California State University Fullerton

CPSC 462



Object Oriented Software Design

SW Architecture Document (SAD)

for the

1. Replace this logo with the one you create
2. Delete this bubble
3. Update placeholder with your project’s title being careful not to delete the (potentially hidden) bookmark. If you did it right, the document’s footer will be updated too
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<Your Project Title here>

System

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| --- | --- | --- | --- | --- |
| **<Student Name 1 here>** | **<Student Name 2 here>** | **<Student Name 3 here>** | **<Student Name 4 here>** | **<Student Name 5 here>** |
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Revision History:

| Version | Date | Summary of Changes | Author |
| --- | --- | --- | --- |
| 1.0 | <date of release> | * Initial Release | <Name 1>  <Name 2>  … |
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NOTE TO STUDENTS:

1. See Larman §8.2 Process: Inception and Elaboration, Chapter 13, §39.2 Notation, The Structure of a SAD, §39.3 Example, A NextGen POS SAD, §39.4 Example, A Jakarta Struts SAD
2. The text inside the angle brackets (including the angle brackets) are hints and direction and is for you to replace. Remove/replace all such text before delivery. Ellipses (the three dots) must also be replaced with your text before delivery.
3. Delete this NOTE before you deliver

# Architectural Representation

…

# Architectural Decisions

## Low Coupling / High Cohesion GRASP Decision

### Decision to be made

<Describe the specific dilemma you’re facing, for example: What specific question are you trying to answer? What specific problem are you trying to solve? Include in your description the properties a good and poor decision will have>

### Options Considered

| Low Coupling / High Cohesion | Static View | Dynamic View |
| --- | --- | --- |
| Option 1  (Rejected) | <insert rejected class diagram SNIPPET here> | <insert rejected sequence diagram SNIPPET here> |
| Option 2  (Selected) | <insert Selected class diagram SNIPPET here> | <insert rejected sequence diagram SNIPPET here> |
| Design Model Reference | <point to paragraph, page number, and where on the page the selected option snippet appears in your bigger, overall design’s Static View> | <point to paragraph, page number, and where on the page the selected option snippet appears in your bigger, overall design’s Dynamic View> |

### Selection and Rationale

Option 1 has been discarded because <…>

Option 2 has been selected because <…>

## Creator GRASP Decision

### Decision to be made

<Describe the specific dilemma you’re facing, for example: What specific question are you trying to answer? What specific problem are you trying to solve? Include in your description the properties a good and poor decision will have>

### Options Considered

| Creator | Static View | Dynamic View |
| --- | --- | --- |
| Option 1  (Rejected) | <insert rejected class diagram SNIPPET here> | <insert rejected sequence diagram SNIPPET here> |
| Option 2  (Selected) | <insert Selected class diagram SNIPPET here> | <insert rejected sequence diagram SNIPPET here> |
| Design Model Reference | <point to paragraph, page number, and where on the page where the selected option snippet appears in your bigger, overall design’s Static View> | <point to paragraph, page number, and where on the page where the selected option snippet appears in your bigger, overall design’s Dynamic View> |

### Selection and Rationale

Option 1 has been discarded because <…>

Option 2 has been selected because <…>

## Information Expert GRASP Decision

### Decision to be made

<Describe the specific dilemma you’re facing, for example: What specific question are you trying to answer? What specific problem are you trying to solve? Include in your description the properties a good and poor decision will have>

### Options Considered

| Information Expert | Static View | Dynamic View |
| --- | --- | --- |
| Option 1  (Rejected) | <insert rejected class diagram SNIPPET here> | <insert rejected sequence diagram SNIPPET here> |
| Option 2  (Selected) | <insert Selected class diagram SNIPPET here> | <insert rejected sequence diagram SNIPPET here> |
| Design Model Reference | <point to paragraph, page number, and where on the page where the selected option snippet appears in your bigger, overall design’s Static View> | <point to paragraph, page number, and where on the page where the selected option snippet appears in your bigger, overall design’s Dynamic View> |

### Selection and Rationale

Option 1 has been discarded because <…>

Option 2 has been selected because <…>

## Controller GRASP Decision

### Decision to be made

<Describe the specific dilemma you’re facing, for example: What specific question are you trying to answer? What specific problem are you trying to solve? Include in your description the properties a good and poor decision will have>

### Options Considered

| Controller | Static View | Dynamic View |
| --- | --- | --- |
| Option 1  (Rejected) | <insert rejected class diagram SNIPPET here> | <insert rejected sequence diagram SNIPPET here> |
| Option 2  (Selected) | <insert Selected class diagram SNIPPET here> | <insert rejected sequence diagram SNIPPET here> |
| Design Model Reference | <point to paragraph, page number, and where on the page where the selected option snippet appears in your bigger, overall design’s Static View> | <point to paragraph, page number, and where on the page where the selected option snippet appears in your bigger, overall design’s Dynamic View> |

### Selection and Rationale

Option 1 has been discarded because <…>

Option 2 has been selected because <…>

# Logical View

## Package Diagrams

<insert diagram here>

### Presentation (UI) Layer Components

NOTE TO STUDENTS:

1. Leave this as N/A. Our subcontractor will provide this detail later.
2. Delete this NOTE before you deliver

N/A

### Domain (Application) Layer Components

#### <Component 1>

<inert Component 1 description and purpose here. Components are represented as sub packages in the diagram above and as subfolders in your computer’s filesystem>

#### <Component 2>

<inert Component 2 description and purpose here. Components are represented as sub packages in the diagram above and as subfolders in your computer’s filesystem>

#### <Component …>

…

### Technical Services Layer Components

#### <Component 1>

<inert Component 1 description and purpose here. Components are represented as sub packages in the diagram above and as subfolders in your computer’s filesystem>

#### <Component 2>

<inert Component 2 description and purpose here. Components are represented as sub packages in the diagram above and as subfolders in your computer’s filesystem>

#### <Component …>

…

## Interface Diagrams

### Presentation (UI) Layer Interface Diagrams

NOTE TO STUDENTS:

1. Leave this as N/A. Our subcontractor will provide this detail later.
2. Delete this NOTE before you deliver

N/A

### Domain Layer Interface Diagrams

<insert Interface Diagram(s) here. Just the interface’s class diagram. Nothing else>

### Technical Services Interface Diagrams

<insert Interface Diagram(s) here. Just the interface’s class diagram. Nothing else>

## Design Patterns

### Polymorphism GRASP Pattern

#### Generalization / Specialization Diagrams

| Static View |
| --- |
| <Insert Class Diagram showing the hierarchy of software classes. The base class should correspond to a general concept from your Domain Model. Show at least 3 realizations (derived classes) that define specific polymorphic specializations. All classes should be implemented and functional in your implementation model (i.e., the code).> |
| <describe the above diagram here> |

#### Factory Pattern Diagrams

| Static View | Dynamic View |
| --- | --- |
| <Insert Class diagram showing the factory pattern used to create specific product instances here> | <Insert Sequence diagram showing the factory pattern used to create specific product instances here> |
| <describe the above diagram here> | <describe the above diagram here> |

#### Source Code References

| Source code file name | Line number(s) |
| --- | --- |
|  |  |
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### Protected Variations GRASP Pattern

#### Generalization / Specialization Diagrams

| Static View |
| --- |
| <Insert Class diagram showing the external interface and at least two realizations here. All classes should be implemented and functional in your implementation model (i.e., the code).> |
| <describe the above diagram here> |

#### Abstract Factory Pattern Diagrams

| Static View | Dynamic View |
| --- | --- |
| <Insert Class diagram showing the factory pattern used to create specific product instances here> | <Insert Sequence diagram showing the factory pattern used to create specific product instances here> |
| <describe the above diagram here> | <describe the above diagram here> |

#### Source Code References

| Source code file name | Line number(s) |
| --- | --- |
|  |  |
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