

Objektově orientované technologie
Přehled diagramů

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Formální definice systému

System

$$\mathbf{S} = (\mathbf{P}, \mathbf{R})$$

je účelově definovaná množina prvků

$$\mathbf{P} = \{p_i\}, \text{ kde } i \in J \text{ a}$$

množina vztahů

$$\mathbf{R} = \{r_{ij}\}, \text{ kde } i, j \in J \text{ mezi prvky } p_i \text{ a } p_j,$$

která má jako celek určité vlastnosti.

Práce se systémem

Popis systému:

- struktura
- chování (funkce)

Modelování systému

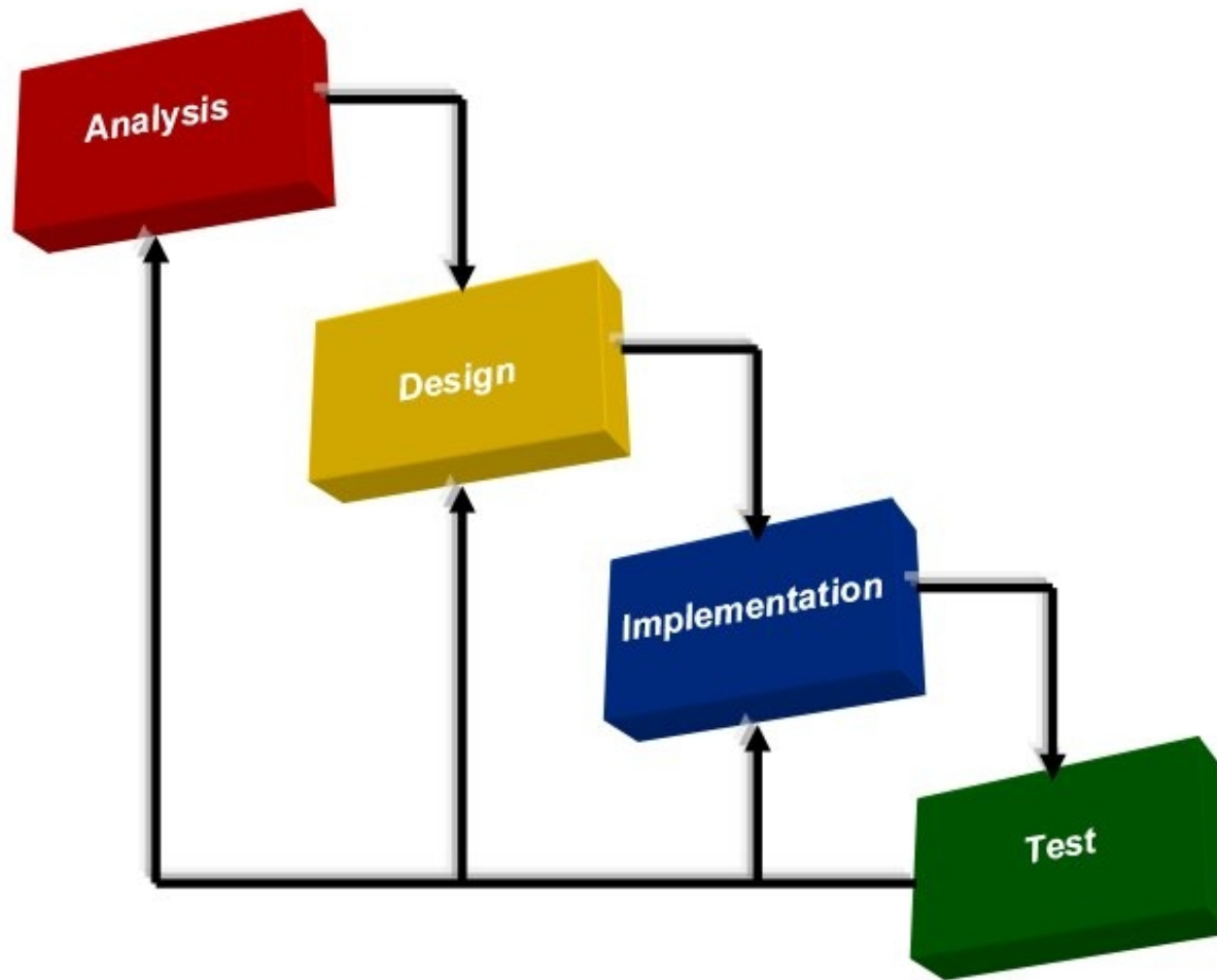
- abstraktní popis s. - zkoumáme
- nástroje
- metody/metodiky

Modelovací jazyk

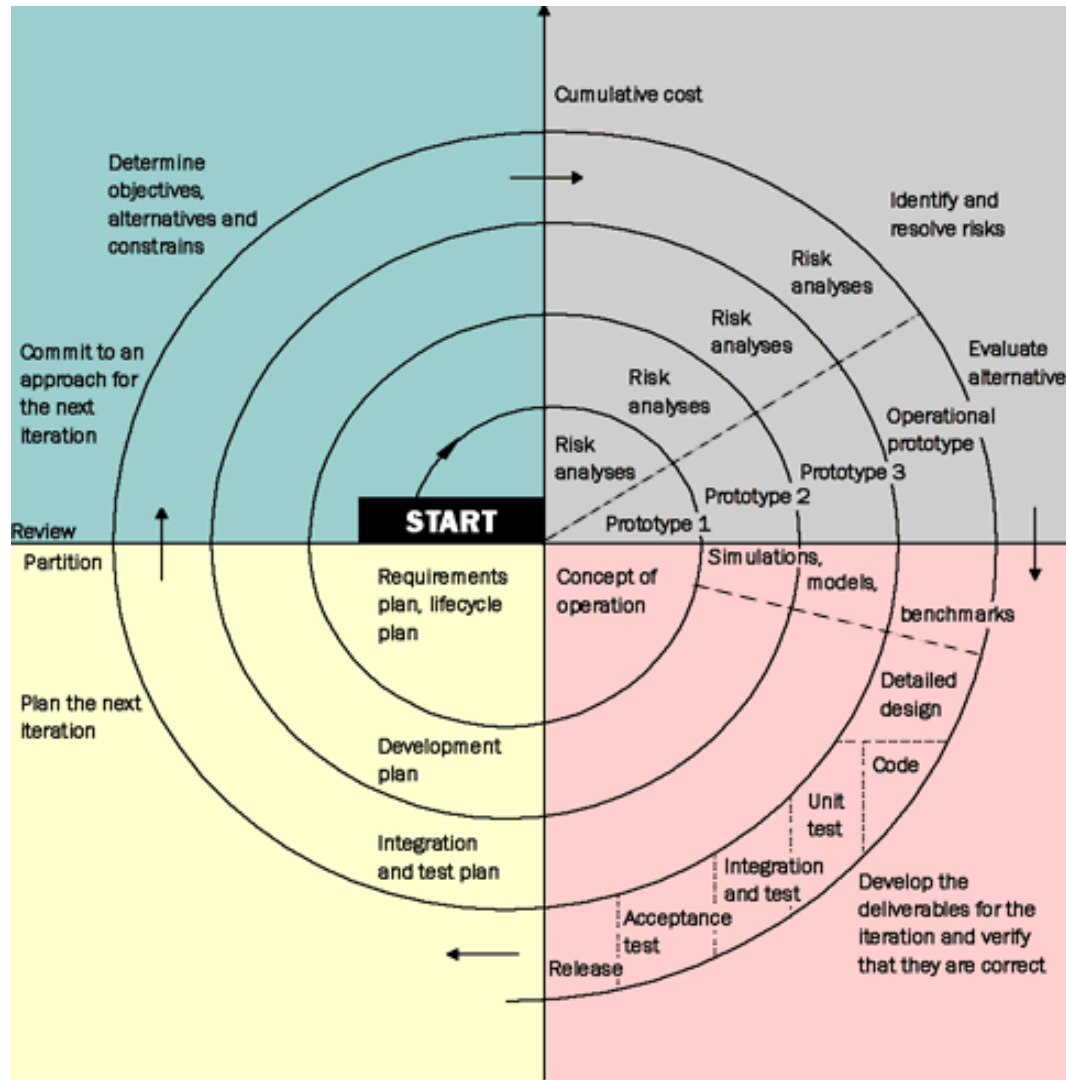
UML (Unified modelling language)

- formální, jednoznačný
- grafický jazyk
- standardizovaný
- srozumitelný

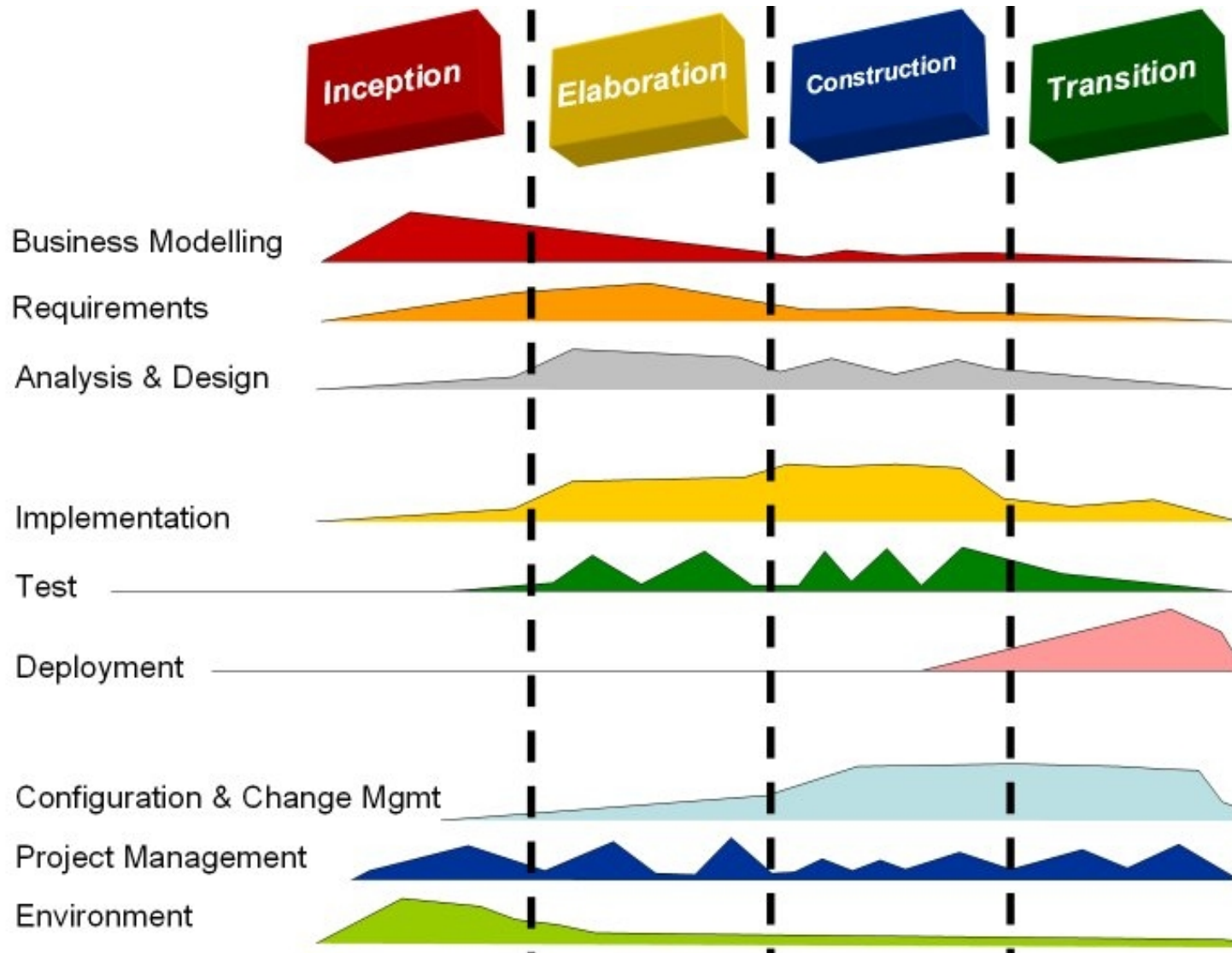
Vodopádový model



Spirálový model



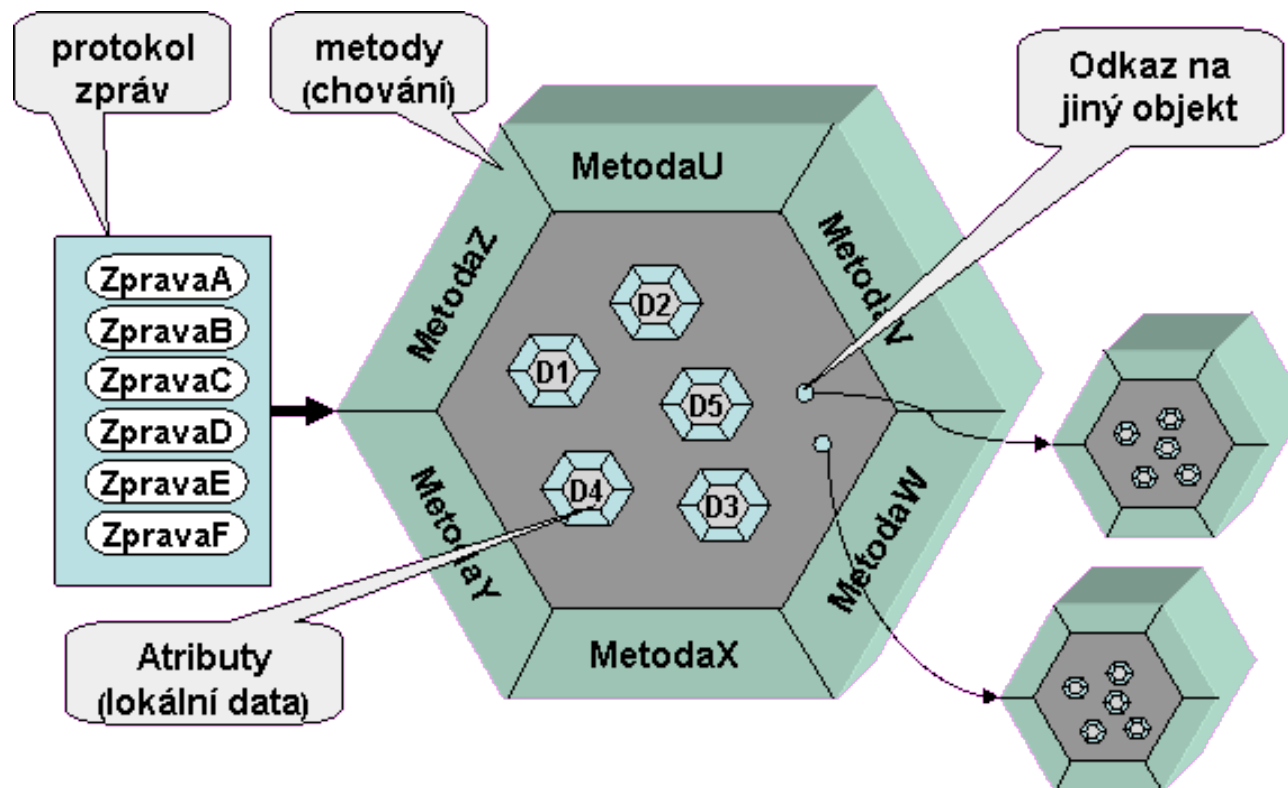
RUP model



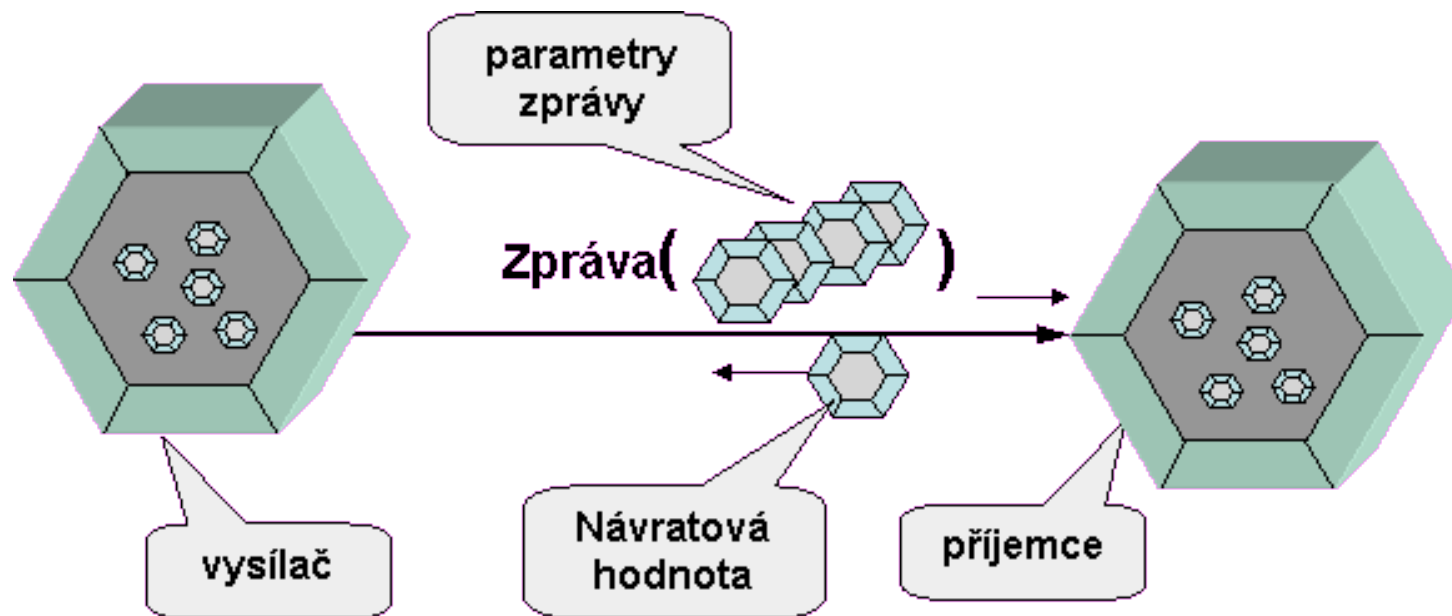
Definice objektu

- Objekt je identifikovatelná samostatná entita, která je daná:
 - **identitou** – jedinečnost, která ji umožňuje odlišit od ostatních objektů
 - **stavem**
 - **chováním** – službami poskytovanými v interakci s ostatními objekty

Objekt

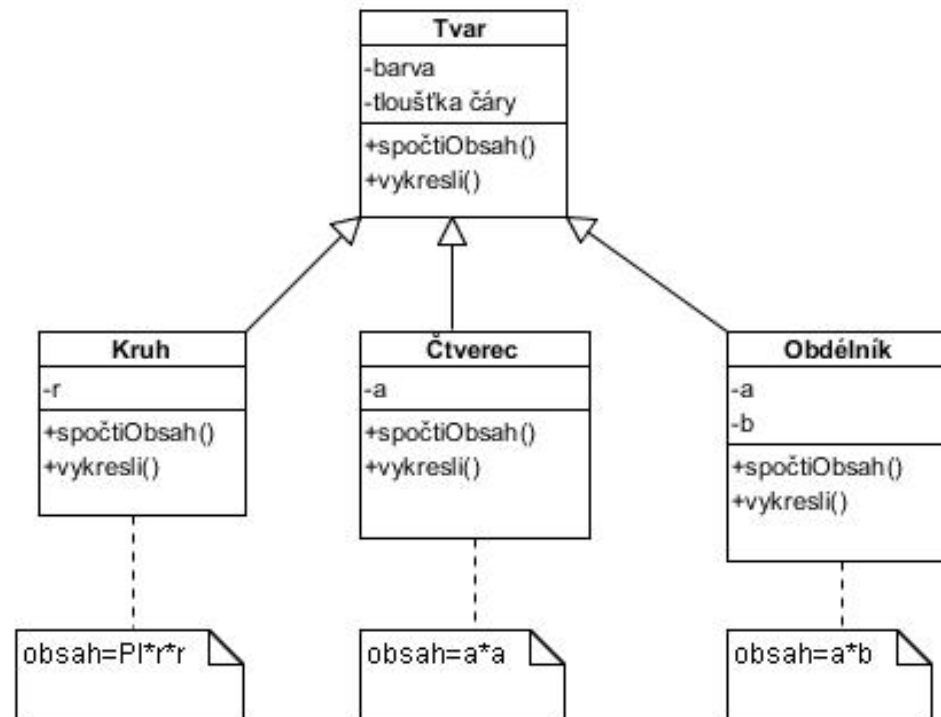


Posílání zpráv



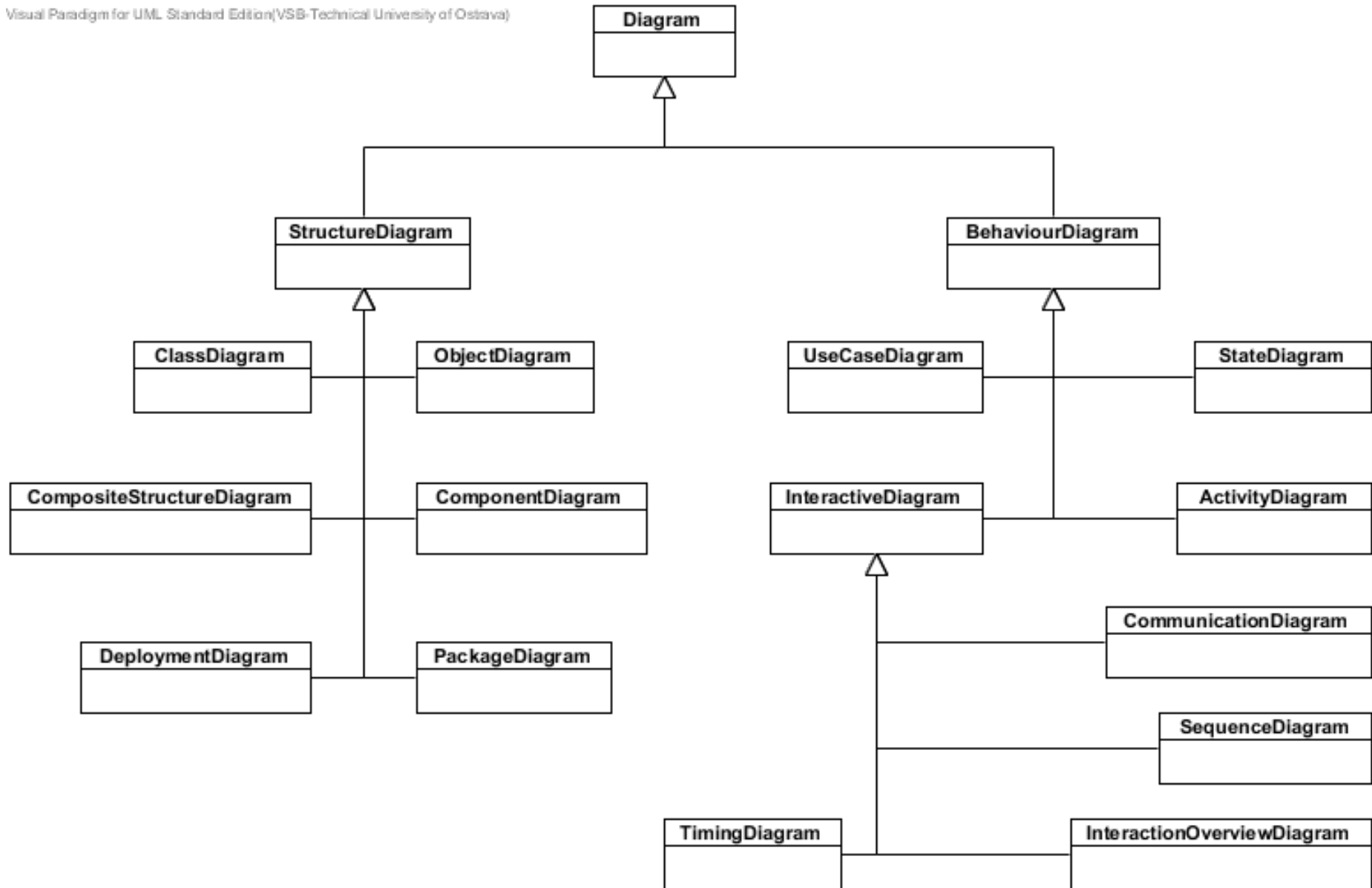
Polymorfismus

Visual Paradigm for UML Standard Edition (VSB-Technical University of Ostrava)



13 diagramů UML

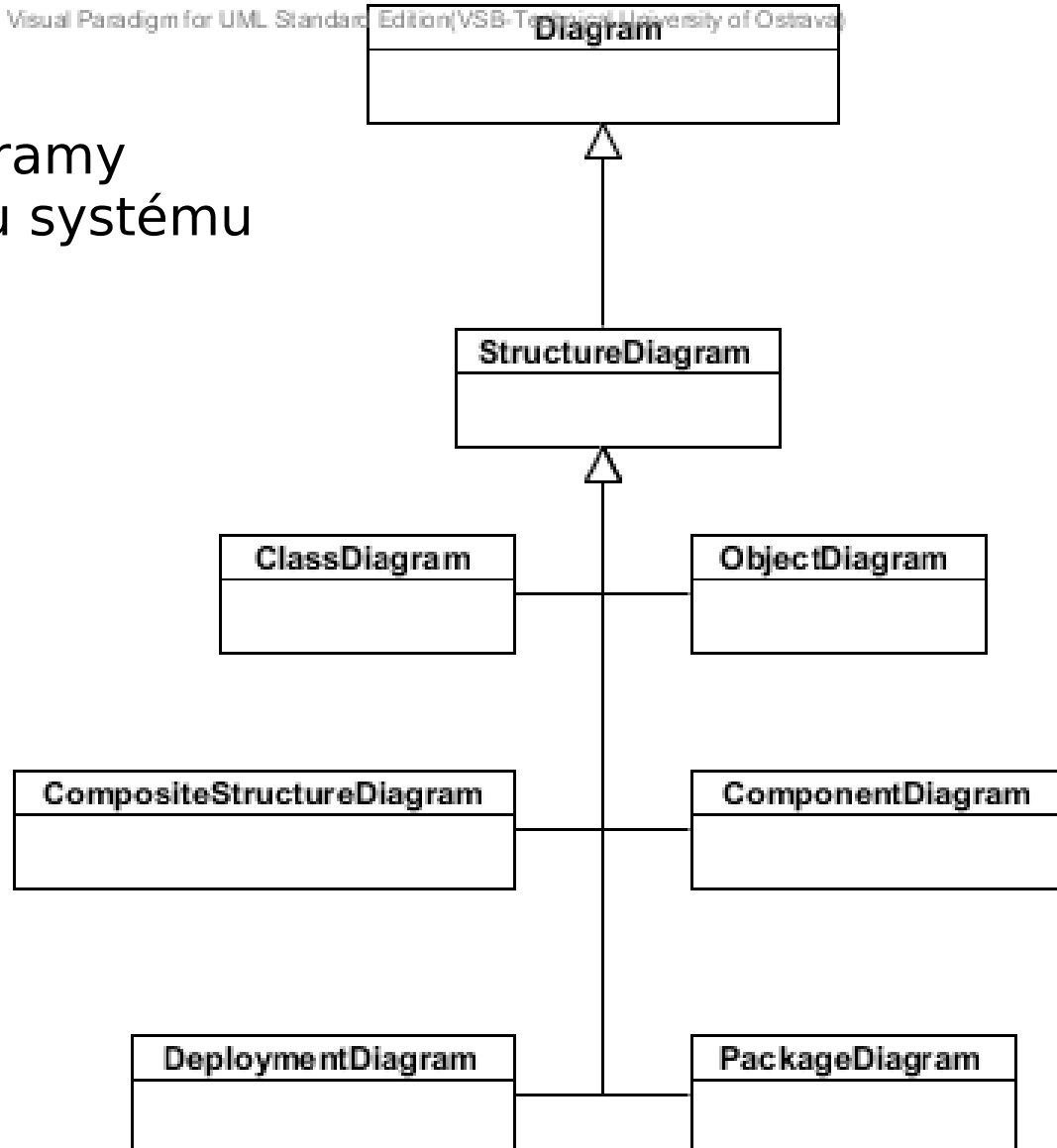
Visual Paradigm for UML Standard Edition(VSB-Technical University of Ostrava)



Statický model

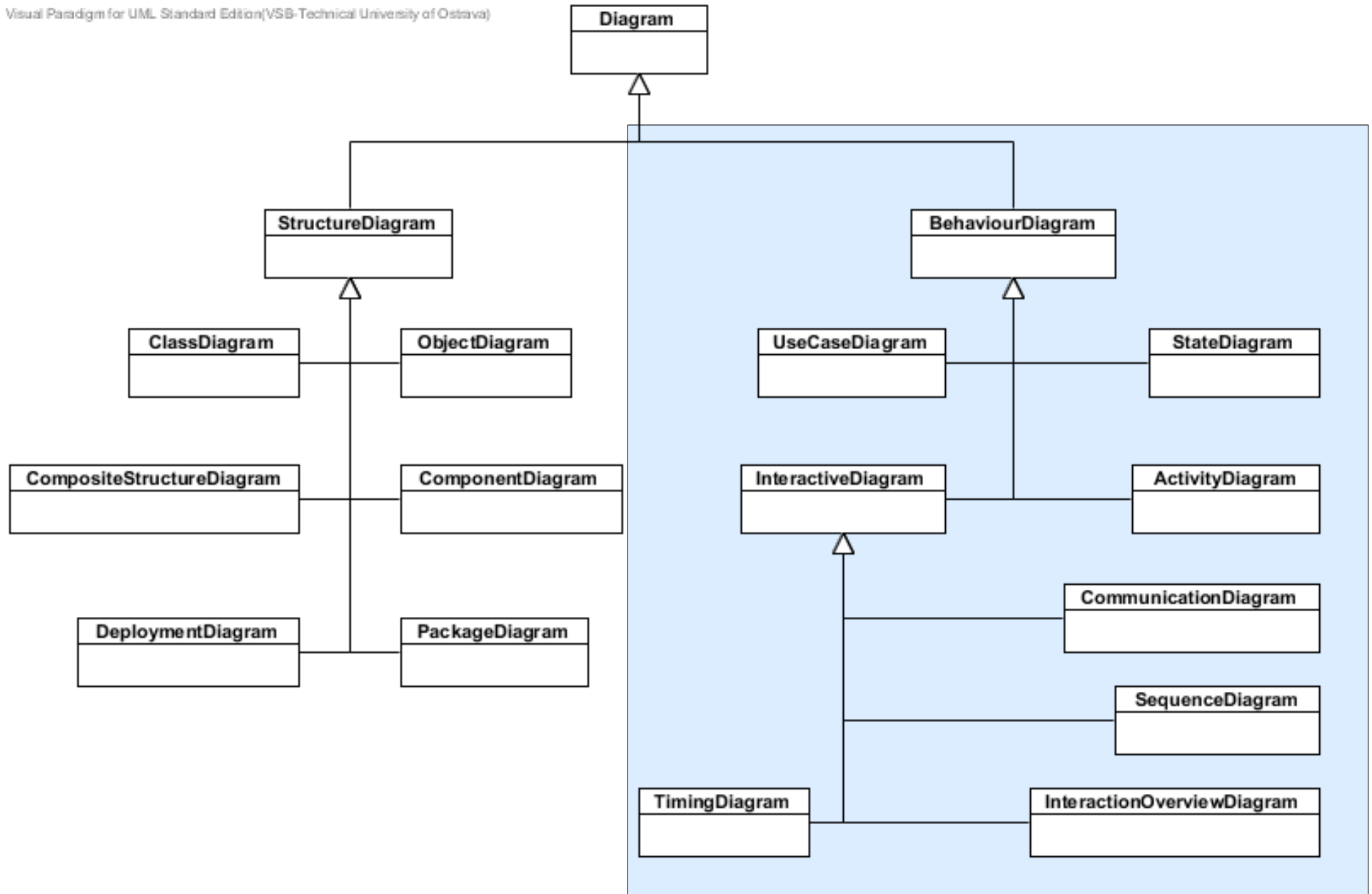
Visual Paradigm for UML Standard Edition (VSB-Technická univerzita v Ostravě)

Strukturální diagramy
popisují strukturu systému
můžeme označit
statický model



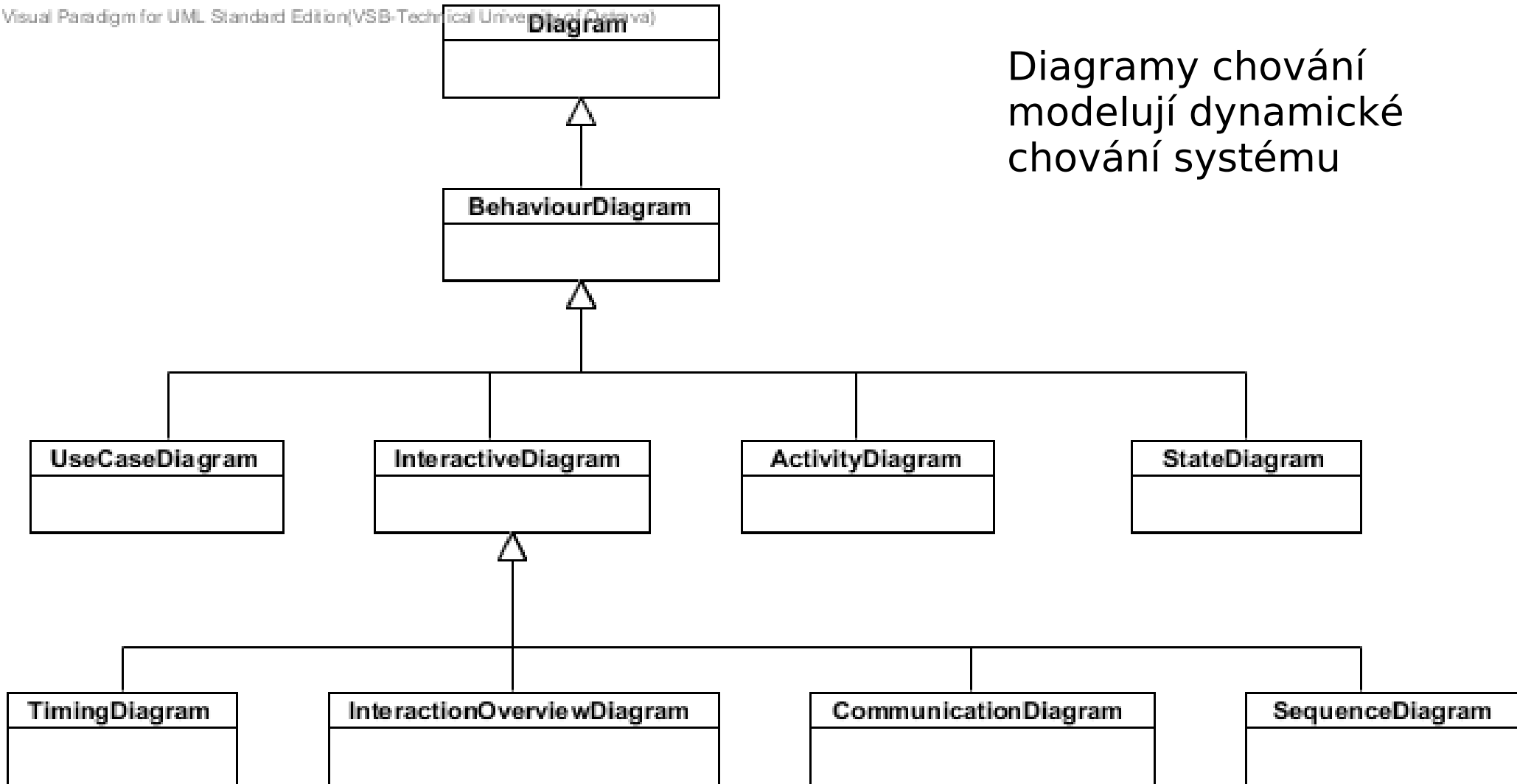
Diagramy UML - chování

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Dynamický model

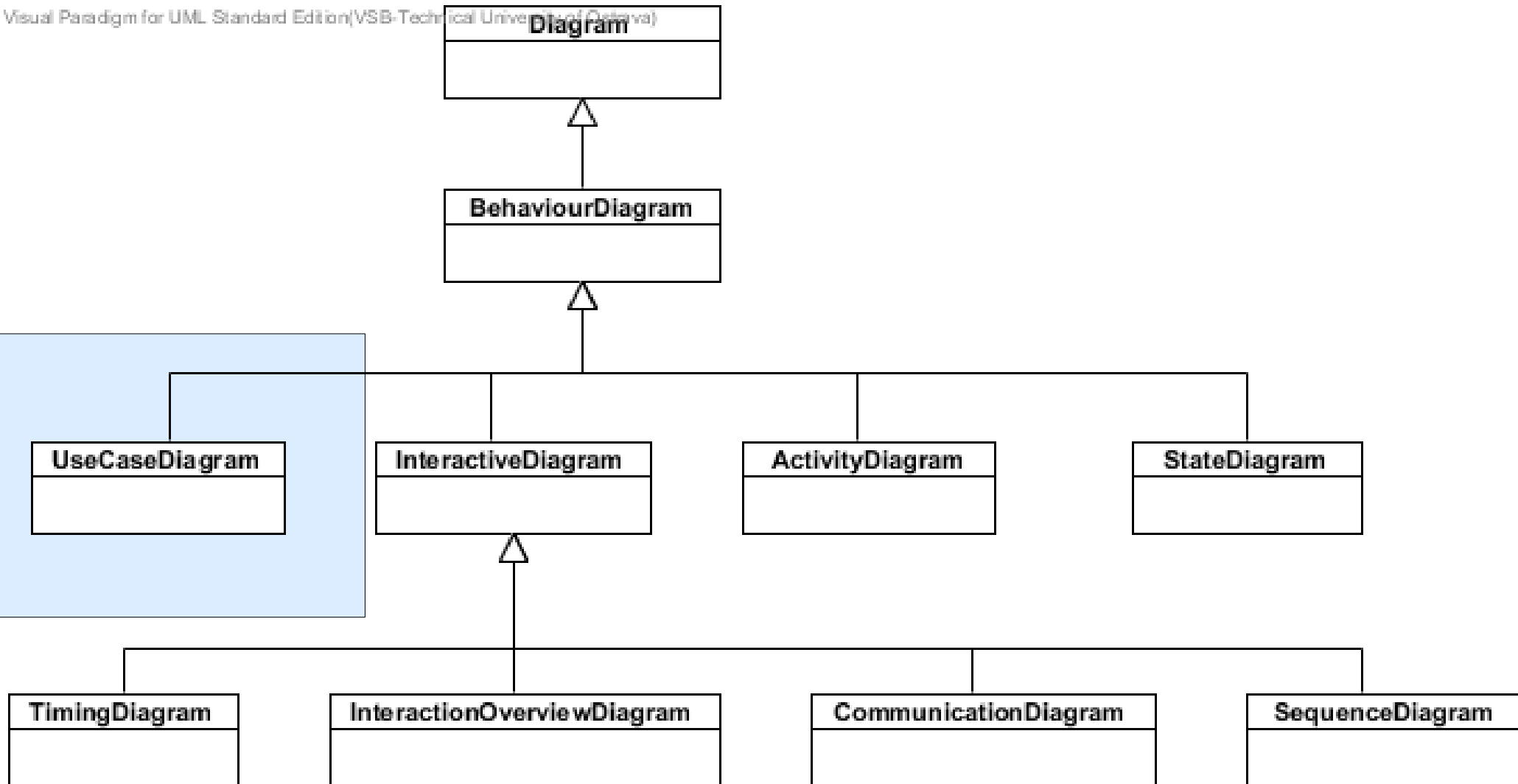
Visual Paradigm for UML Standard Edition (VSB-Technical University of Ostrava)



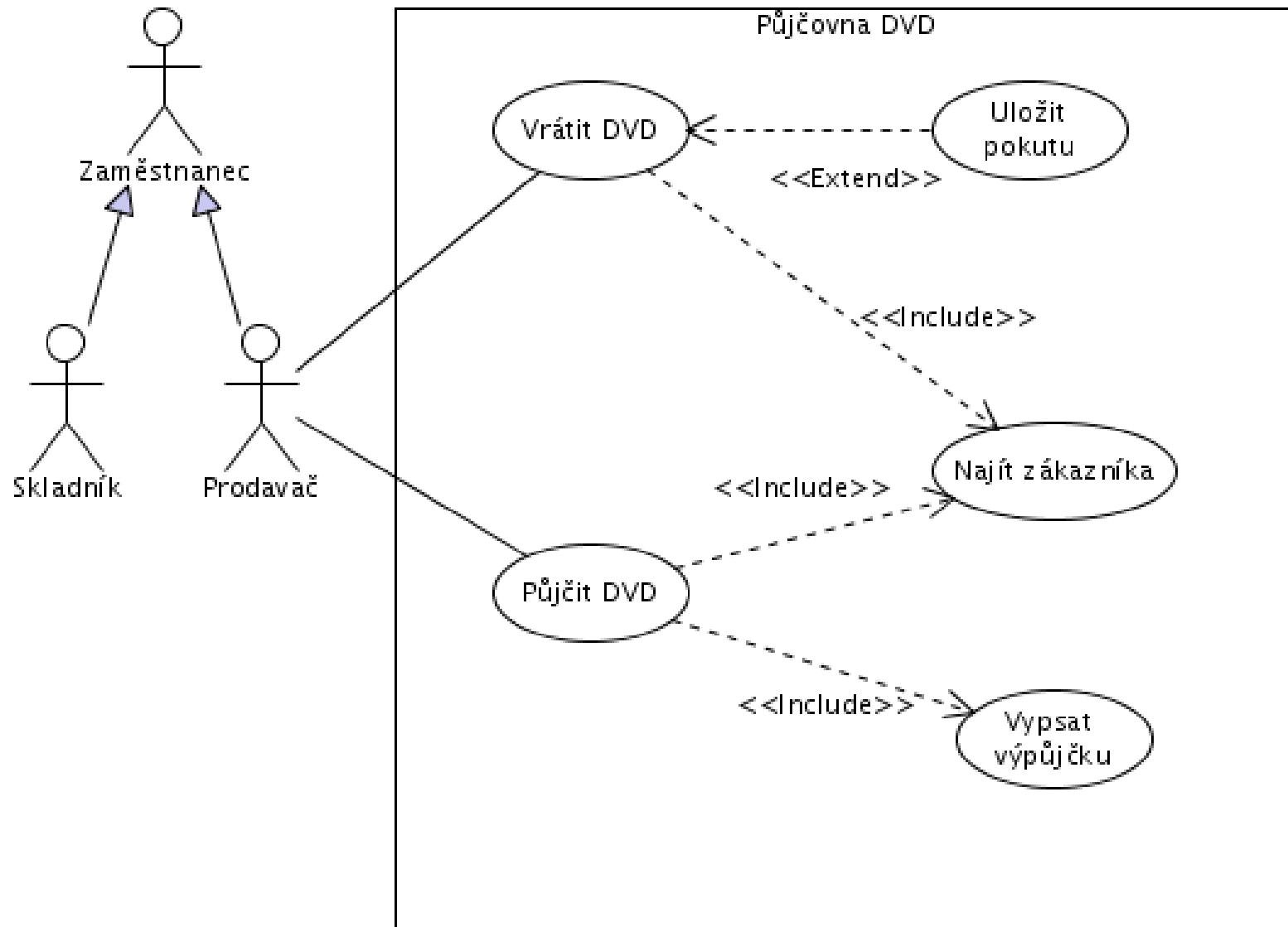
Diagramy chování modelují dynamické chování systému

Dynamický model

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Use Case diagram - diagram případů užití



Dynamický model

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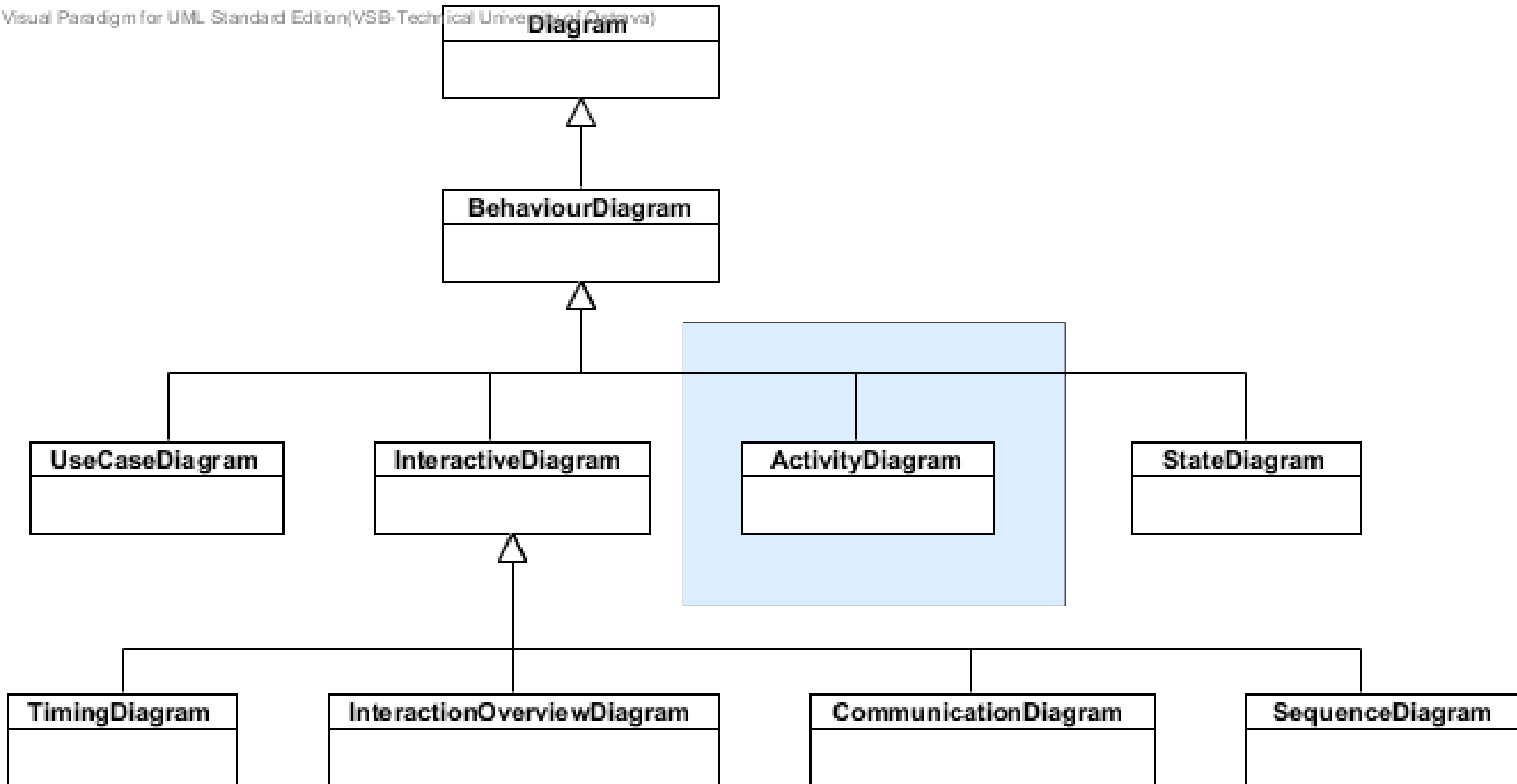
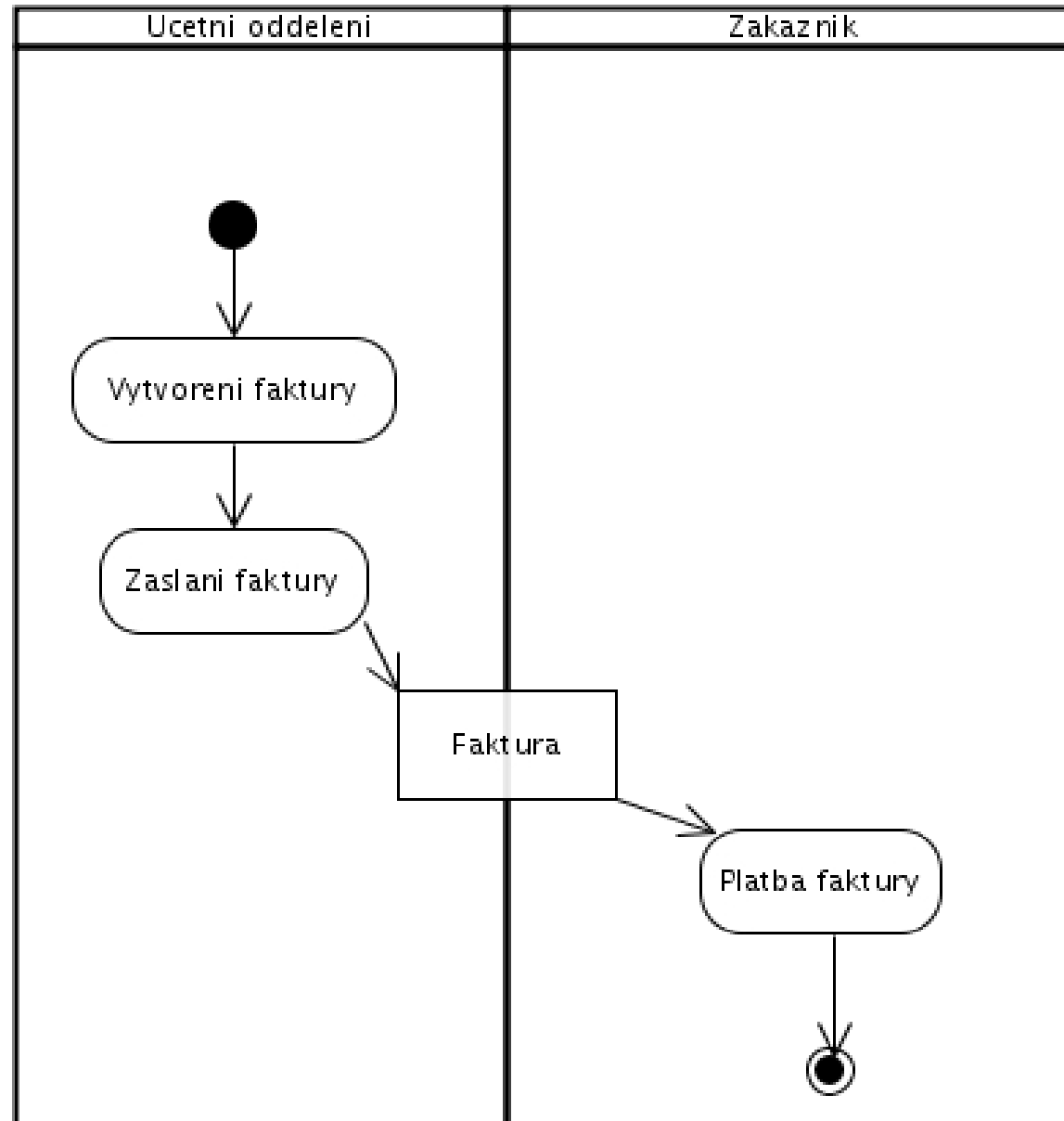
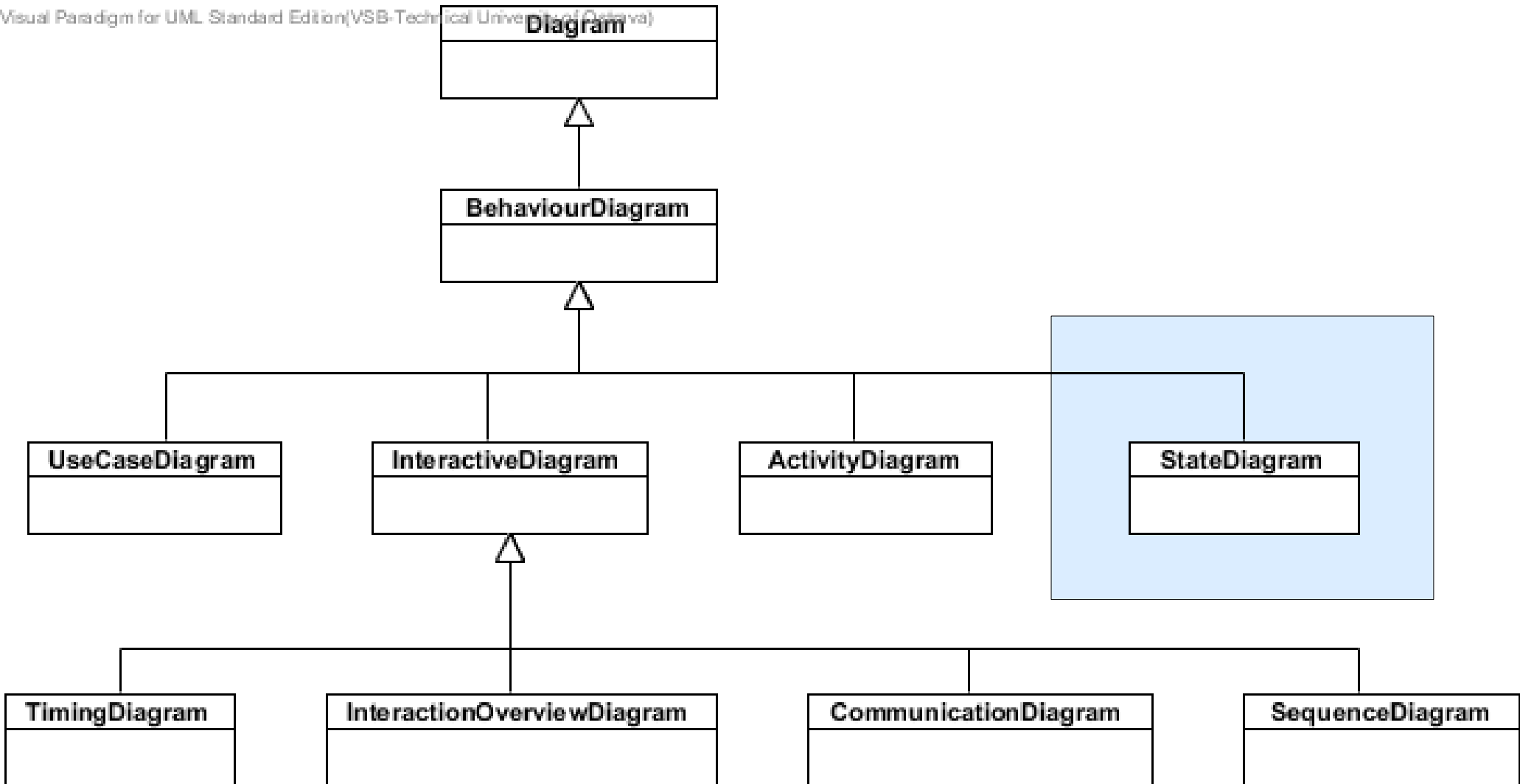


Diagram aktivit

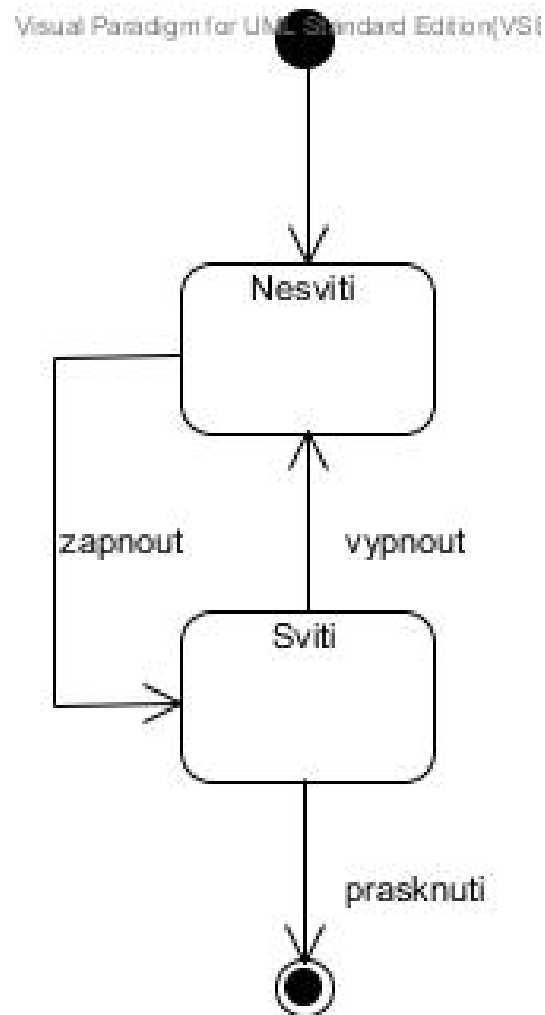


Dynamický model

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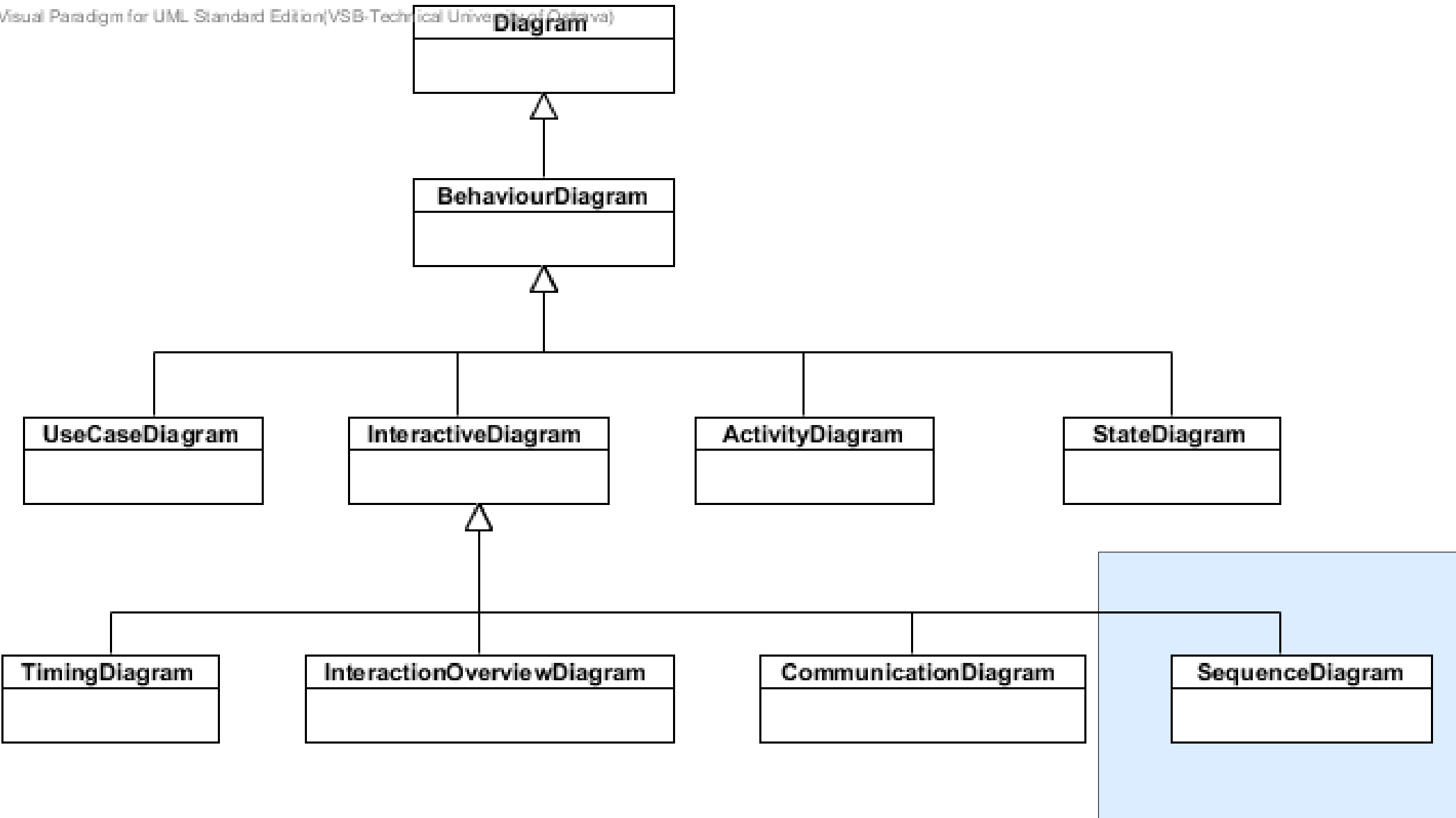


State machine diagram (stavový diagram)



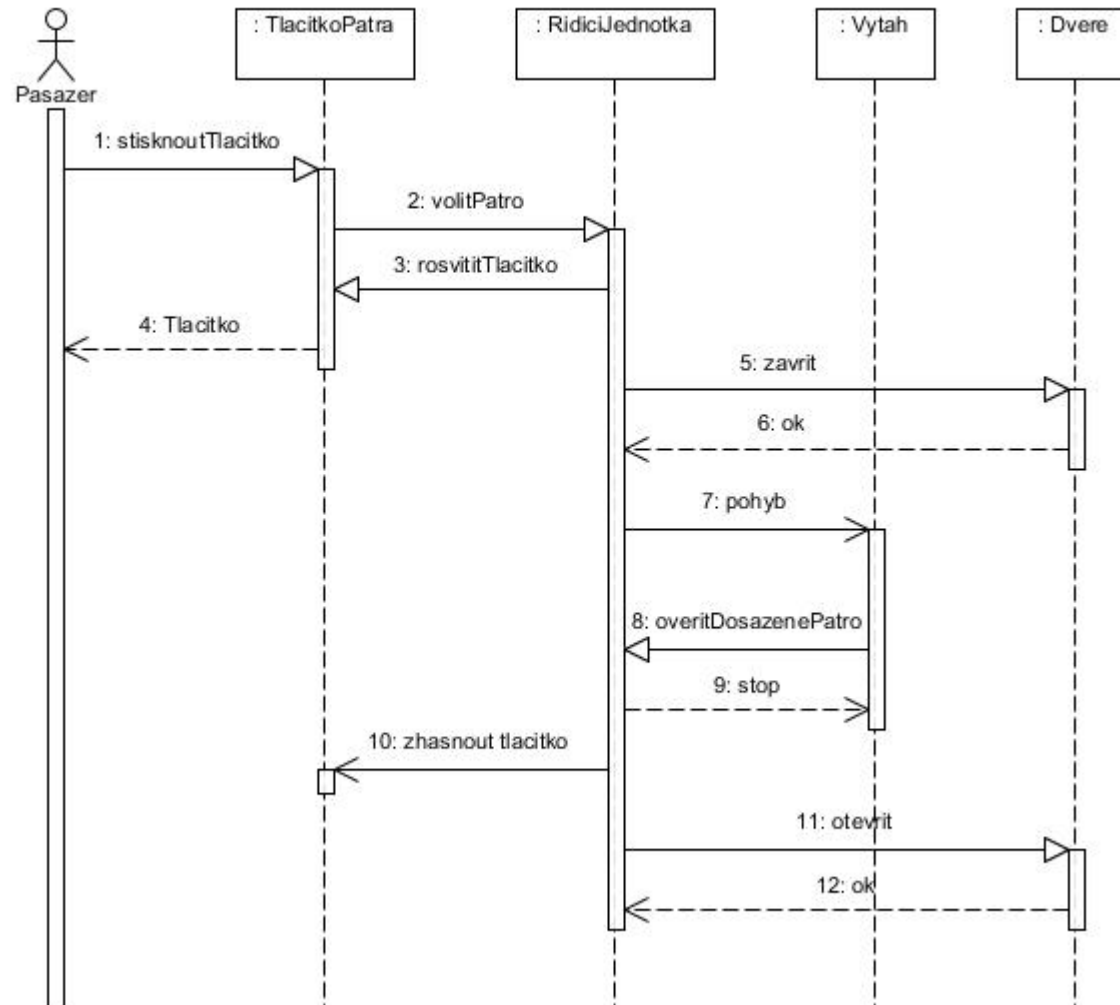
Dynamický model

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Sequence diagram (sekvenční diagram)

Výtah Paradigm for UML Standard Edition (VSB-Technical University of Ostrava)



Dynamický model

Visual Paradigm for UML Standard Edition (VSB-Technical University of Ostrava)

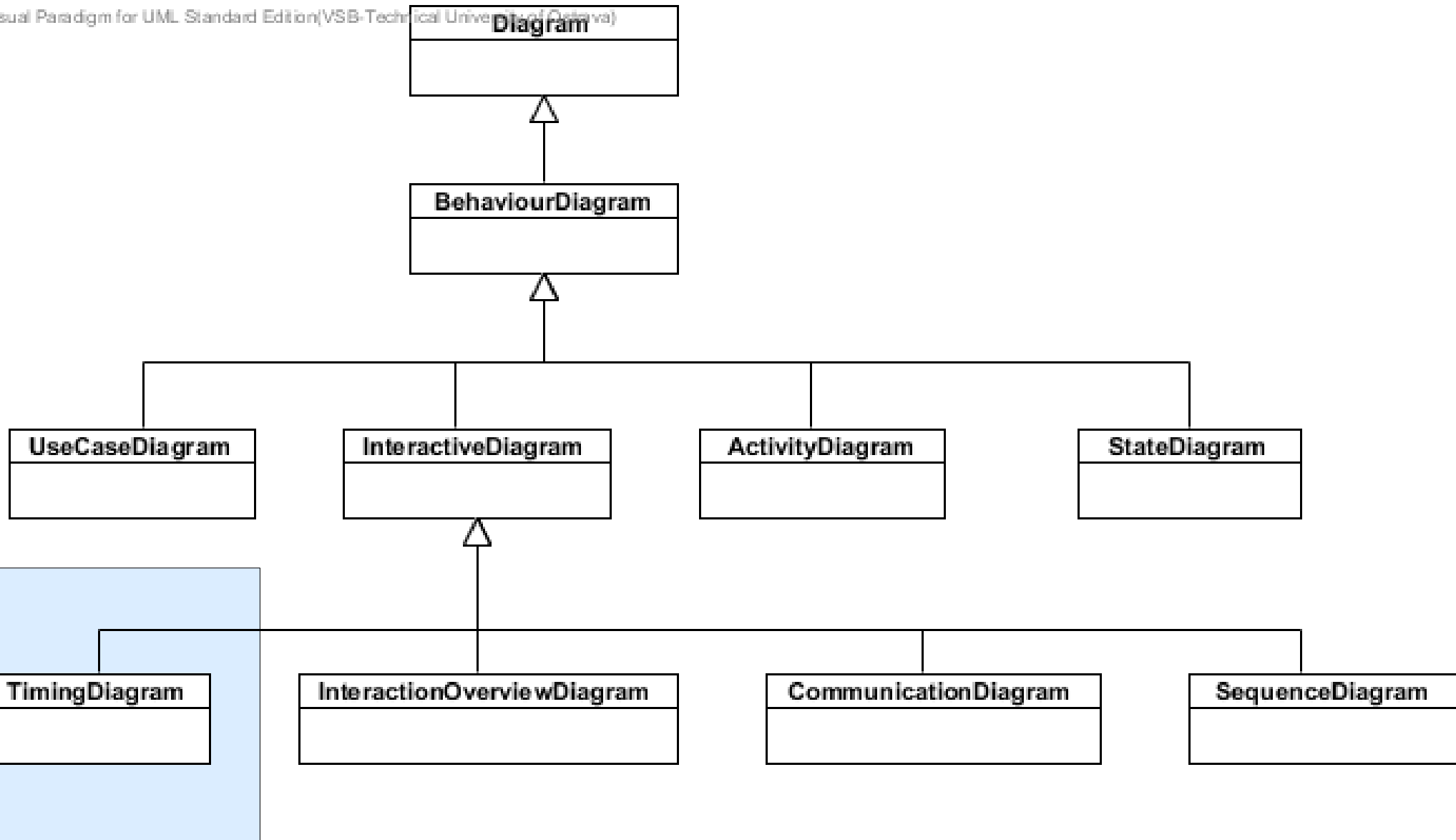
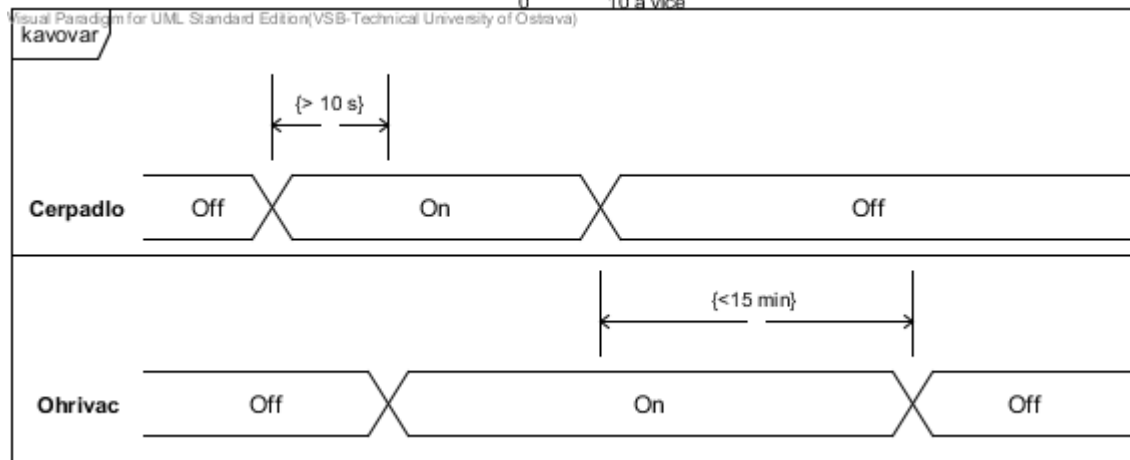
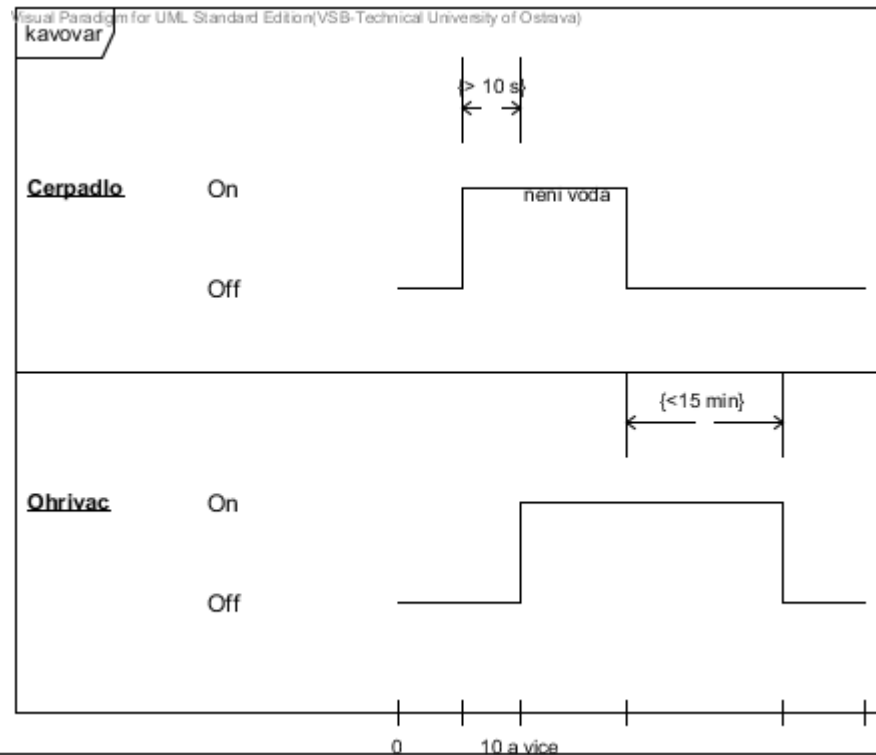
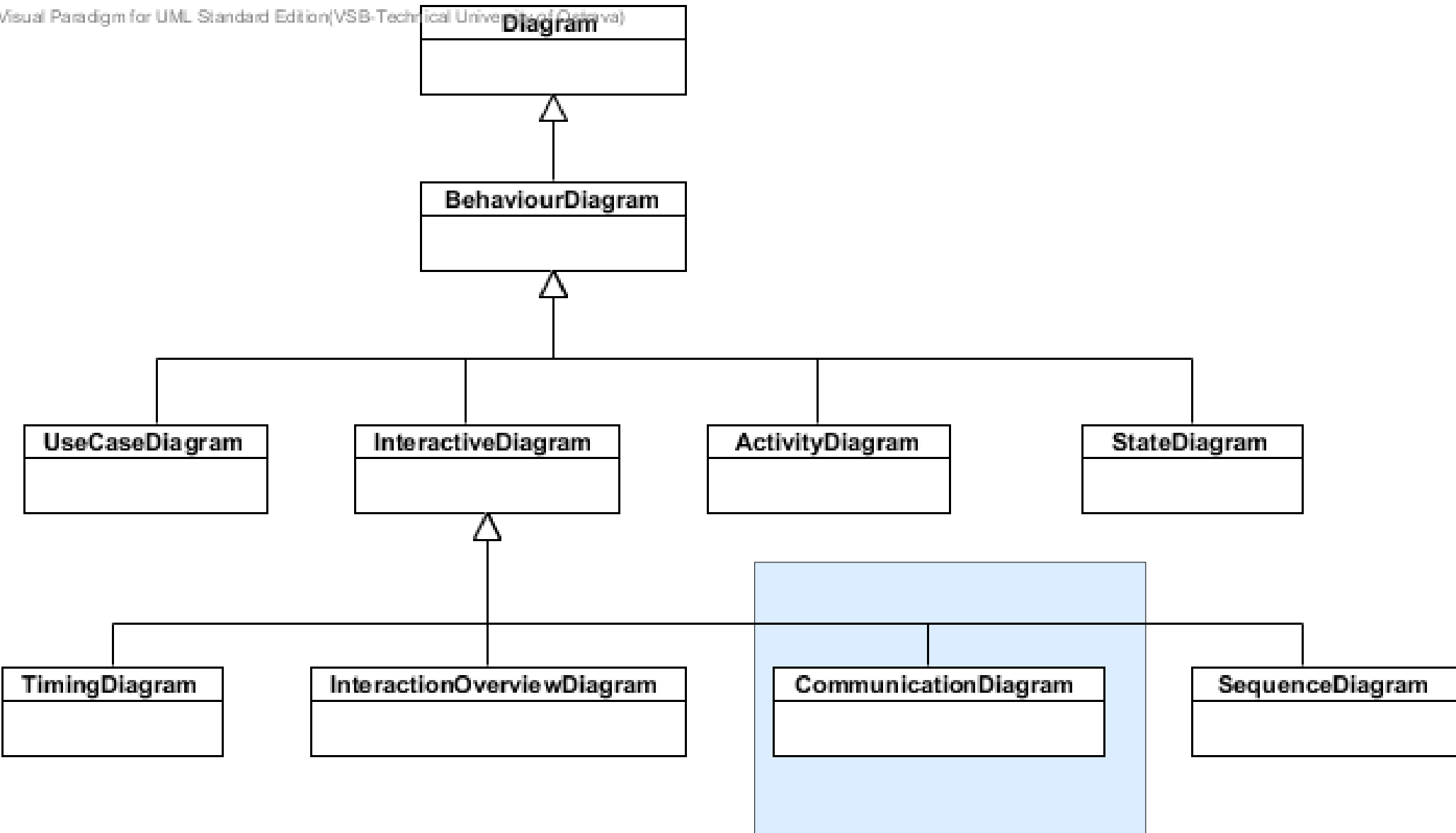


Diagram časování

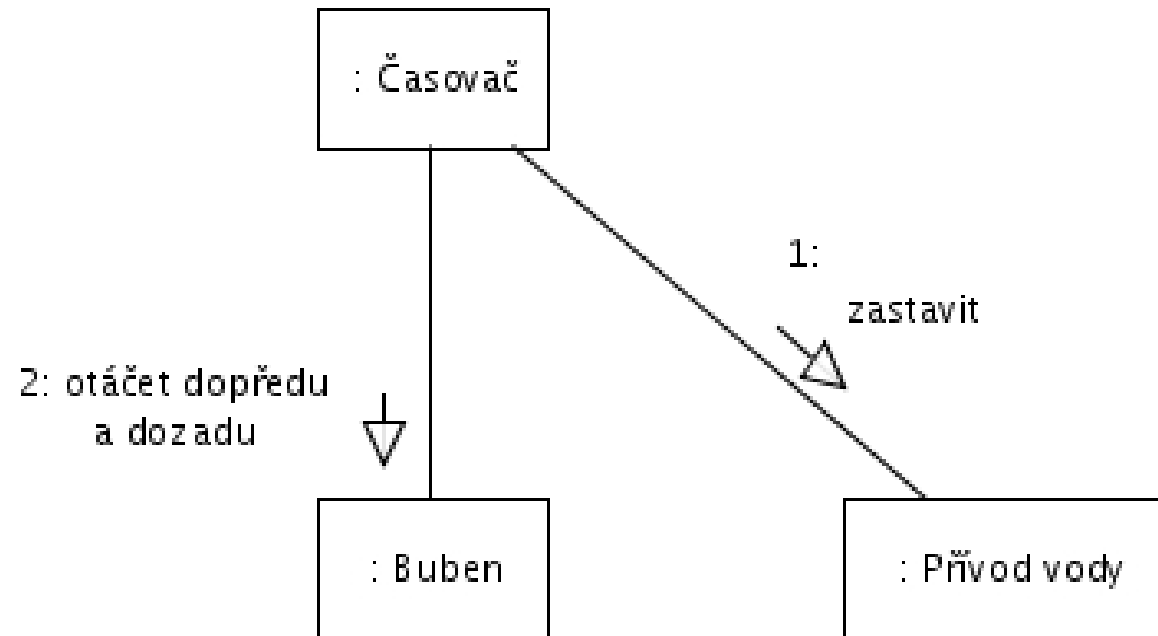


Dynamický model

Visual Paradigm for UML Standard Edition (VSB-Technical University of Ostrava)

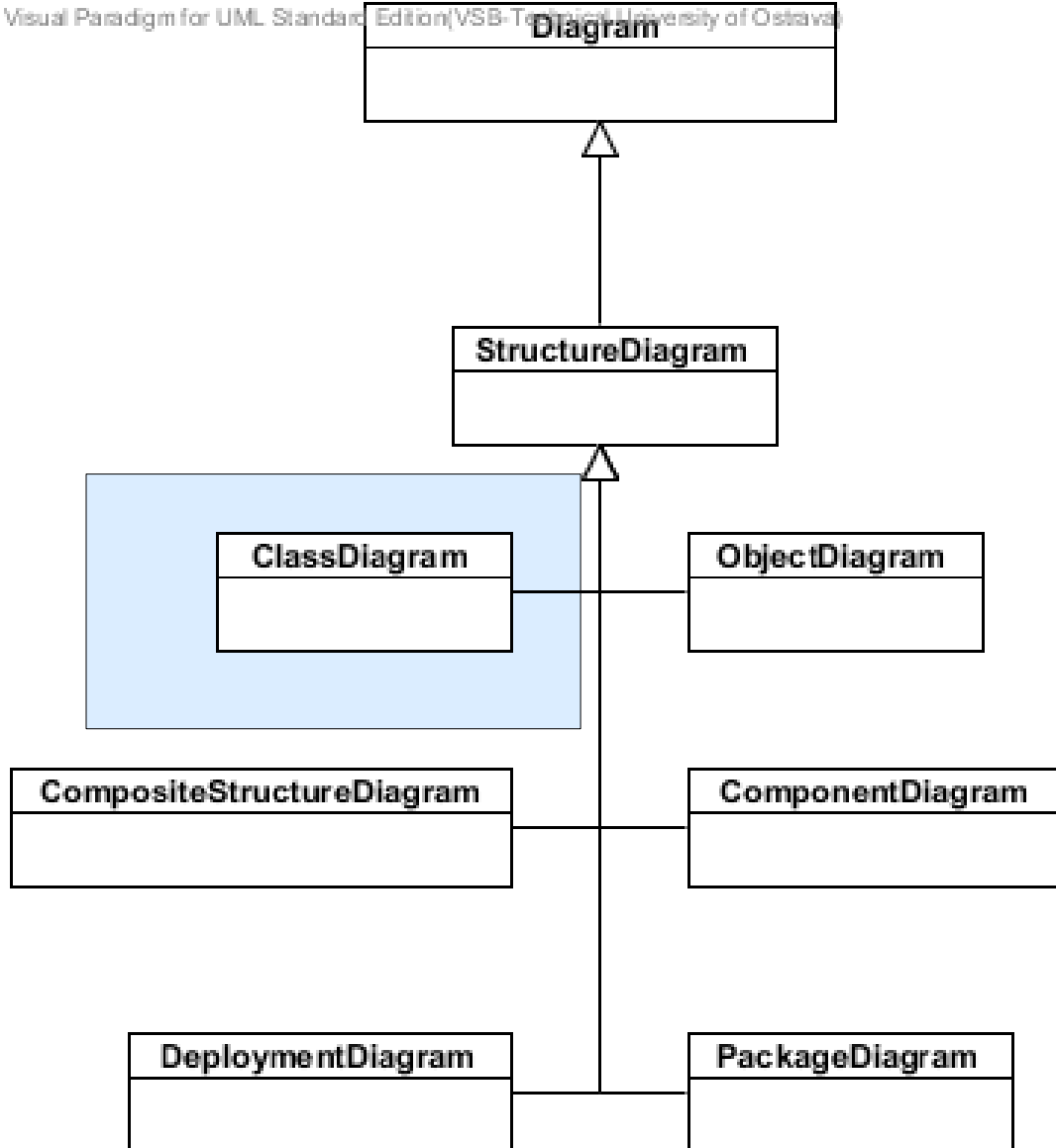


Communication diagram (diagram spolupráce)

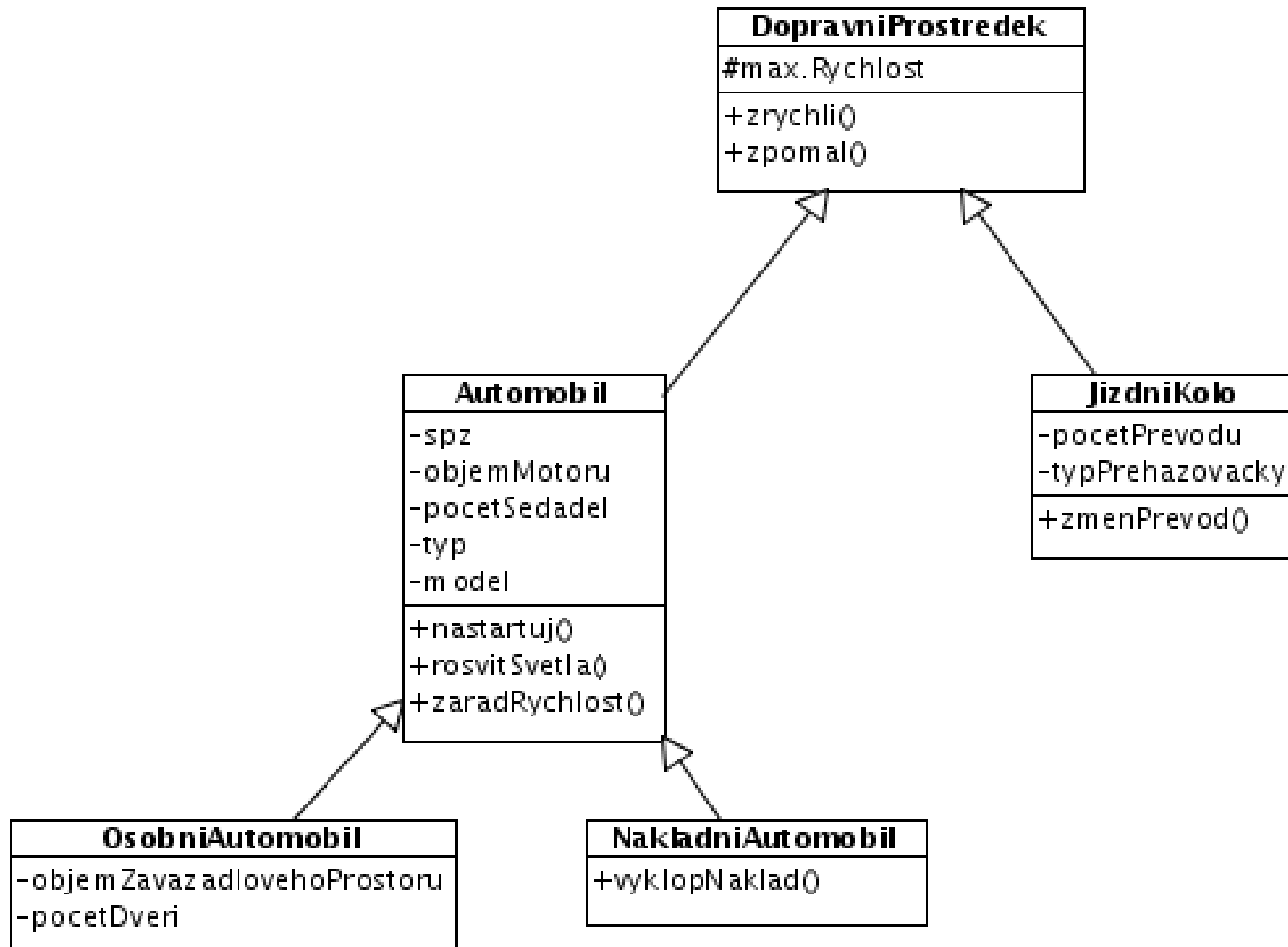


Statically model

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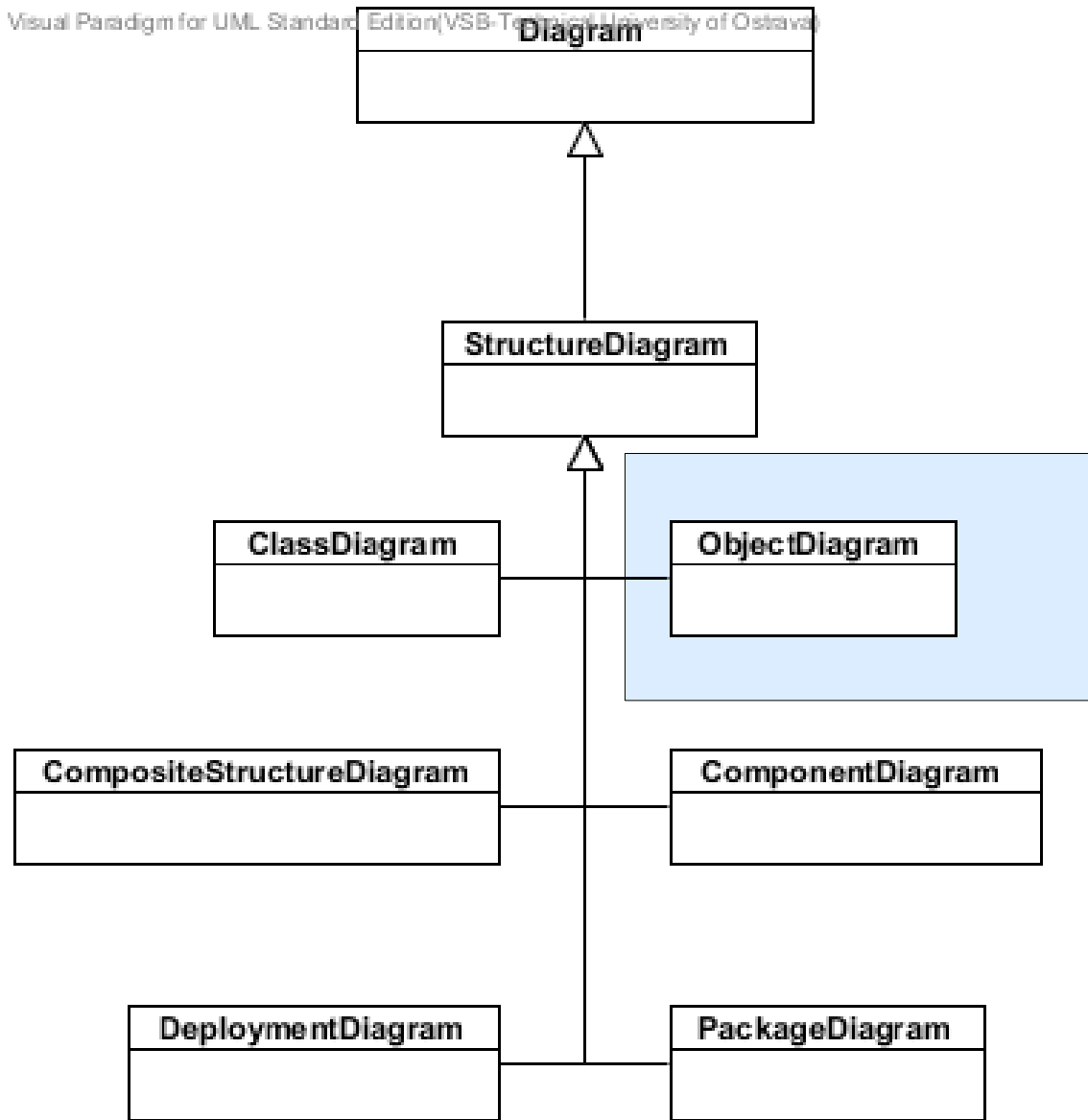


Class diagram (diagram tříd)

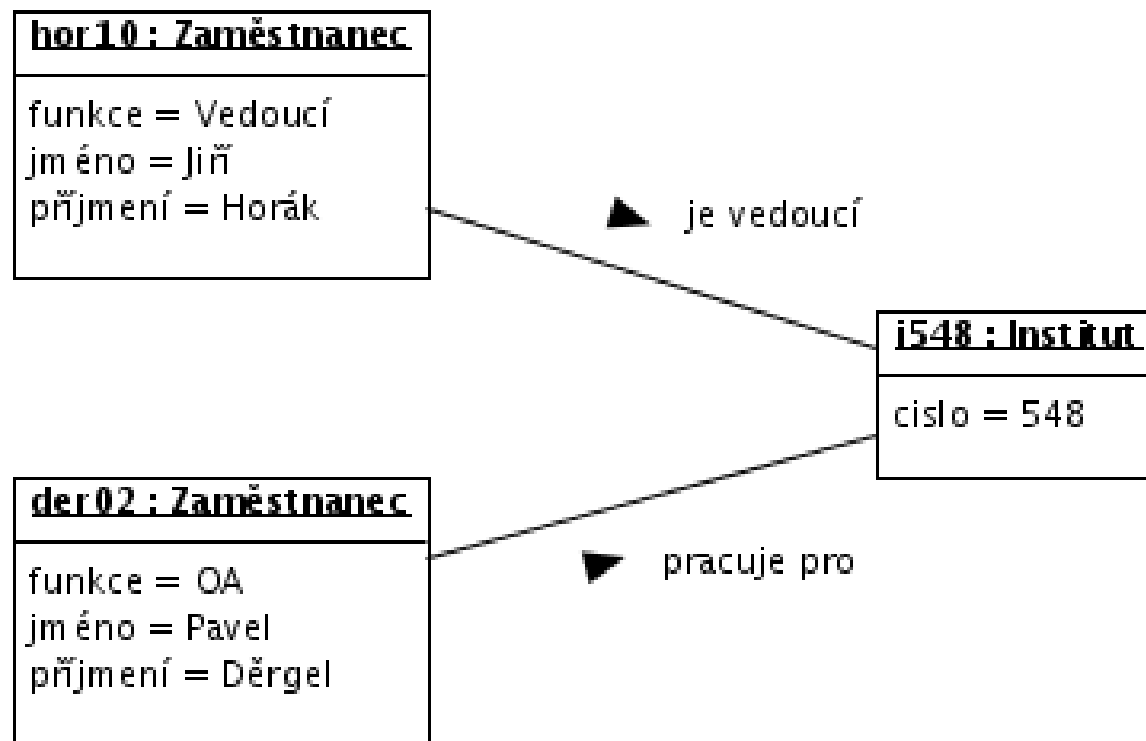


Statically model

Visual Paradigm for UML Standard Edition (VSB-Technical University of Ostrava)

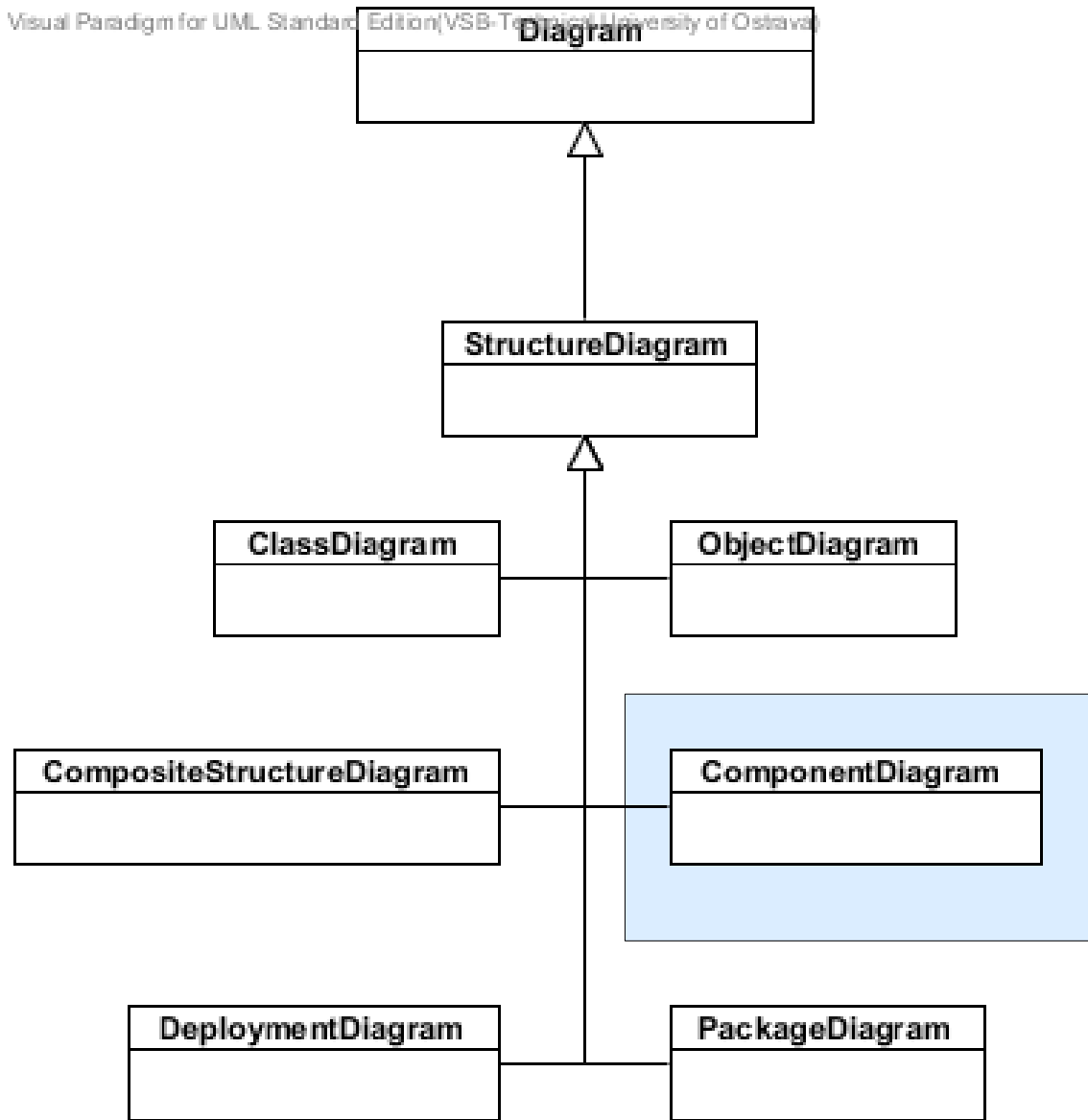


Object diagram (objektový diagram)

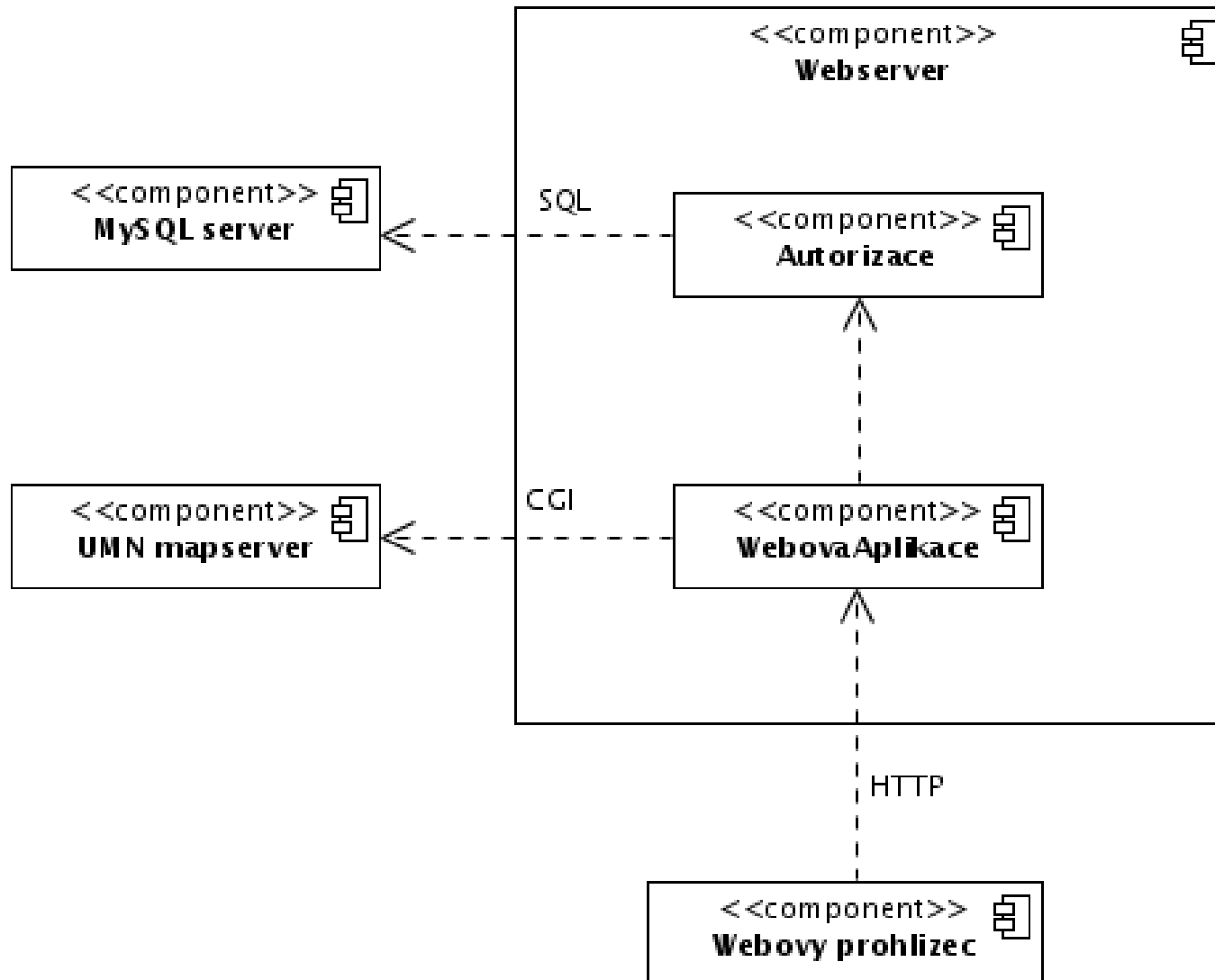


Statický model

Visual Paradigm for UML Standard Edition (VSB-Technical University of Ostrava)

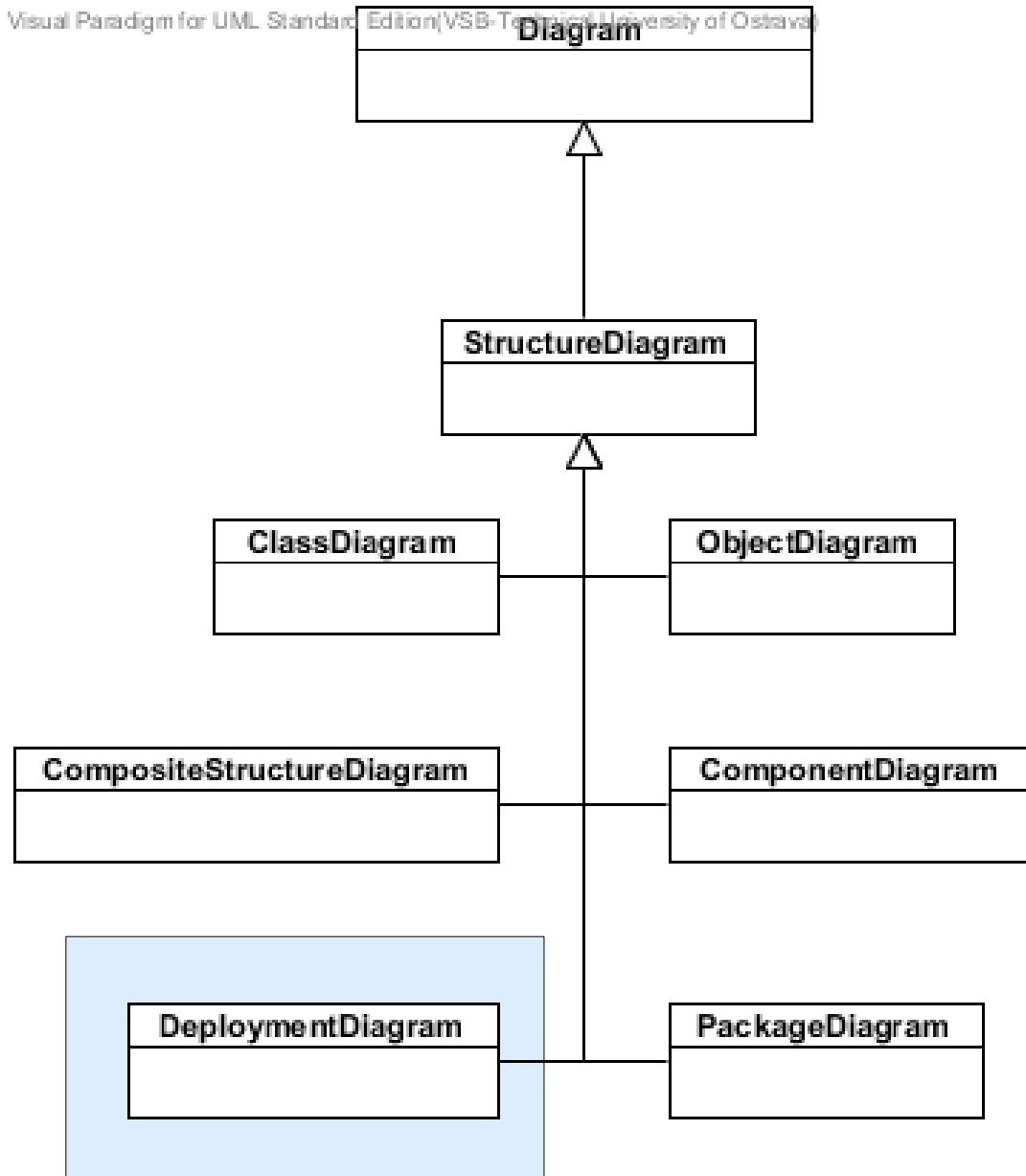


Component diagram (diagram komponent)



Statický model

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Deployment diagram (diagram nasazení)

