

```
<xs:complexType name="CategoryType">
```

```
<xs:sequence>
```

```
<xs:element name="description" type="xs:string" />
```

```
<xs:element name="category" type="CategoryType"
minOccurs="0" maxOccurs="unbounded"/>
```

```
<xs:element name="books">
```

```
<xs:complexType>
```

Software System Architectures (NSWI130)

Usability

```
<xs:element name="book" type="BookType"
minOccurs="0" maxOccurs="unbounded"/>
```

```
</xs:sequence>
```

```
</xs:complexType>
```

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Usability Quality Attribute

Usability is concerned with how easy it is for the user to accomplish a desired task and the kind of user support the system provides.

Usability Quality Attribute

- Learning system features

Usability Quality Attribute

- ❑ Learning system features
- ❑ Using a system efficiently

Usability Quality Attribute

- ❑ Learning system features
- ❑ Using a system efficiently
- ❑ Minimizing the impact of errors

Usability Quality Attribute

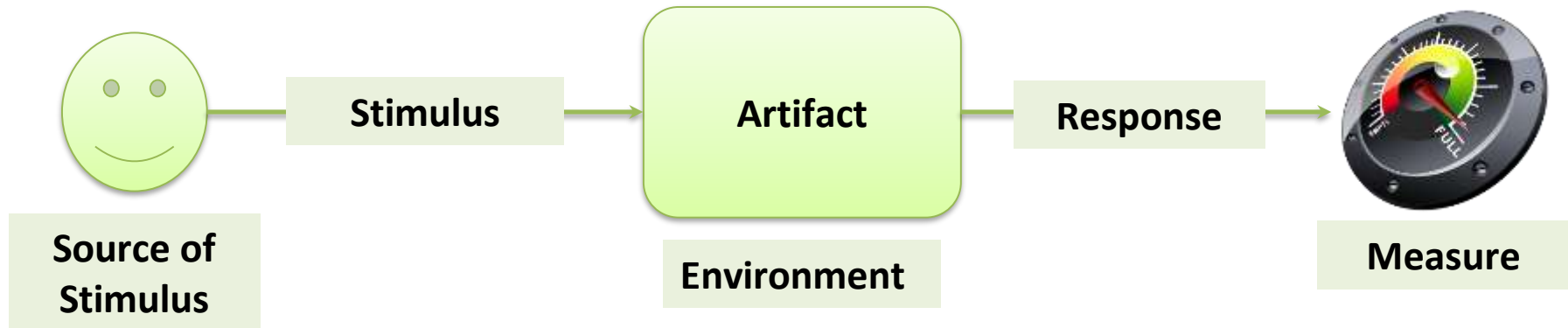
- ❑ Learning system features
- ❑ Using a system efficiently
- ❑ Minimizing the impact of errors
- ❑ Adapting the system to user needs

Usability Quality Attribute

- ❑ Learning system features
- ❑ Using a system efficiently
- ❑ Minimizing the impact of errors
- ❑ Adapting the system to user needs
- ❑ Increasing confidence and satisfaction

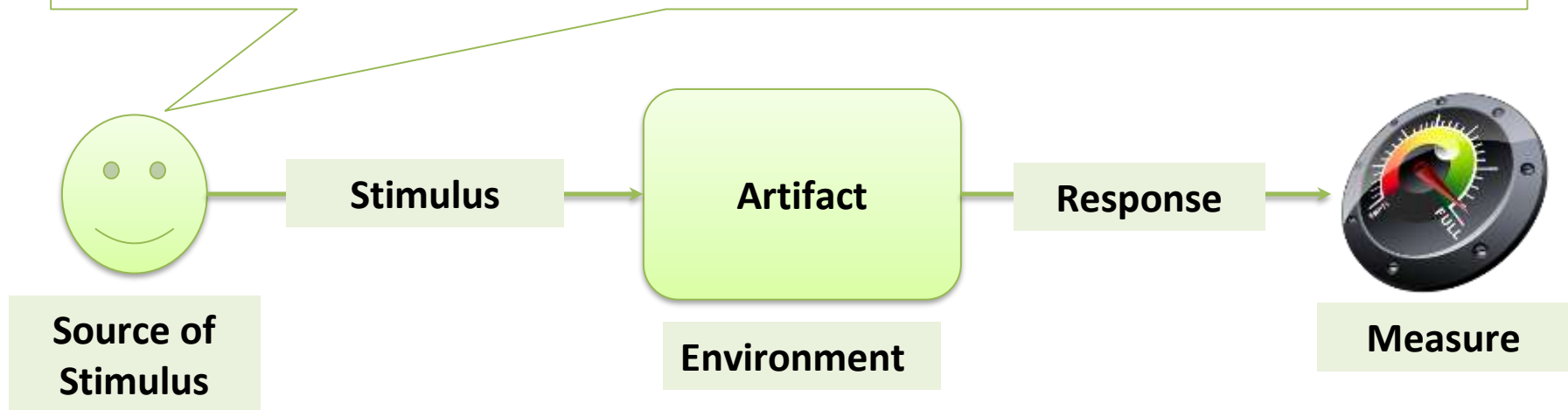
Modifiability Requirement Scenario

- system, its component or feature the user is interacting with



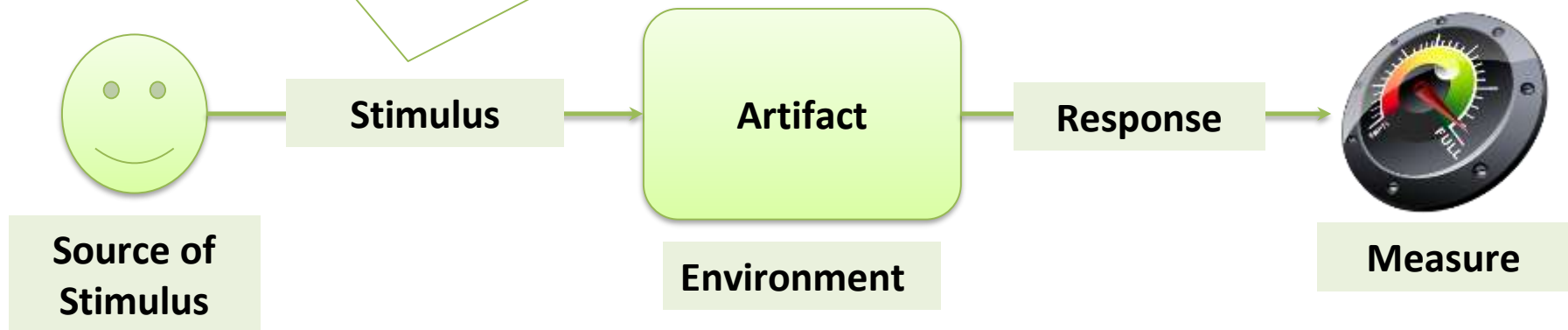
Modifiability Requirement Scenario

□ user



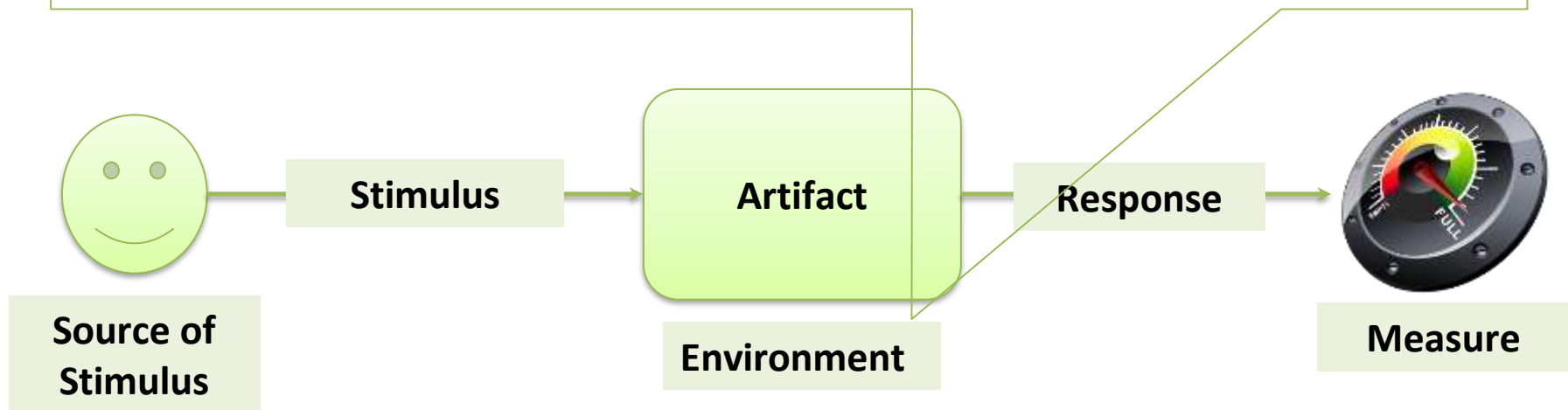
Modifiability Requirement Scenario

- the user uses or learns to use the system



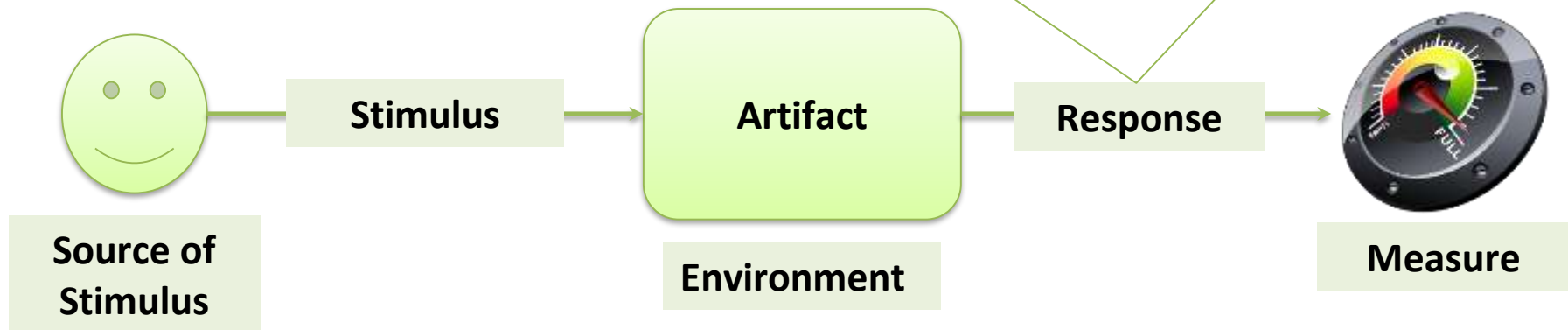
Modifiability Requirement Scenario

- runtime
- training time



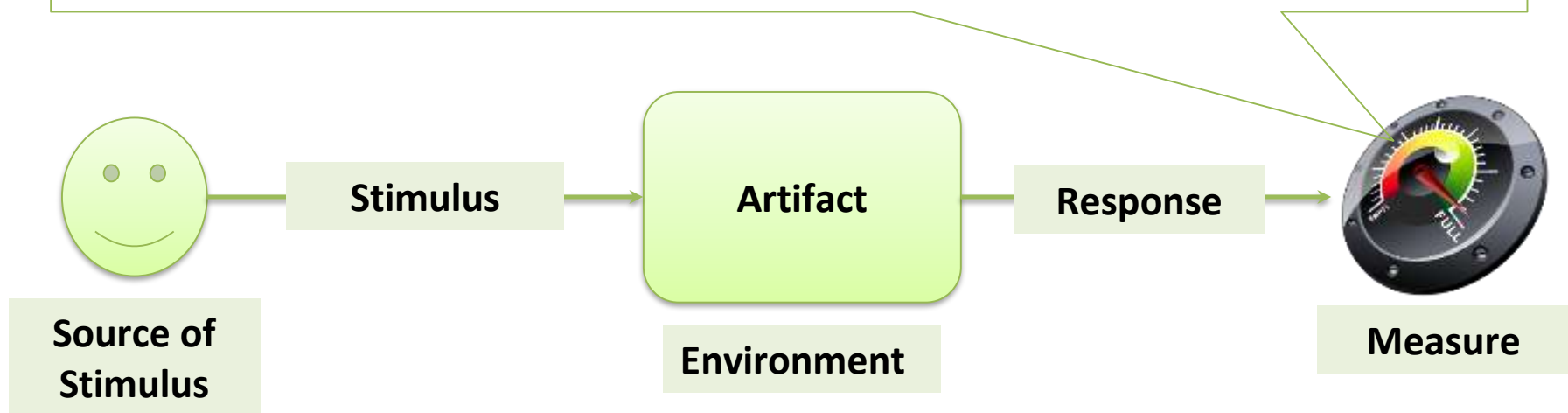
Modifiability Requirement Scenario

- system provides features or anticipates or supports learning

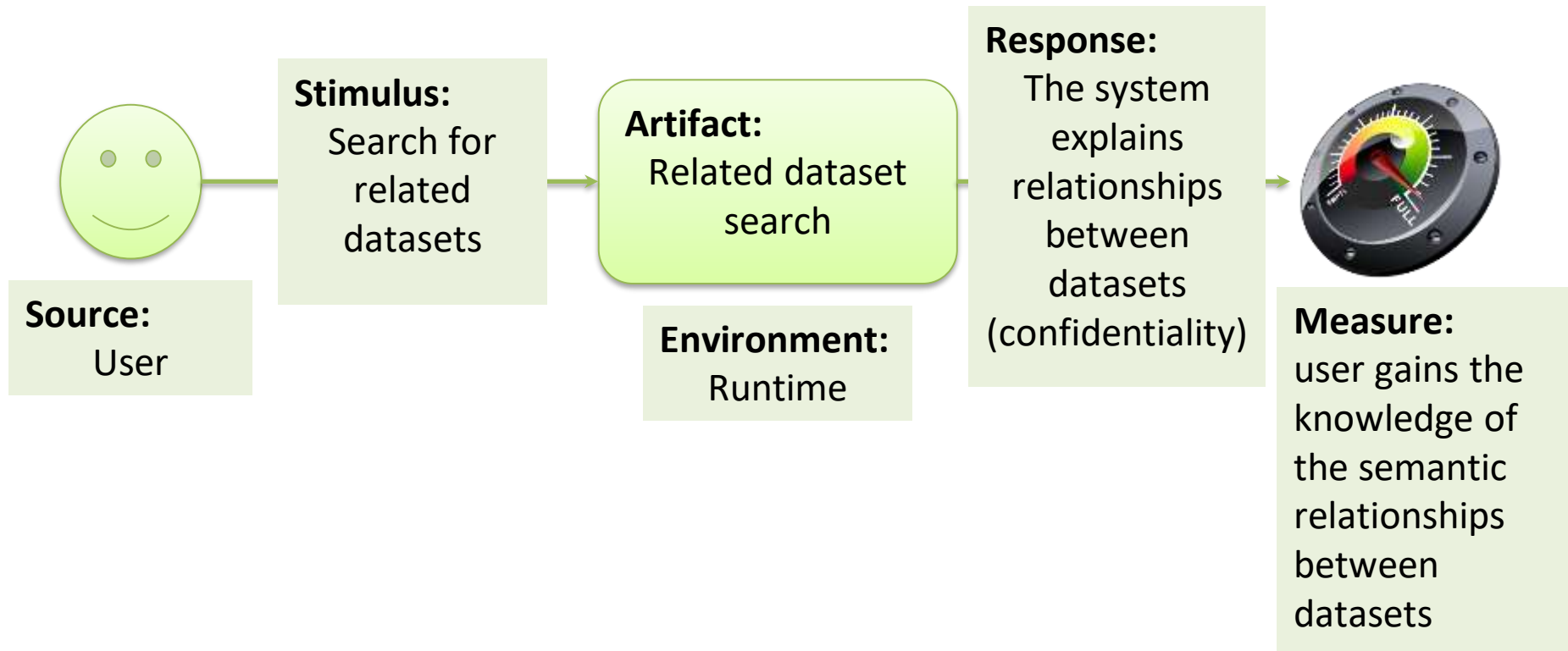


Modifiability Requirement Scenario

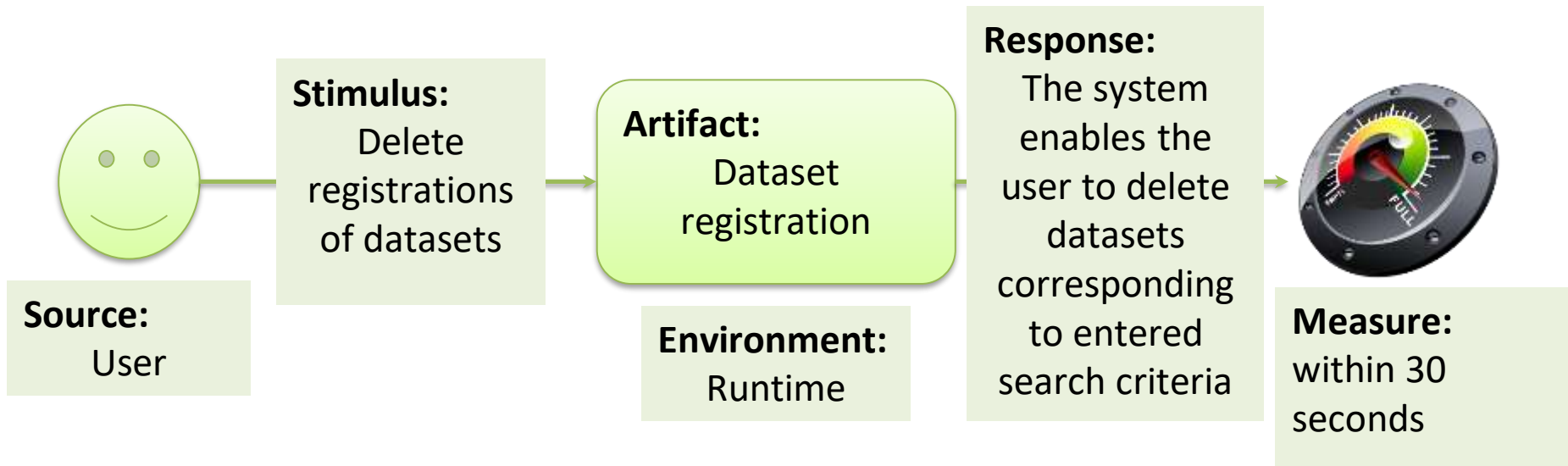
- ❑ task time
- ❑ number of errors
- ❑ user satisfaction
- ❑ gain of user knowledge
- ❑ ratio of successful operations to total operations
- ❑ or amount of time or data lost when an error occurs



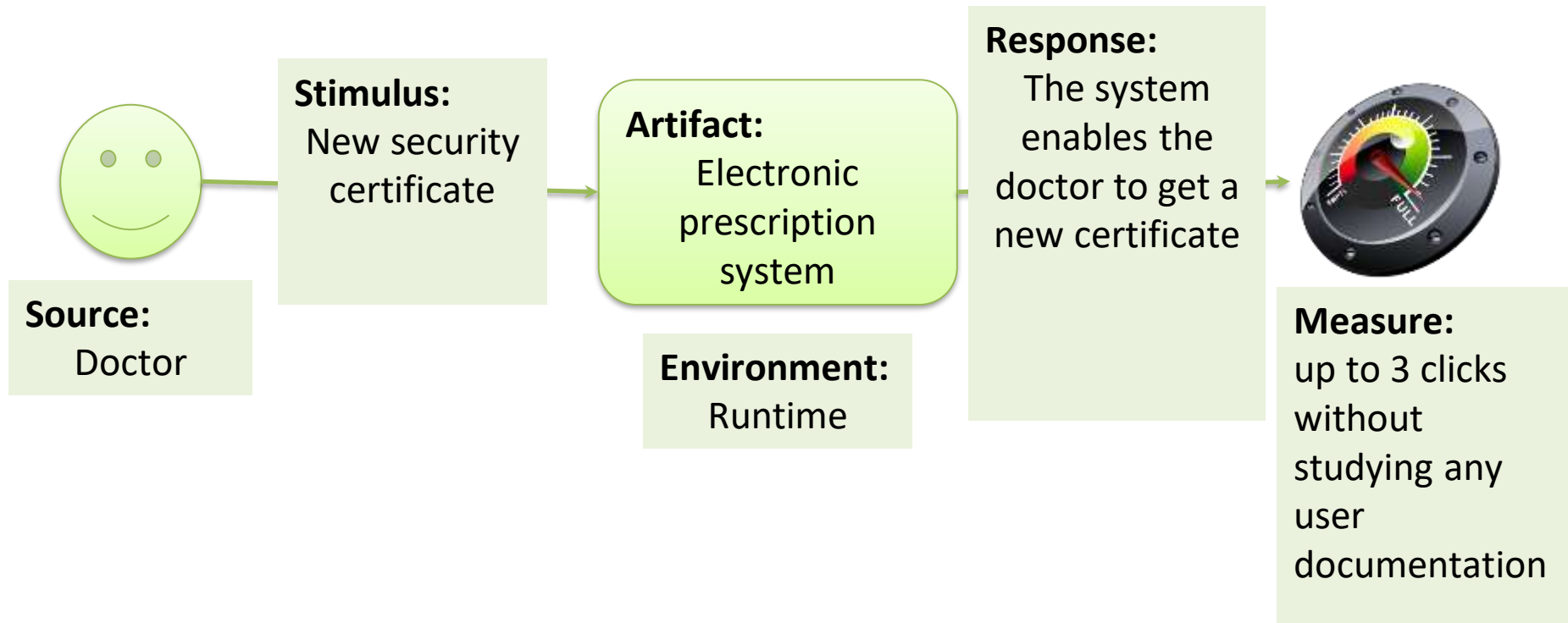
Usability Quality Attribute



Usability Quality Attribute



Usability Quality Attribute



Goals of Usability Tactics

- ❑ support the user's initiative
- ❑ support the system's initiative

Support User Initiative

- ☐ Cancel
- ☐ Pause/Resume
- ☐ Undo
- ☐ Aggregate

Support System Initiative

- ❑ task model
- ❑ user model
- ❑ system model