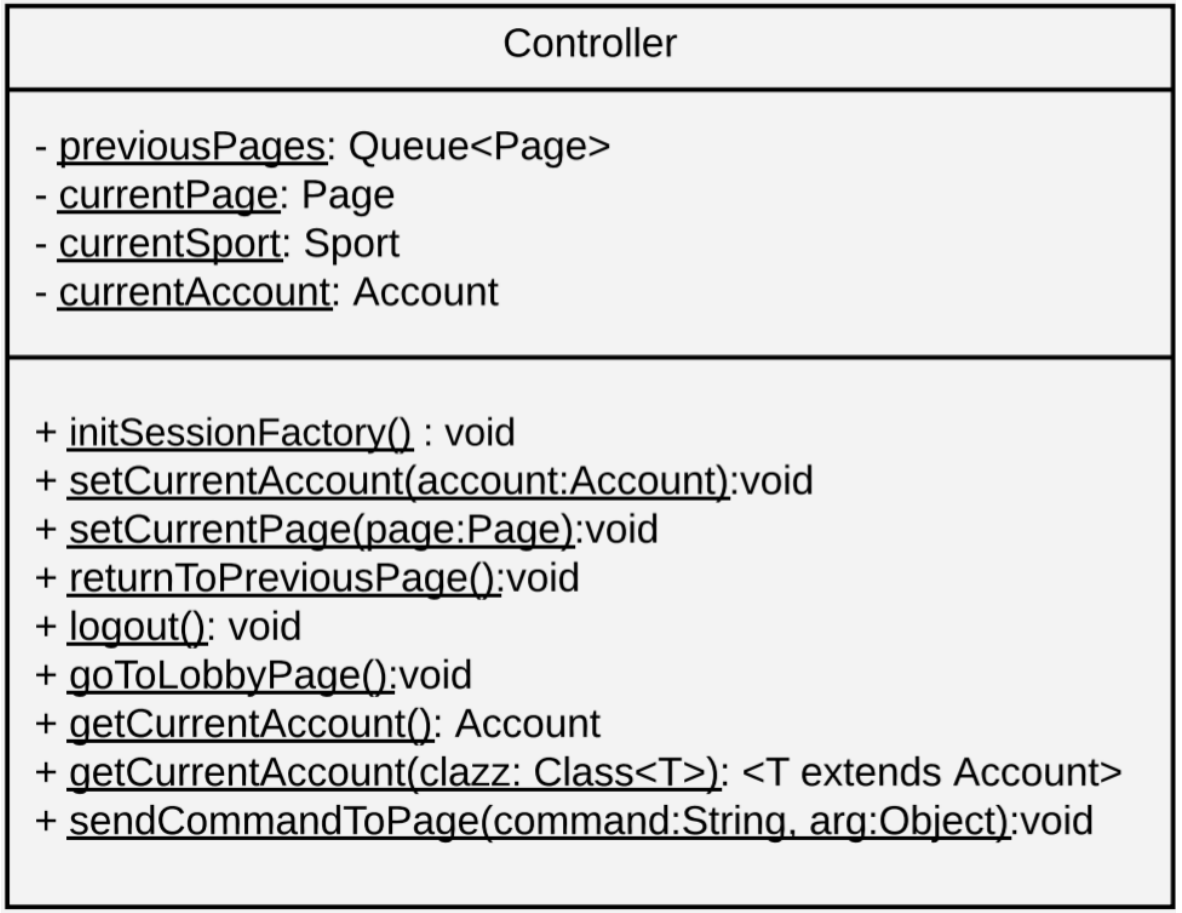
- Our application can be thought of as similar website, broken into a number of Pages.
- Each Page has a method to display its content, and actions which can be performed by the user.
- Controller holds current page being viewed by the application user.

Design: How Page Works



- All viewable pages inherit from Page
- Processes PageActions created in the subclasses
- Uses Strategy Design Pattern to display the page content

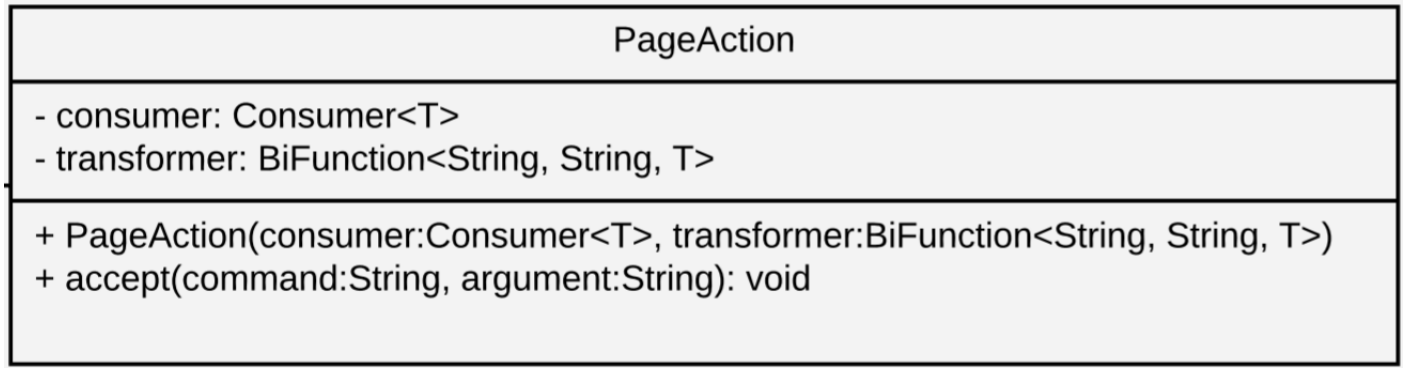
Design: How Page Works (cont.)



Design: PageAction Class

Overcame the problem of each action potentially accepting a different argument type.

```java
public class PageAction<T> {

    private final Consumer<T> consumer;
    private final BiFunction<String, String, T> transformer;

    public PageAction(Consumer<T> consumer, BiFunction<String, String, T> transformer) {
        this.consumer = consumer;
        this.transformer = transformer;
    }

    public void accept(String command, String argument) {
        consumer.accept(transformer.apply(command, argument));
    }

}
```



Design: Choosing A Sport

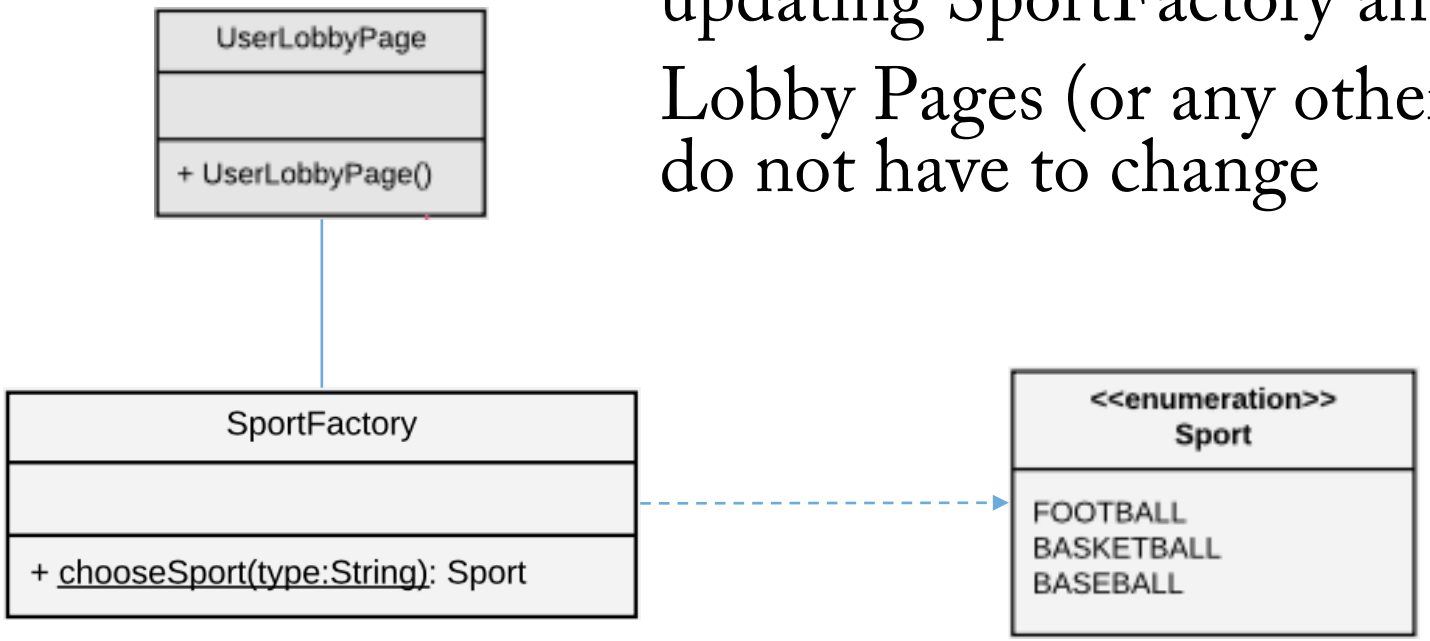
- At its core, our application serves as medium to inform the User about *sports*.
- Not all sports included
- Wanted a way to easily scale and expand sports covered

Design: SportFactory

```
public class SportFactory {

    public static Sport chooseSport(String type) {

        Sport sport = null;

        if (type.equalsIgnoreCase("BASKETBALL"))
            sport = Sport.BASKETBALL;
        else if (type.equalsIgnoreCase("BASEBALL"))
            sport = Sport.BASEBALL;
        else if (type.equalsIgnoreCase("FOOTBALL"))
            sport = Sport.FOOTBALL;

        return sport;
    }

}
```

- Lets Factory decide which sport to select
- Only Sport Factory and Sport Enum codes will need updating
- Note: Sport stored as an Enum rather than a class, but can easily be extended to a future Sport class type
  - Concept is the same

Design: SportFactory (cont.)



Can add more sports by only updating SportFactory and Sport.

Lobby Pages (or any other pages) do not have to change

Conclusion

- What We Learned:
  - Upfront diagramming helps identify potential issues with design and helps adapt the user requirements to actual structure
  - Even when there is an obvious choice for a design pattern, smart decision making still needs to be considered, as its easy to get lost in code once implementation begins
  - Communication is key in a team environment
- Demo Links:
  - https://github.com/cpillion/CSCI5448_Project/ESPNGen_Video_Pillion.mp4
  - https://github.com/cpillion/CSCI5448_Project/ESPNGen_Video_Zavidniak.mp4
  - https://github.com/cpillion/CSCI5448_Project/ESPNGen_Video_Kambli.mp4