

P OO e Componentes

Projetando Jogos por Interfaces

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Instituto de Computação – UNICAMP
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Jogos de Tomada de Decisão

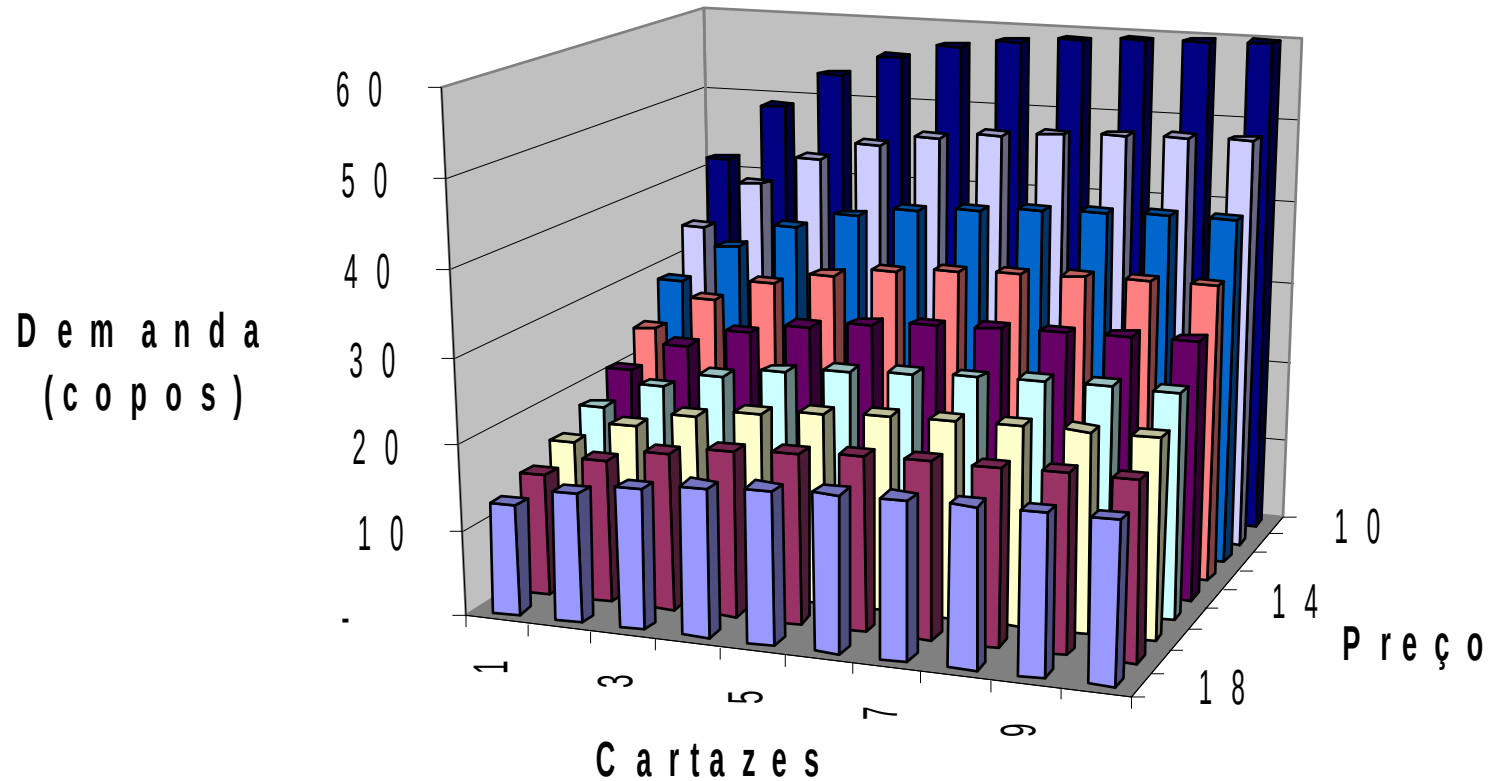
Lemonade



Lemonade



Modelo por trás do Lemonade



Santa Paravia

SIR MOBY OF SANTA PARAVIA (HIT ANY KEY TO CONTINUE.)

YEAR
1401

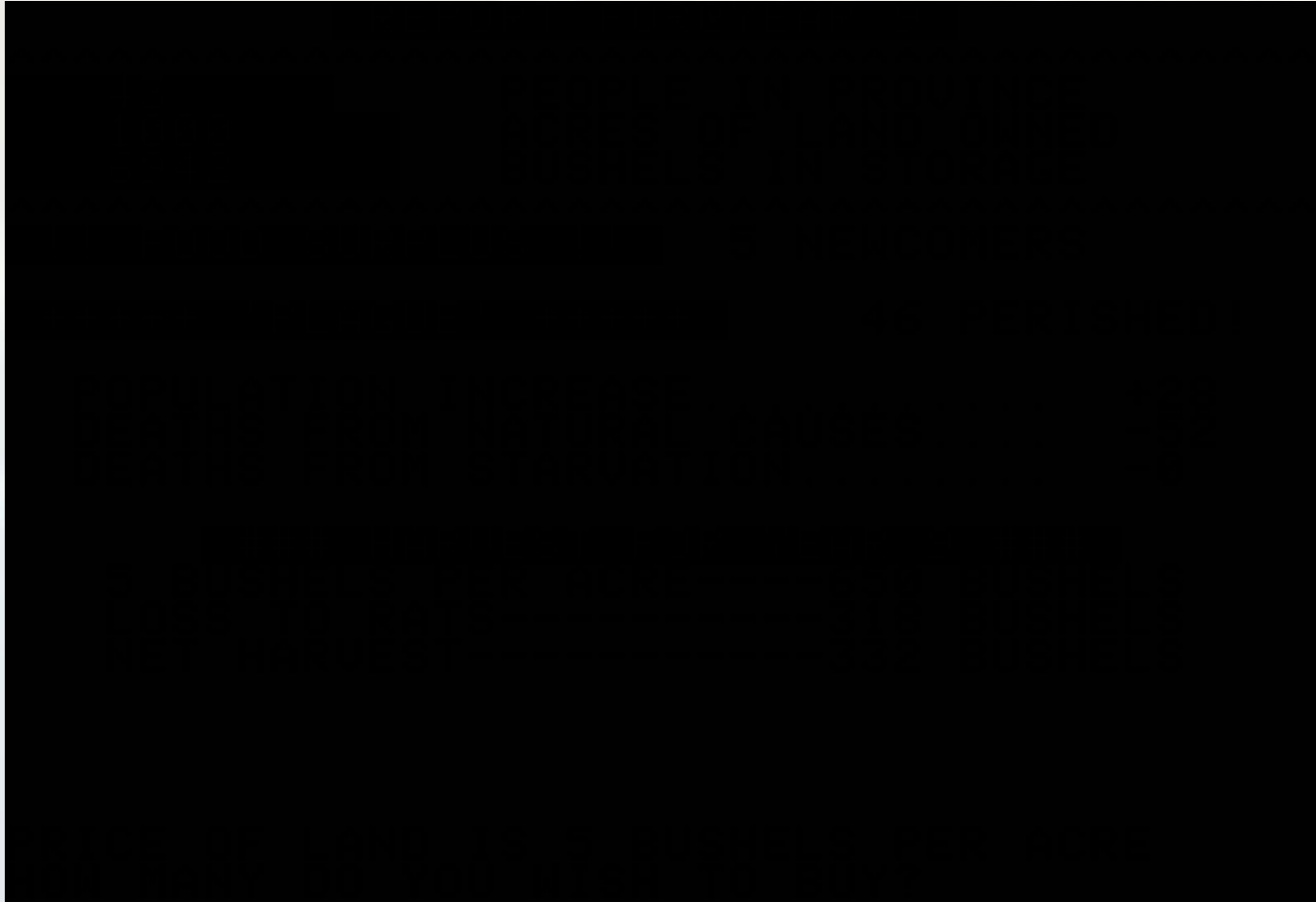


Santa Paravia

```

SIR FIUMIUS OF FIUMACCIO
RATS ATE 12% OF YOUR GRAIN RESERVES!
GOOD WEATHER                                FINE HARVEST
                                           (15277 STERES)
GRAIN RESERVE (STERES) :                17460
GRAIN DEMAND   (STERES) :                58800
GRAIN PRICE   (1000 ST) :                42.68
LAND PRICE    (HECTARE) :                 2.33
LAND OWNED    (HECTARE) :                53500
LAND PERMIT   (7500+HA) :                 NO
TREASURY      (FLORINS) :                 195
YOU MUST RELEASE BETWEEN 20% AND 80% OF
YOUR RESERVES.
PLEASE TYPE :  "Z" FOR THE MINIMUM
                "X" FOR THE MAXIMUM
                "D" FOR THE DEMAND
                OR  A NUMBER BETWEEN
                   3493 AND 13969
YOUR CHOICE :
```

Santa Paravia



Santa Paravia

online - <http://www.santaparavia.com>

Santa Paravia & Fiumaccio

File Edit View Action Buy Sell Works Justice Taxes Help

Steres Steres 1000 St. Hectare Gold Florins

1.Buy Grain 2.Sell Grain 3.Buy Land 4.Sell Land (Enter ? 2)

How much grain do you wish to sell? 30000

Grain Reserve	Grain Demand	Price of Grain	Price of Land	Treasury
12980 Steres	12325 Steres	48 1000 St.	1,8 Hectare	2358 Gold Florin

1.Buy Grain 2.Sell Grain 3.Buy Land 4.Sell Land (Enter ? 3)

How many hectares do you want to buy? 1000

Grain Reserve	Grain Demand	Price of Grain	Price of Land	Treasury
12980 Steres	12325 Steres	48 1000 St.	1,8 Hectare	558 Gold Florin

1.Buy Grain 2.Sell Grain 3.Buy Land 4.Sell Land (Enter ? 0)

How much grain will you release for consumption? 10000

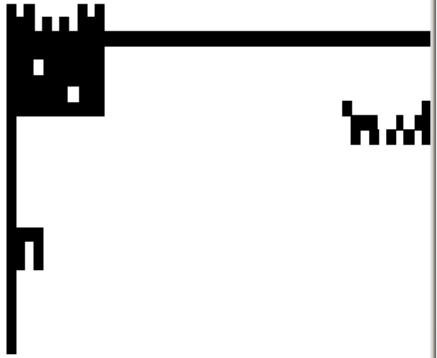
Santa Paravia & Fiumaccio

File Edit View Action Buy Sell Works Justice Taxes Help

Year 1402

Sir Asdrubal of Santa Paravia

Treasury	1.584 florins
Land	11.500 hectares
Reserve	2.980 steres
Demand	12.325 steres
Grain Price	48 fl./K st.
Land Price	1,8 fl./hectare
Customs	688 florins
Sales Tax	216 florins
Wealth Tax	82 florins
Justice Fines	100 florins
Total	1.086 florins

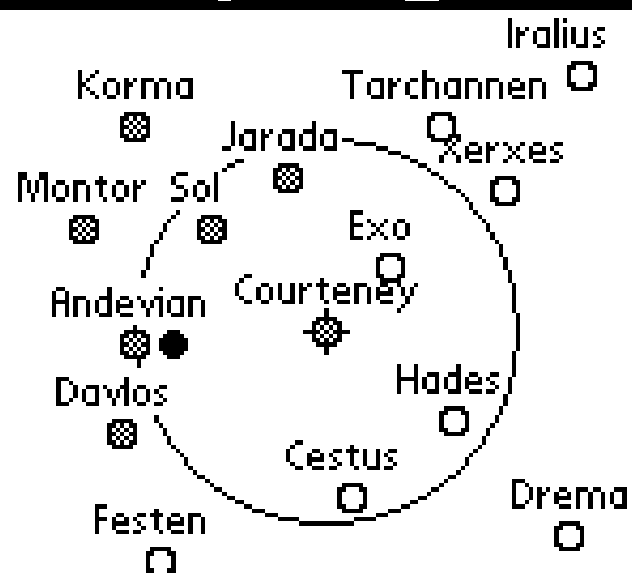


Text



Space Trader

Short Range Chart



Average Price List

B S Y W

Exo



Special resources unknown

Water -10 cr. Firearms -182 cr.

Furs -30 cr. **Medicine** +36 cr.

Food -13 cr. Machines ---

Ore --- Narcotics ---

Games +19 cr. Robots ---

Absolute Prices

Bays: 1/30

System Information

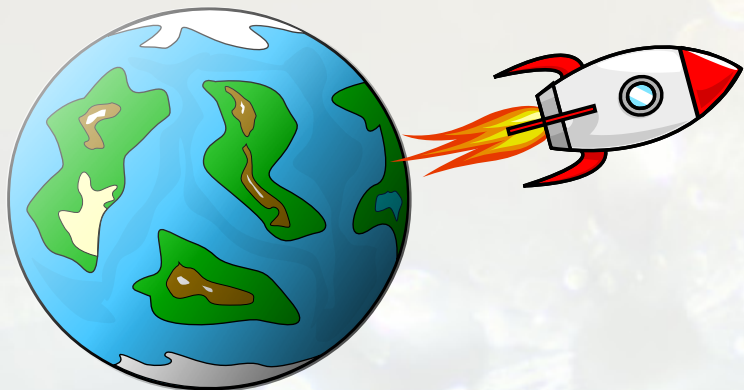
Short Range Chart

Warp

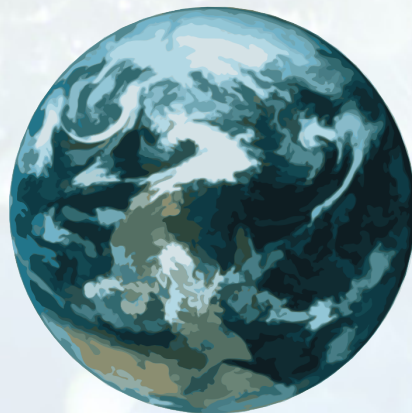


Mercante (inspirado no Space Trader)

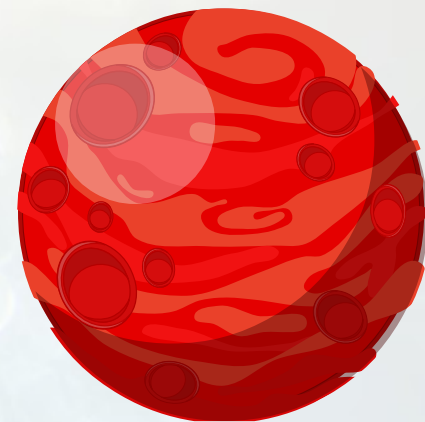
Mercante Interplanetário



Pindora



Zeta



Bantor

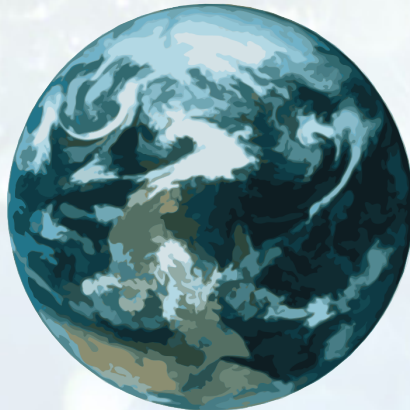
Mercante Interplanetário



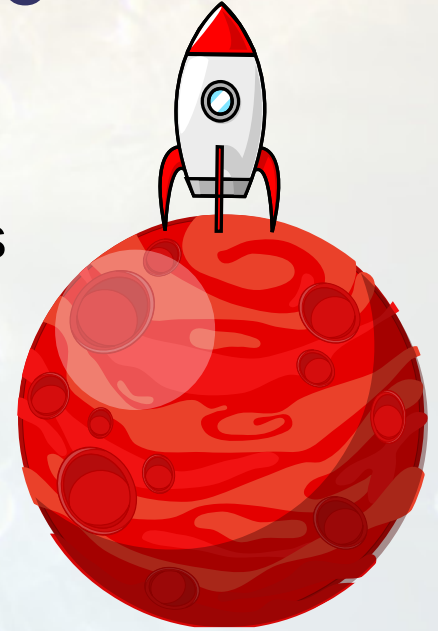
Pindora

Operações:

- Verificar mercadorias disponíveis
- Comprar mercadorias
- Vender mercadorias



Zeta



Bantor

Mercante Interplanetário



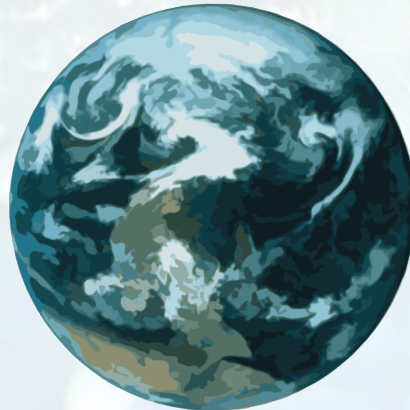
Pindora

Operações:

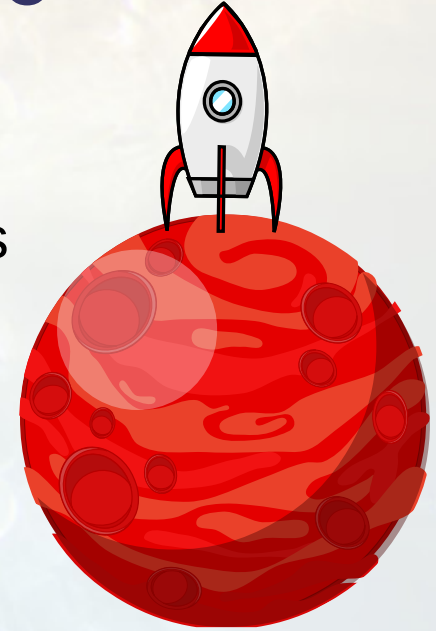
- Verificar mercadorias disponíveis
- Comprar mercadorias
- Vender mercadorias

Mercadoria:

- Nome
- Quantidade disponível
- Valor de compra
- Valor de venda

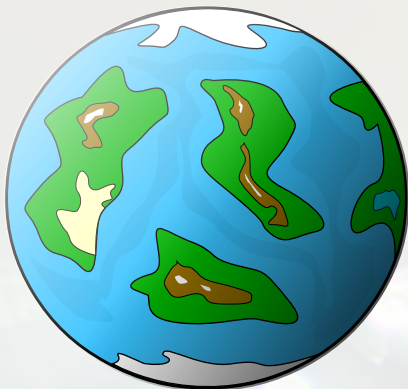


Zeta



Bantor

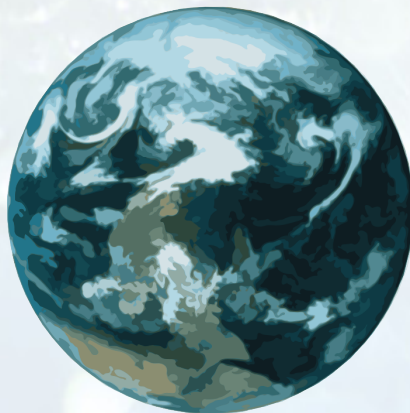
Mercante Interplanetário



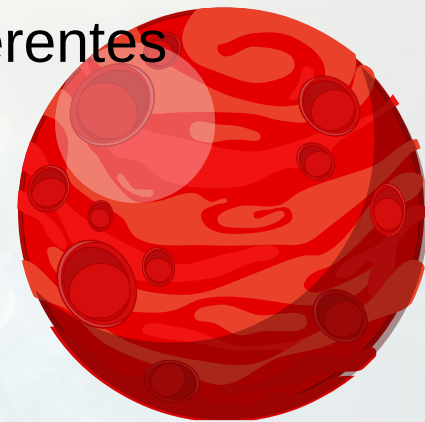
Pindora

Cada planeta tem:

- Seu próprio sistema
- Mercadorias em quantidades diferentes
- Preços diferenciados



Zeta



Bantor

UML

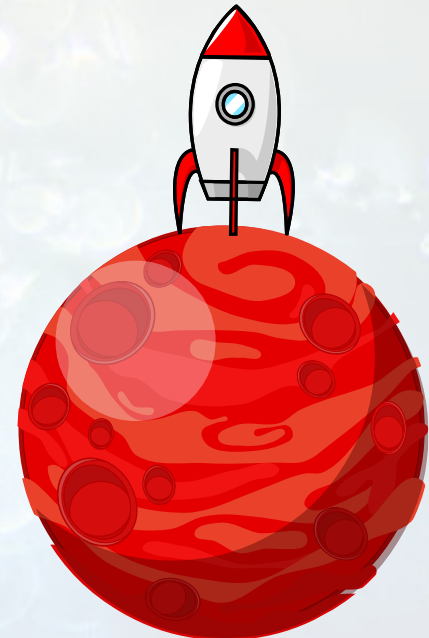
- Especificando uma classe UML para um serviço oferecido por um planeta implementando as operações:

Operações:

- Verificar mercadorias disponíveis
- Verificar preço de compra de mercadorias
- Verificar preço de venda de mercadorias

Mercadoria:

- Nome
- Quantidade disponível
- Valor de compra
- Valor de venda

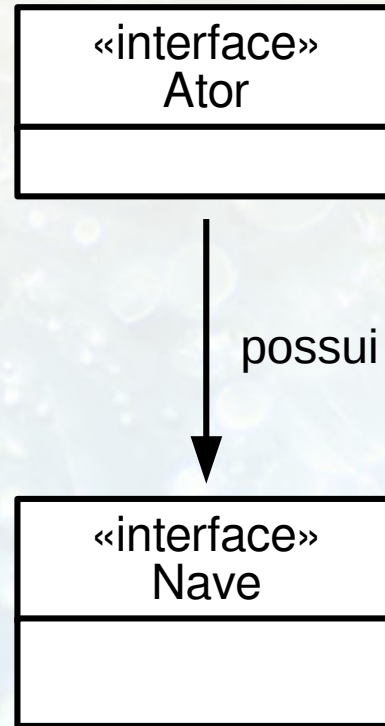


Modelando um Jogo através das Interfaces

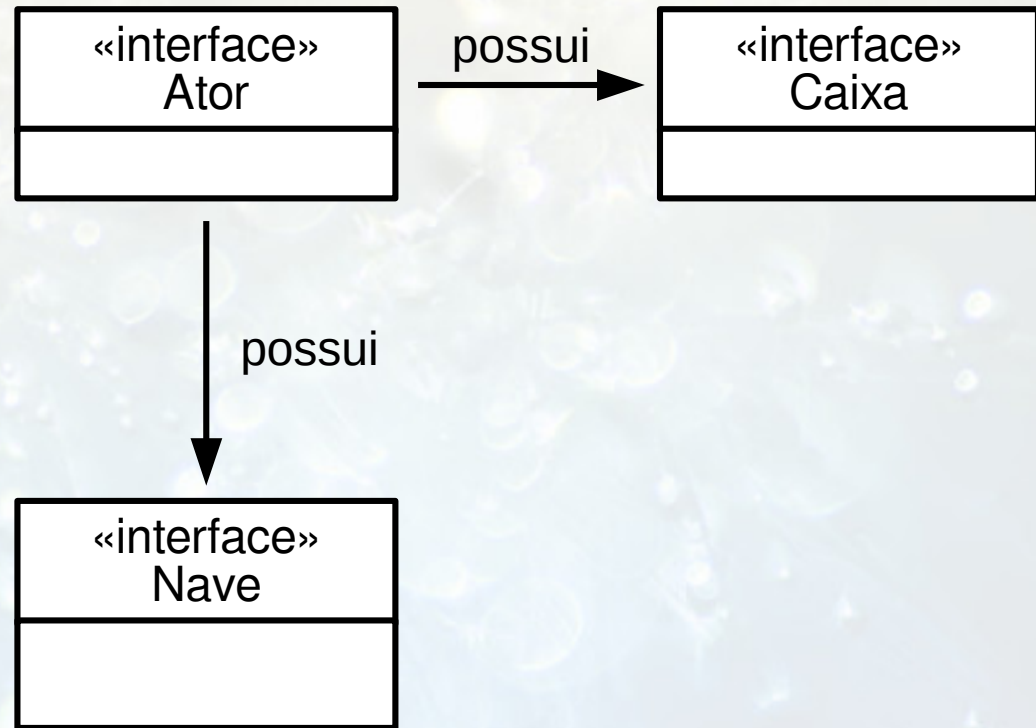
Esboçando um Jogo através de Interfaces

«interface» Ator

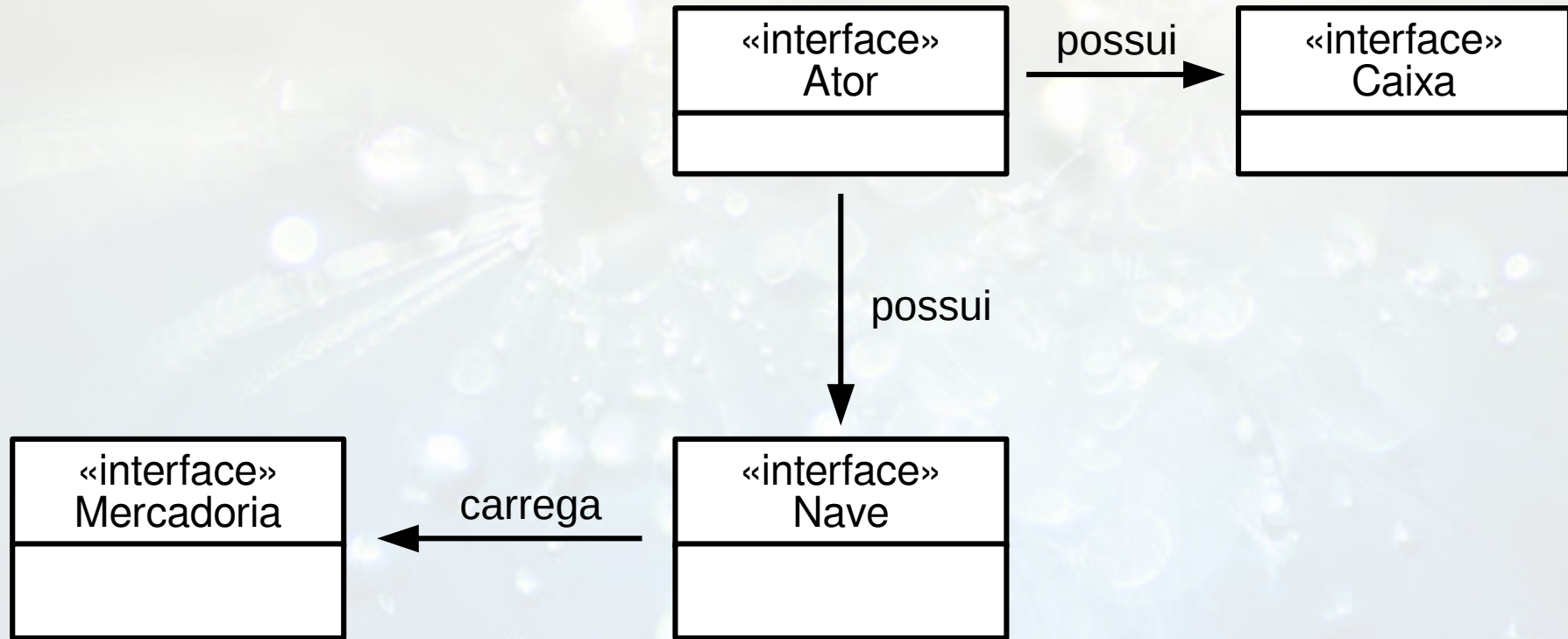
Esboçando um Jogo através de Interfaces



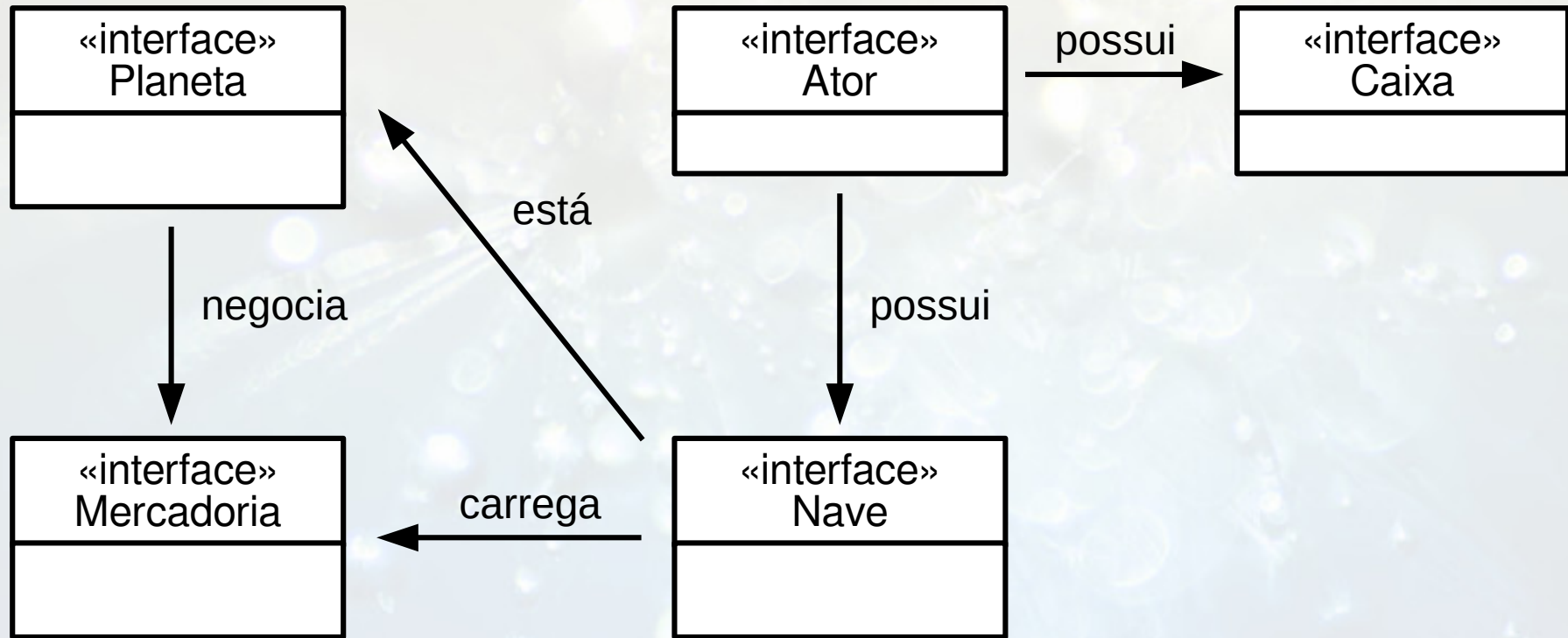
Esboçando um Jogo através de Interfaces

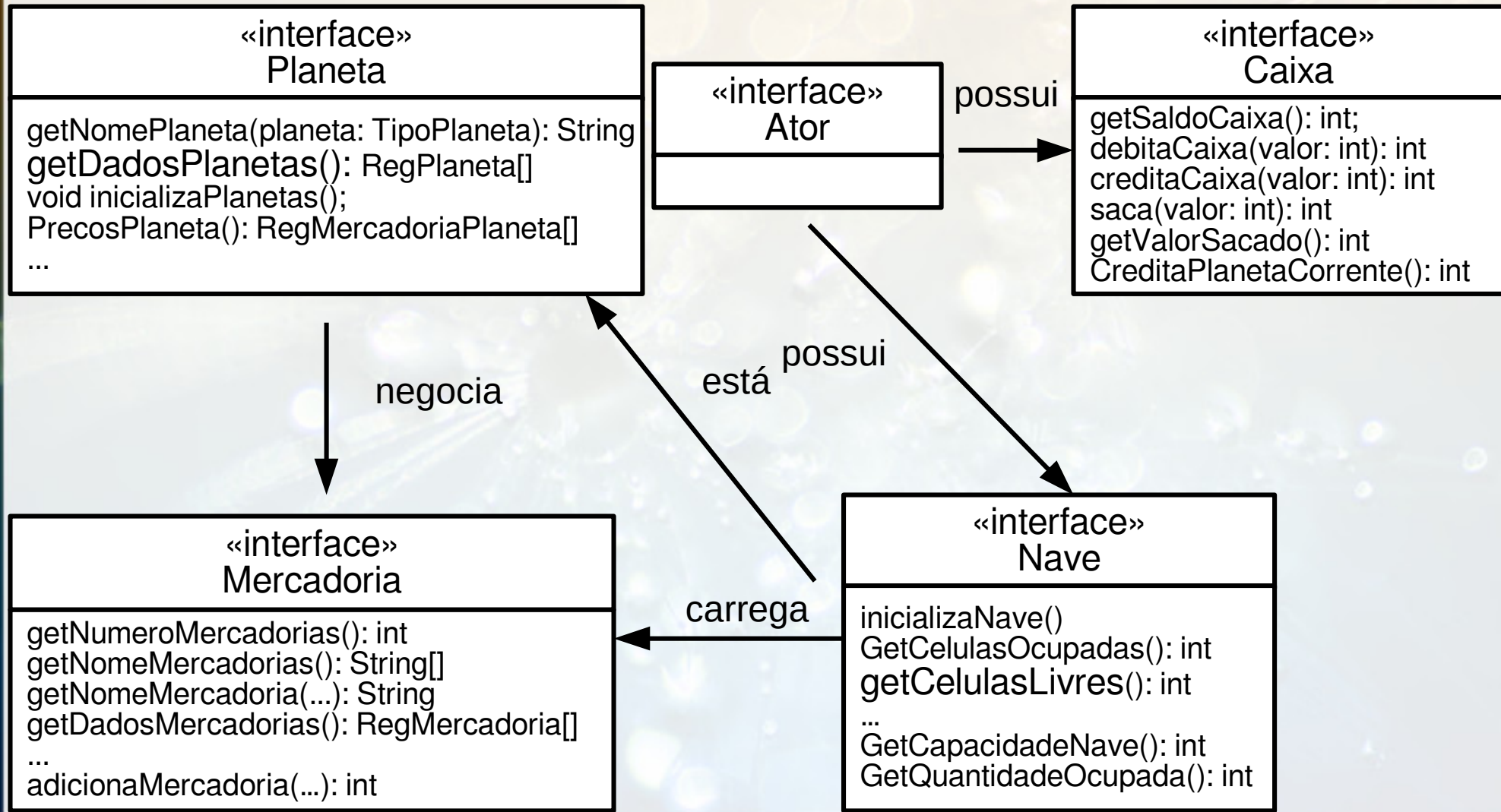


Esboçando um Jogo através de Interfaces






Esboçando um Jogo através de Interfaces

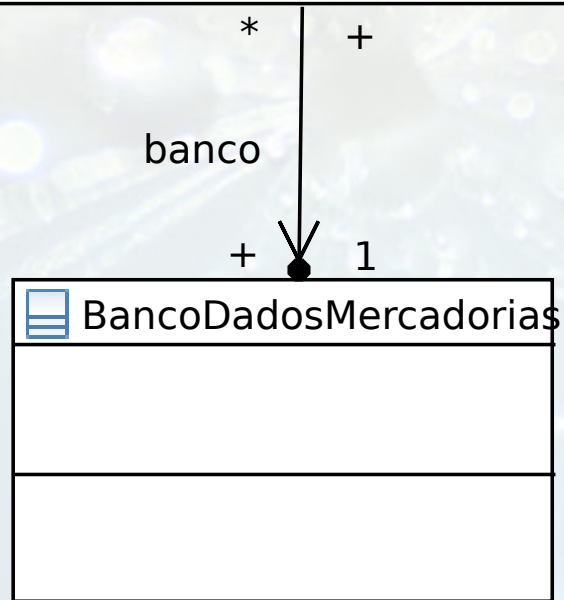




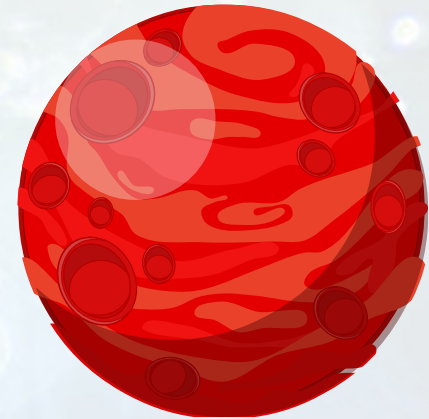
Projetando o Jogo em Componentes

 PlanetaBantor

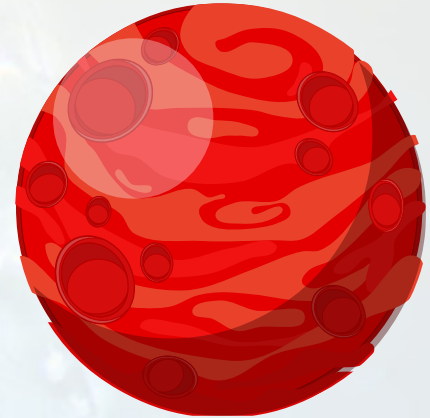
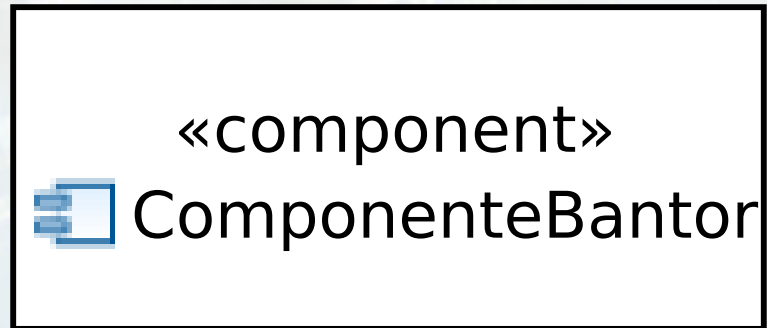
 + precoCompraMercadoria(in mercadoria: String): Real
 + precoVendaMercadoria(in mercadoria: String): Real
 + listaMercadorias(): String



Planeta Bantor em UML

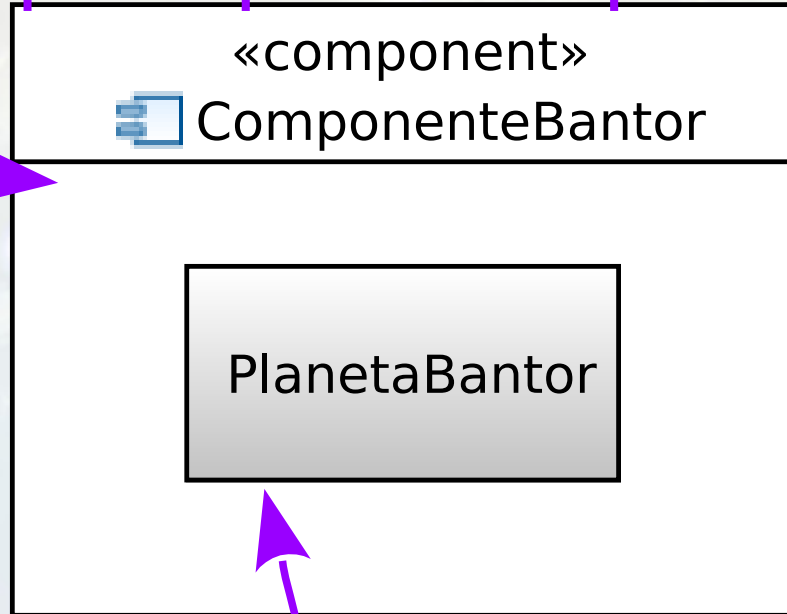


Notação Blackbox

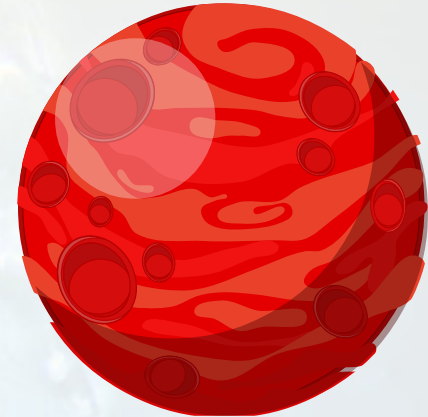


Notação Whitebox

compartimento opcional que mostra
elementos que são parte do componente

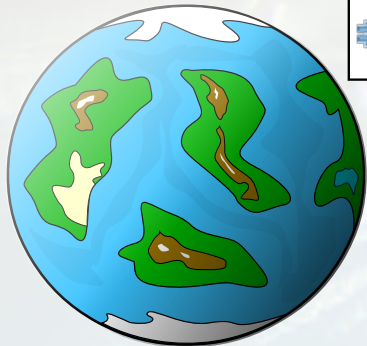


classe que realiza
o componente

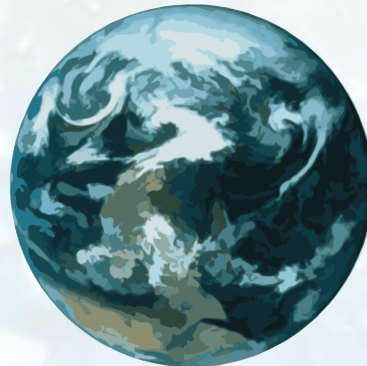
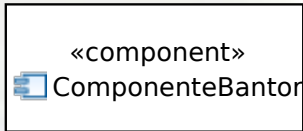


Componente de Software Distribuição Independente

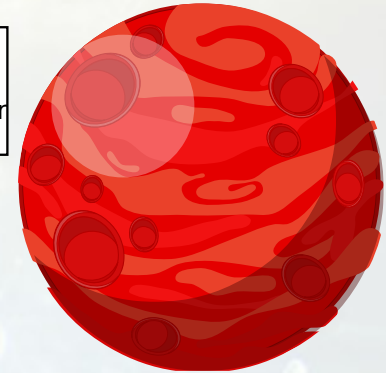
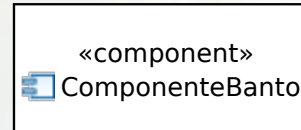
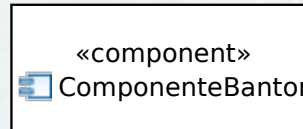
■ Unidade de **Distribuição Independente**



Pindora

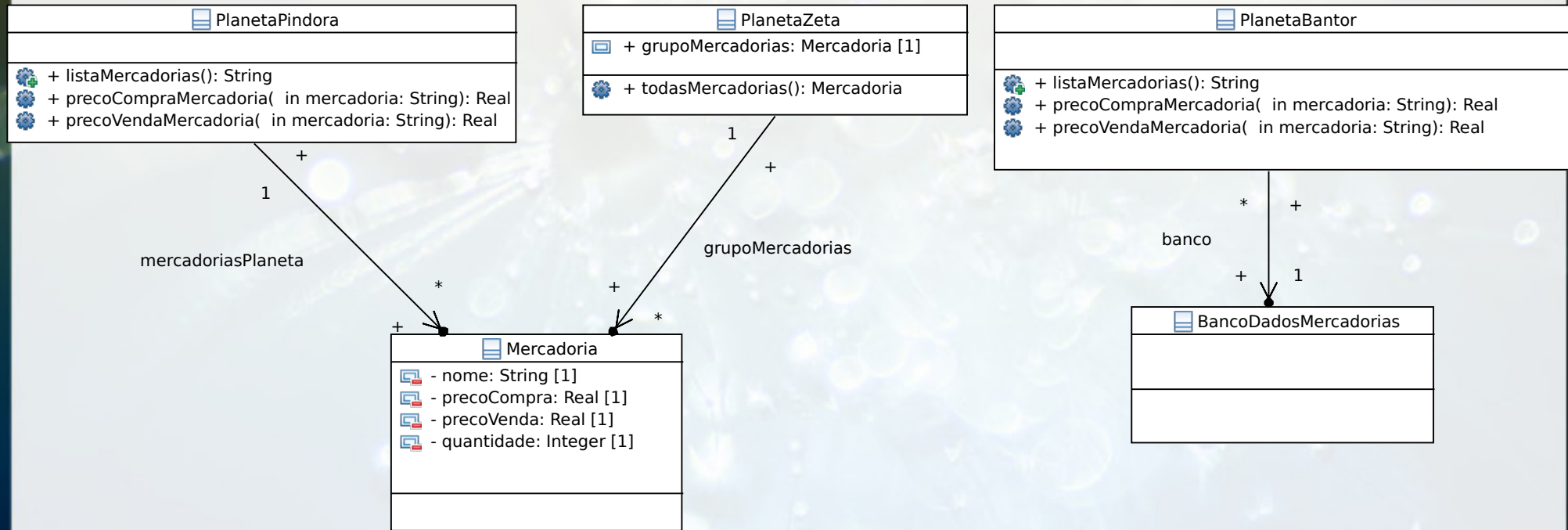


Zeta

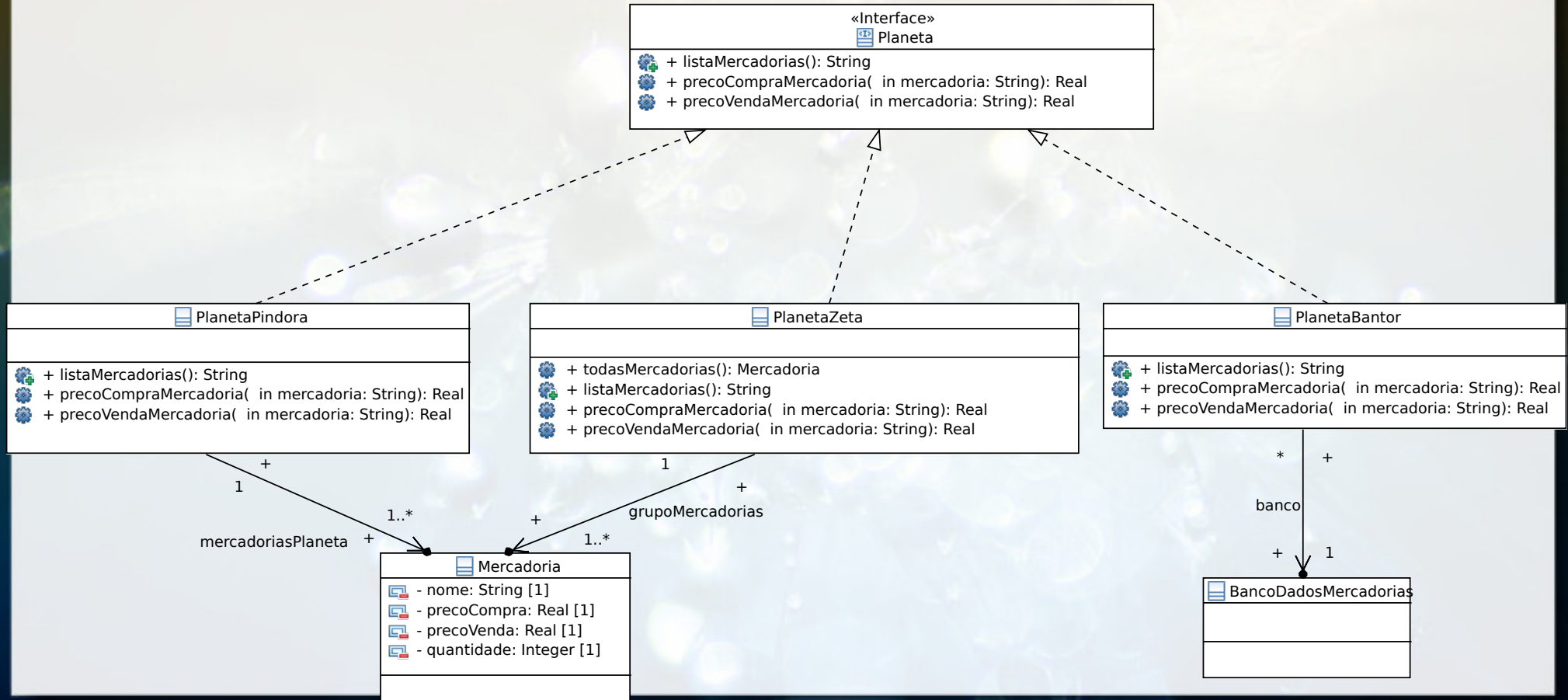


Bantor

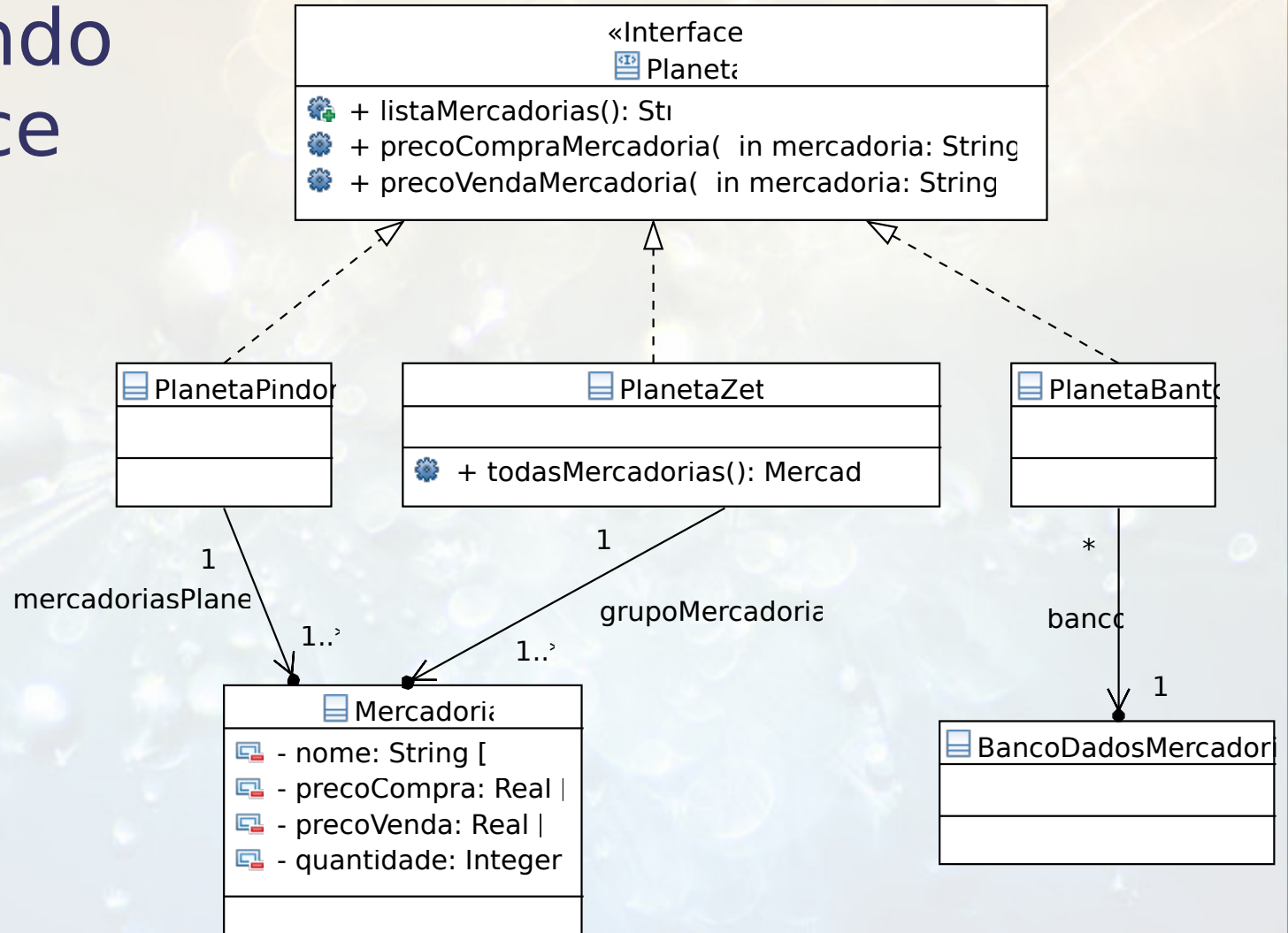
Cada Planeta com uma Solução



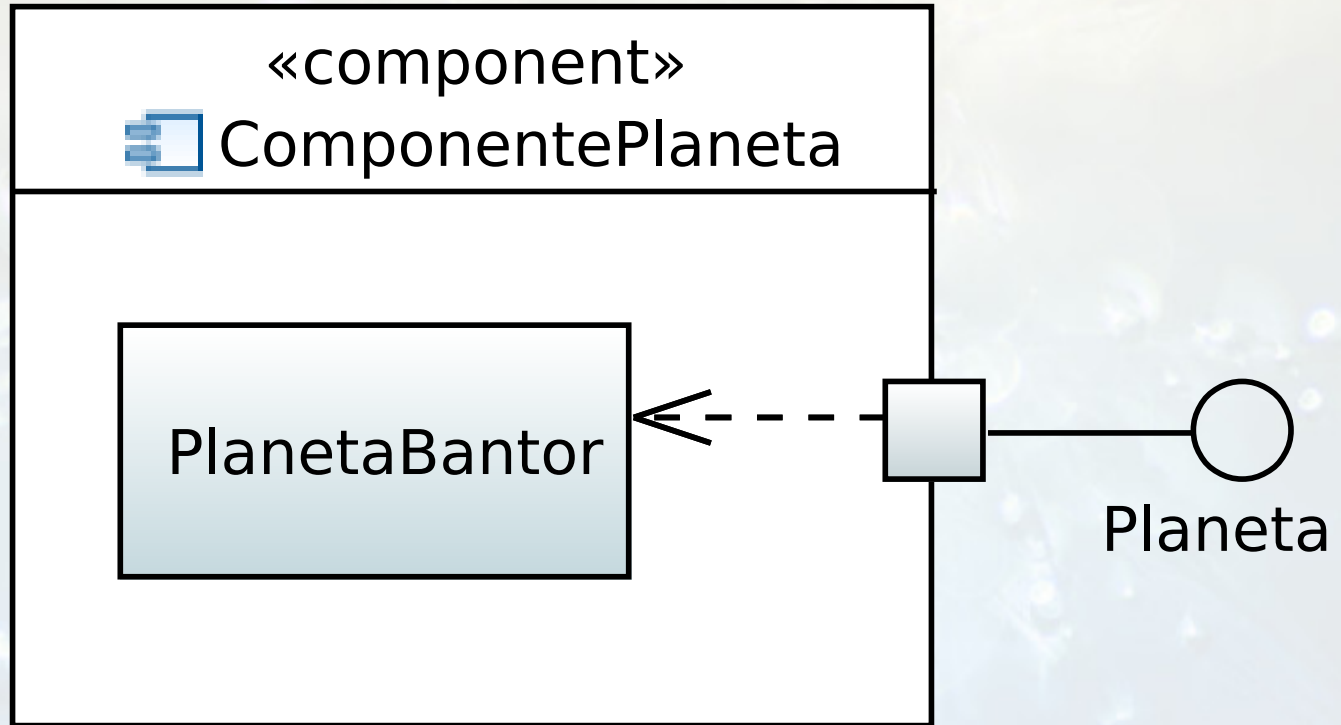
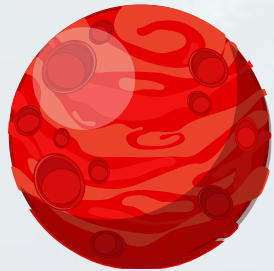
Padronizando a Interface



Padronizando a Interface

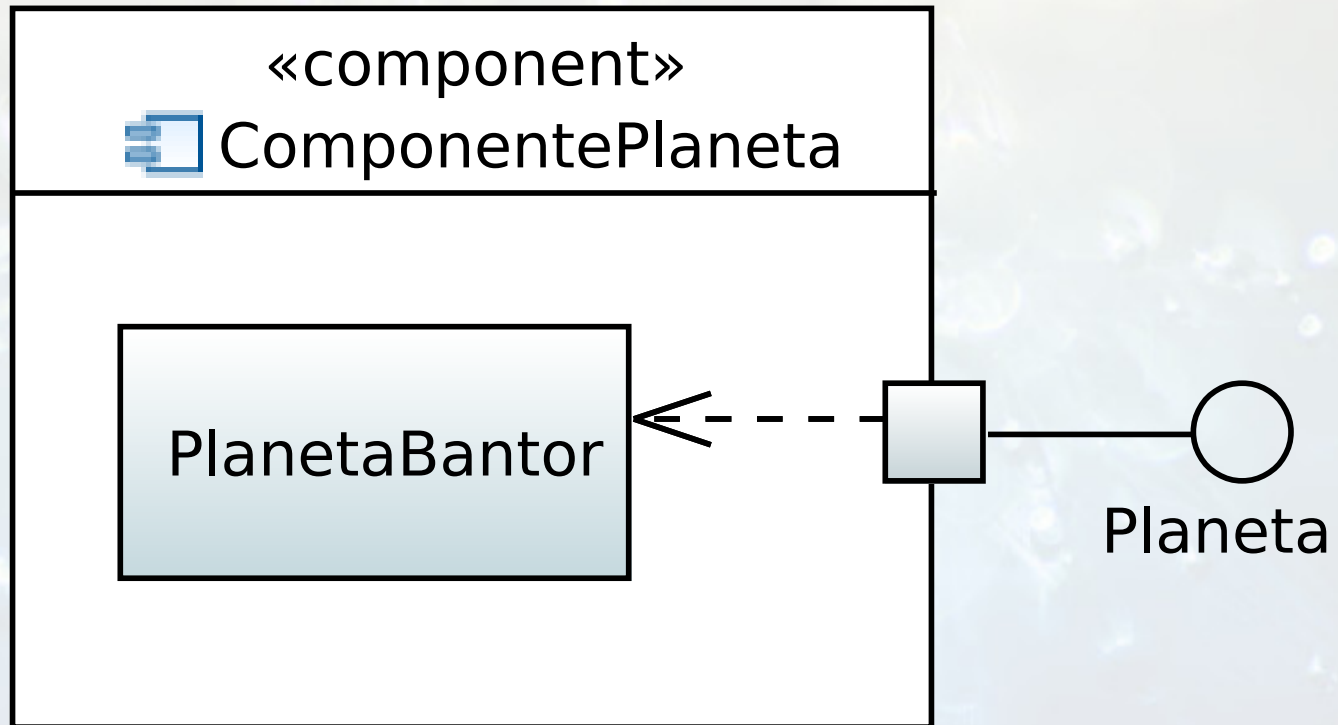
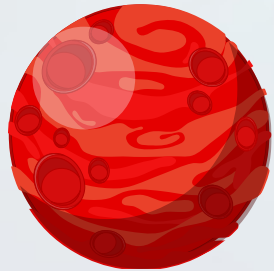


Componente Planeta



Tarefa

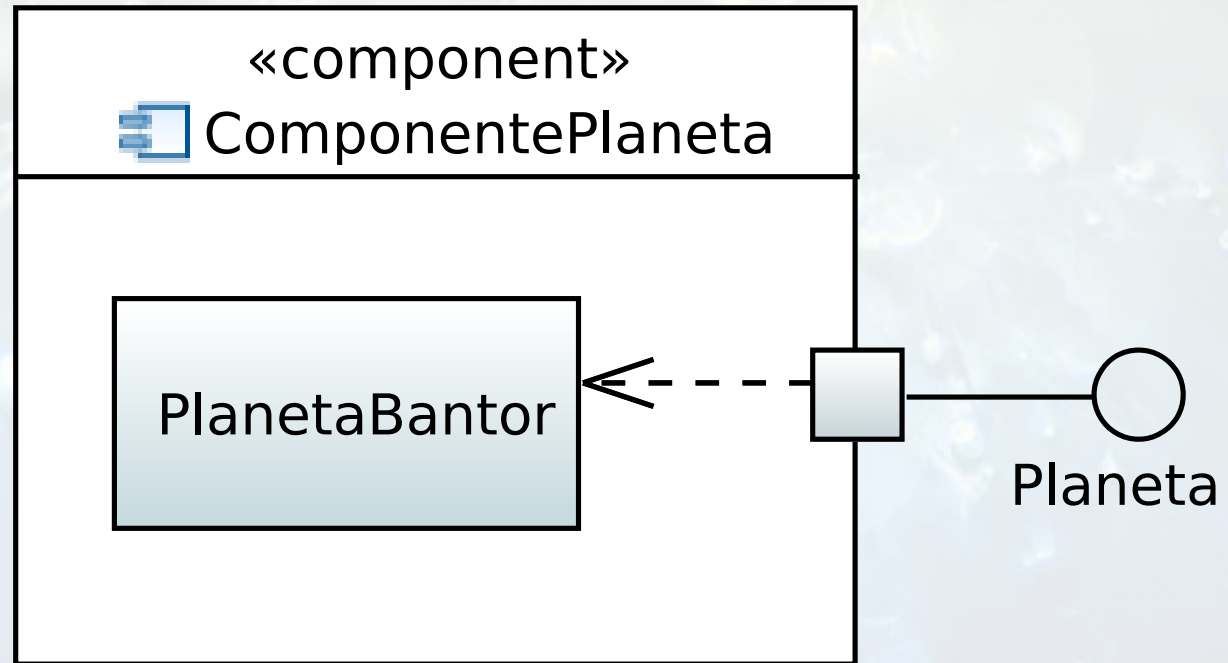
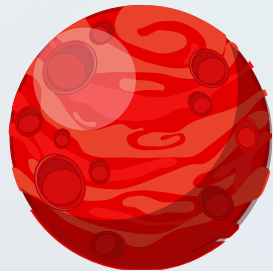
- Instancie o componente a seguir e atribua a uma variável.



Tarefa

- Instancie o componente a seguir e atribua a uma variável.

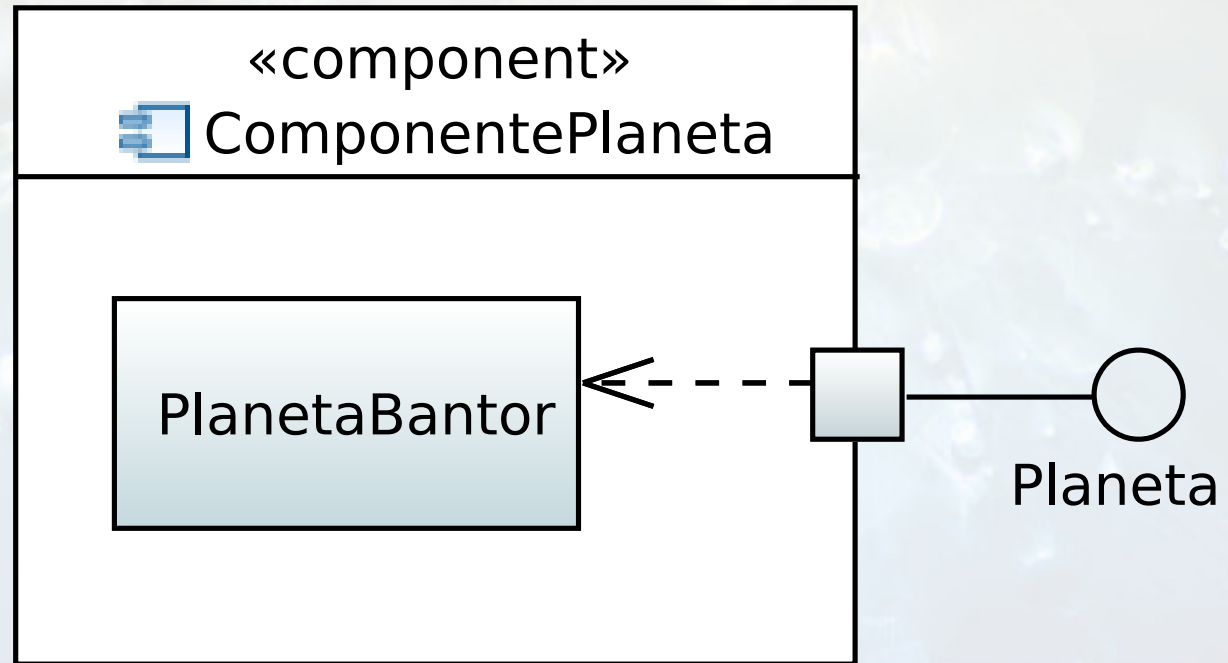
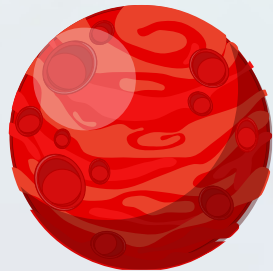
```
Planeta p = new PlanetaBantor();
```



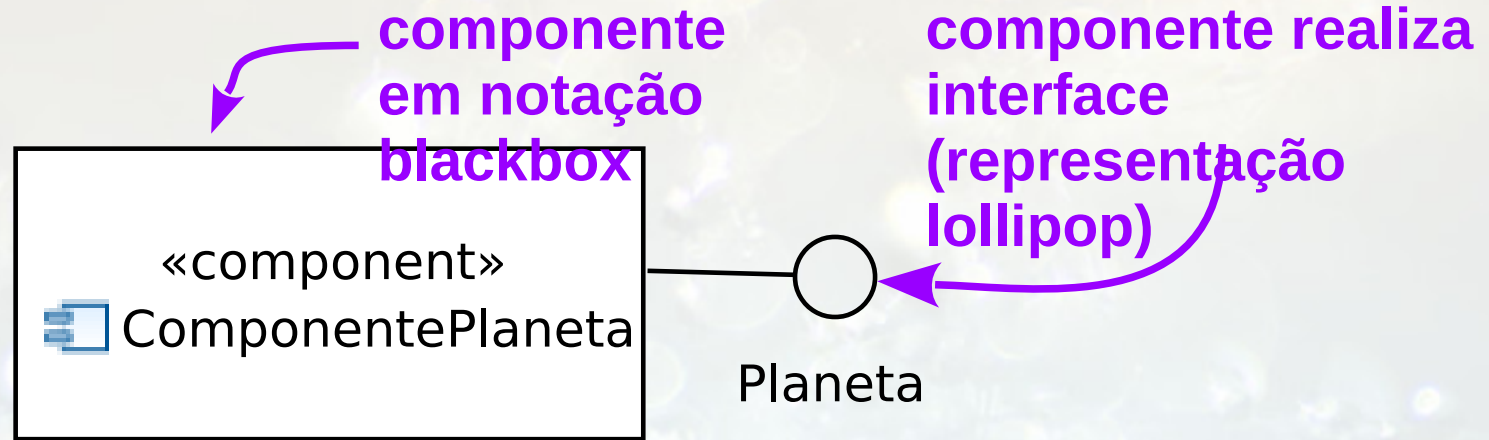
Tarefa

- Instancie o componente a seguir e atribua a uma variável.

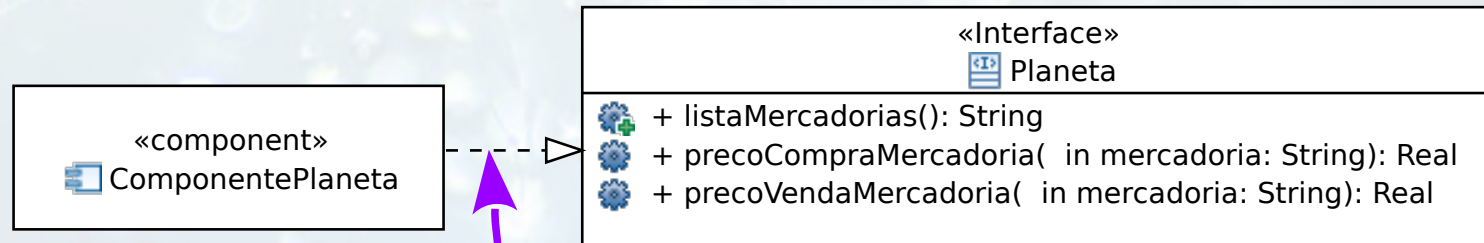
```
Planeta p = new PlanetaBantor();
```



Notação Blackbox



componente realiza interface (representação explícita)



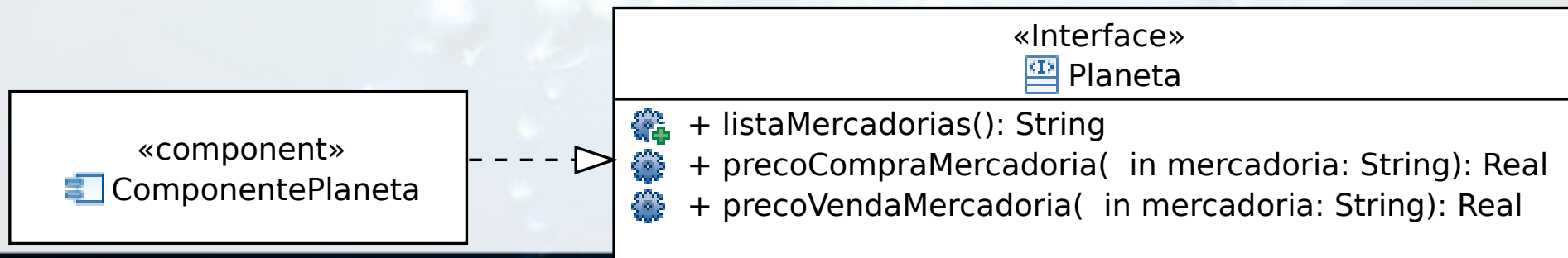
Tarefa

- Escreva duas linhas de código para listar todas as mercadorias e verificar o preço de compra da mercadoria “Pistola Xist Paralisante”.



Operações:

- Verificar mercadorias disponíveis
- Verificar preço de compra de uma mercadoria
- Verificar preço de venda de uma mercadoria



Tarefa

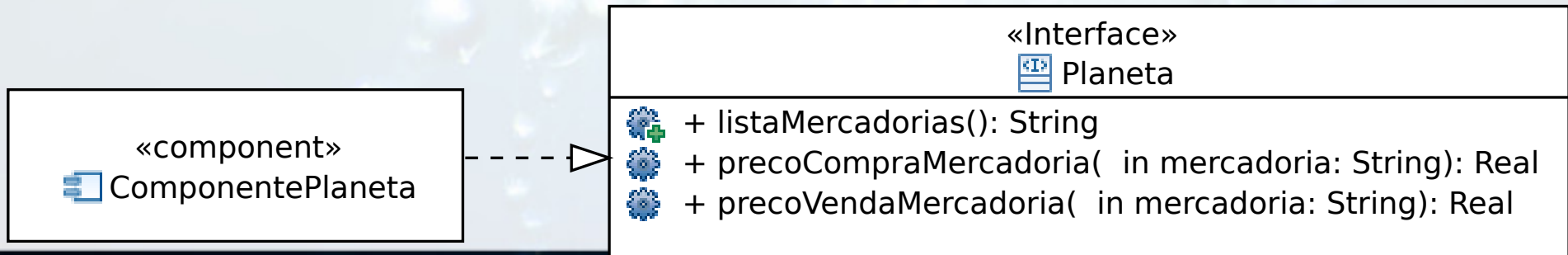
- Escreva duas linhas de código para listar todas as mercadorias e verificar o preço de compra da mercadoria “Pistola Xist Paralisante”.

```
System.out.println(p.listaMercadorias());  
System.out.println(p.precoCompraMercadoria("Pistola Xist ..."));
```



Operações:

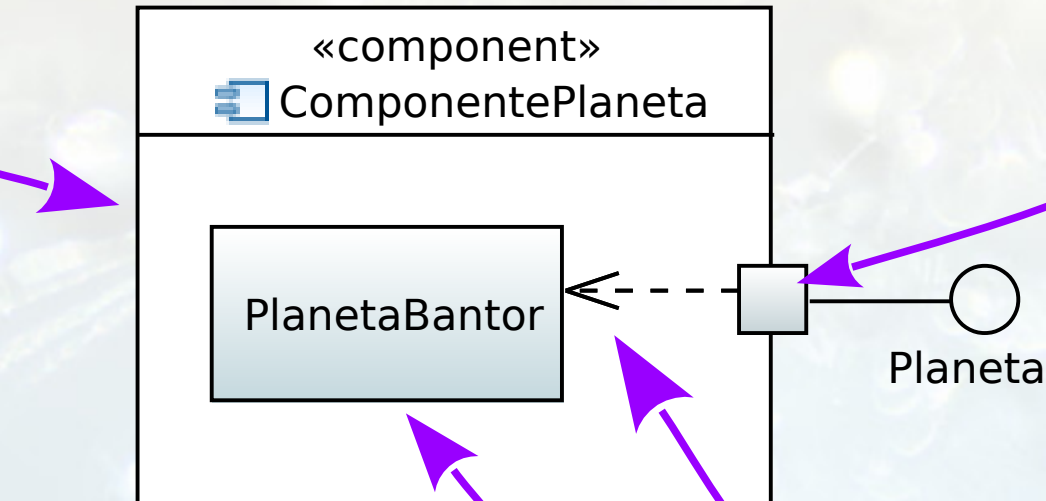
- Verificar mercadorias disponíveis
- Verificar preço de compra de uma mercadoria
- Verificar preço de venda de uma mercadoria



Notação Whitebox

compartimento opcional que mostra elementos que são parte do componente

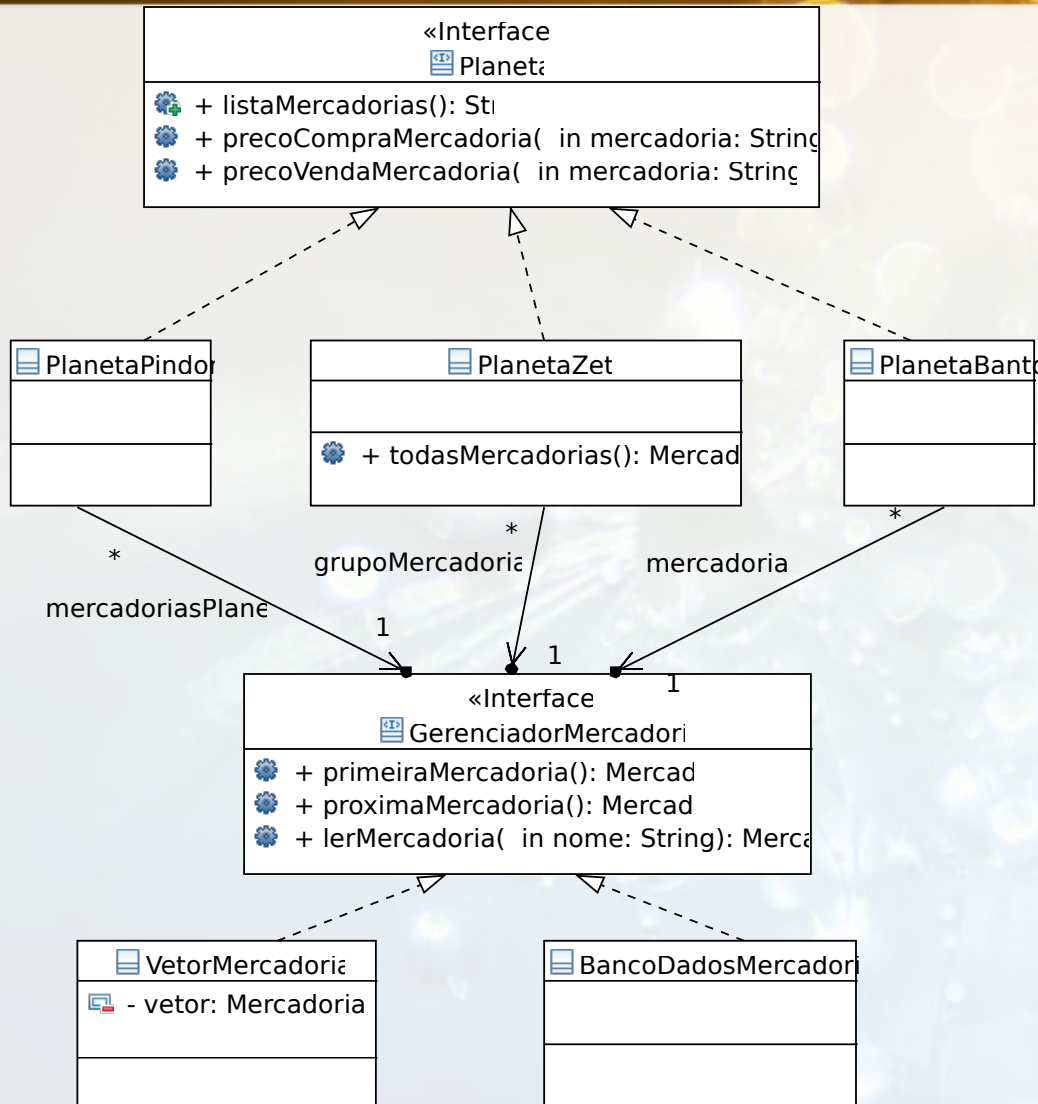
porta que associa interface a dependência de classe



classe que realiza o componente

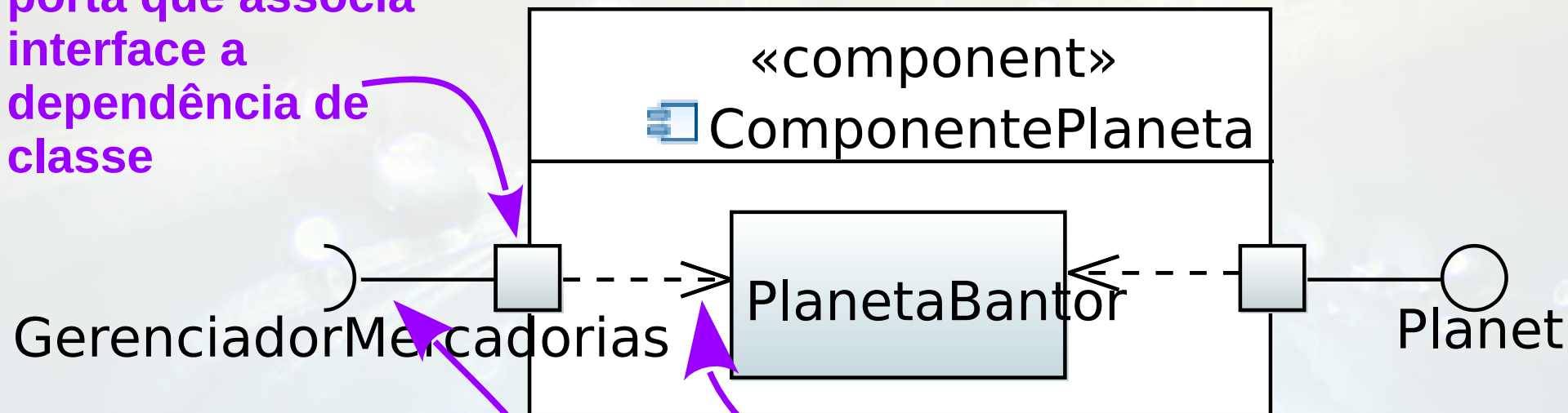
dependência da porta/interface com a classe que a realiza

Padronizando a Interface de Dados



Interface Requerida

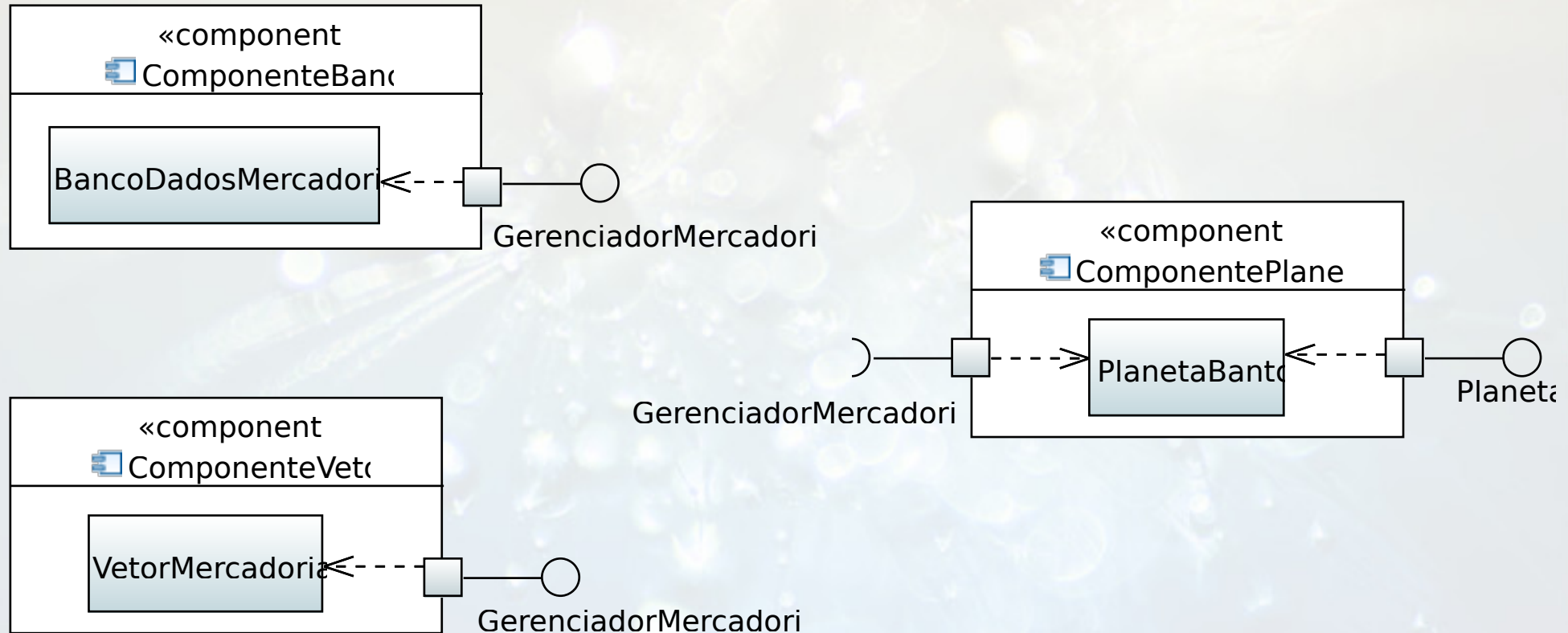
porta que associa interface a dependência de classe



interface requerida:
este componente
requer uma interface
como esta

**dependência que
indica que classe
necessita desta
interface**

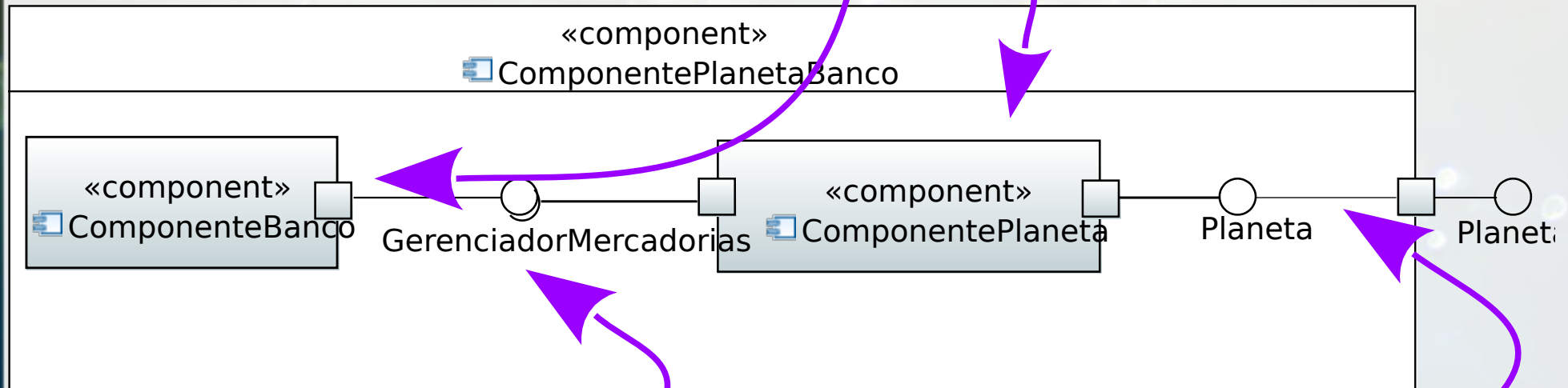
Interfaces Providas e Requeridas



Composição de Componentes

componente maior

componentes menores
que fazem parte da composição



interface provida conectada
à interface requerida

conector de delegação:
delega a interface interna
para a externa

André Santanchè

<http://www.ic.unicamp.br/~santanche>

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