

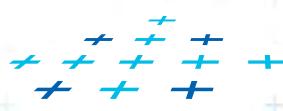
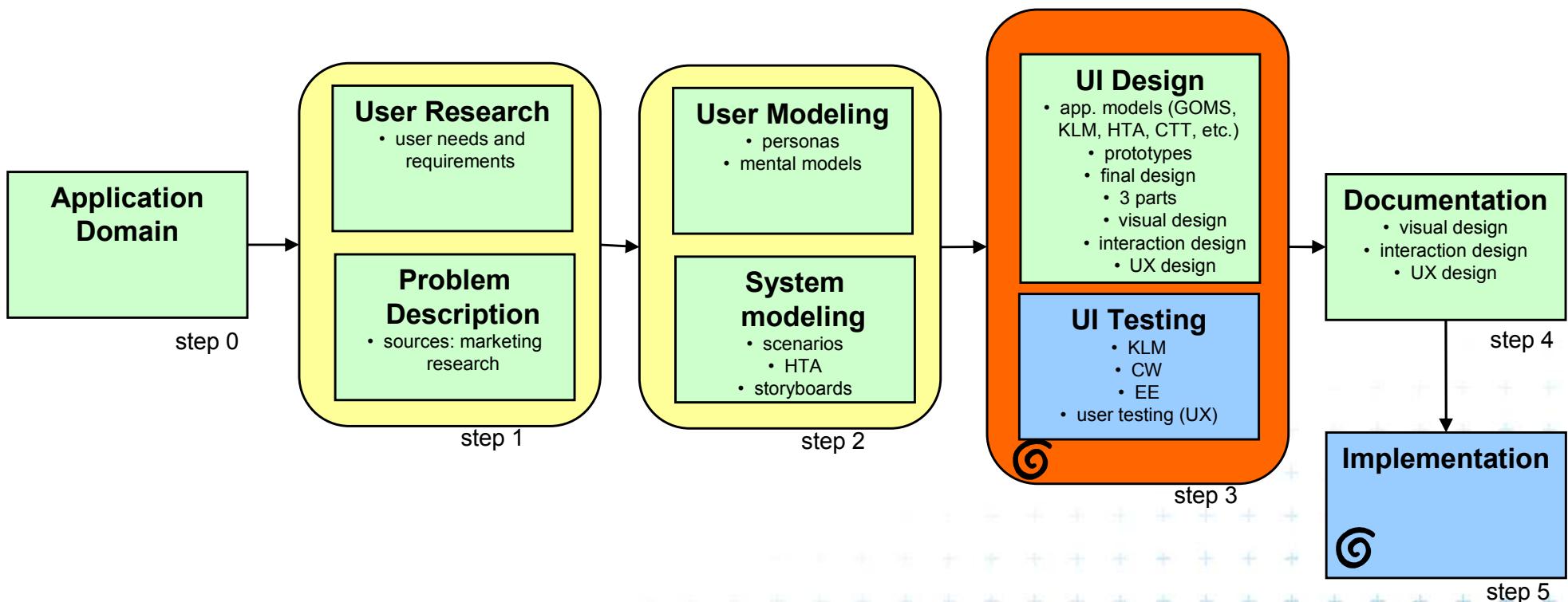
DCGI

DEPARTMENT OF COMPUTER GRAPHICS AND INTERACTION

NUR - Prototyping

Low Fidelity

User interface design - big picture



DCGI

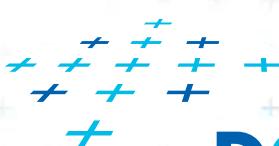
NUR - Prototyping (low fidelity)

(2)



Lo-Fi Prototyping

- hours/days to develop
- many alternatives
- no final interaction techniques
- not on target devices
- sketchy look&feel
 - paper/electronic paper
- lab tests



Sketch vs. Prototype

■ SKETCH

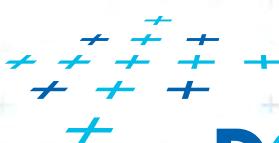
- Evocative
- Suggest
- Explore
- Question
- Propose
- Provoke
- Tentative
- Noncommittal



■ PROTOTYPE

- Didactic
- Describe
- Refine
- Answer
- Test
- Resolve
- Specific
- Depiction

Source: Buxton 2007

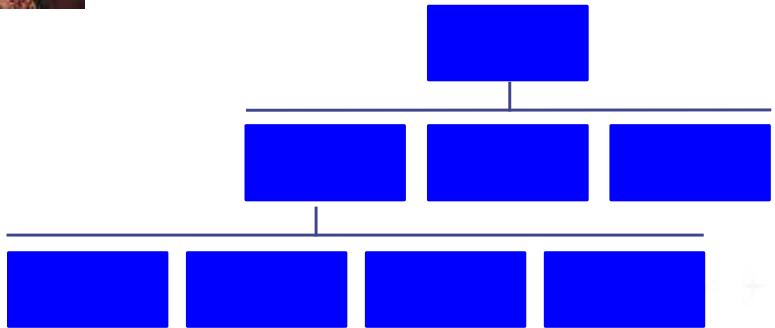


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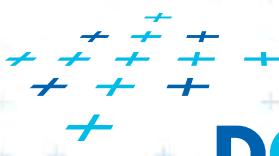
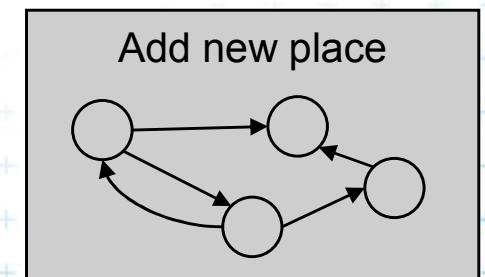


What must be done before

- User research (D1)



- Problem description, UI modelling
 - HTA, STN

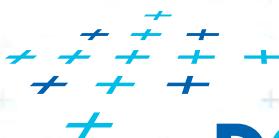


NUR - Prototyping (low fidelity)



Catch&Run – description

- Chase in given physical area
- Goal: game money
- Players roles
 - Idler
 - Catcher
 - Runner
- Technology
 - mobile phone
 - GPS, data connection

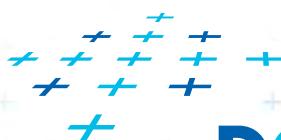
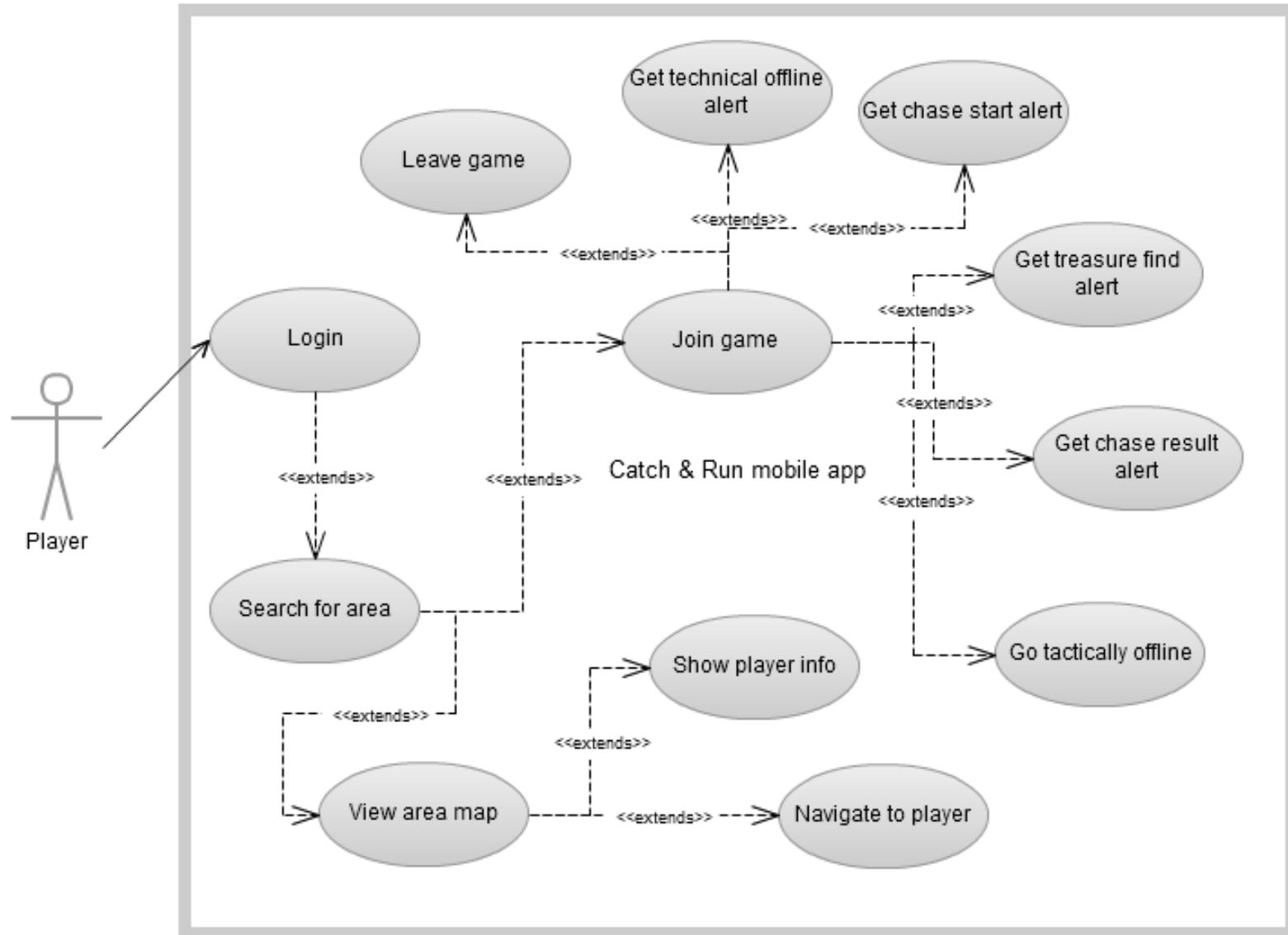


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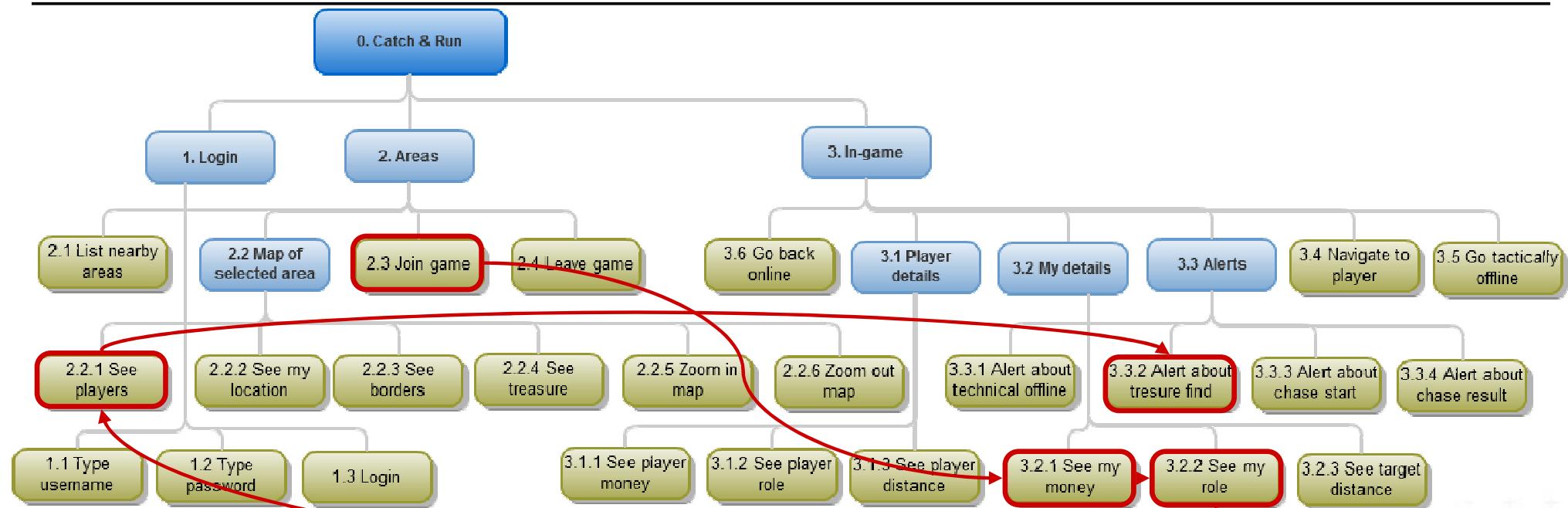
NUR - Prototyping (low fidelity)



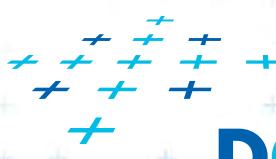
Catch&Run – Use-cases diagram



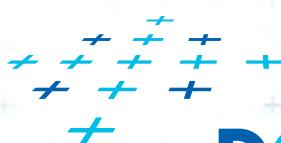
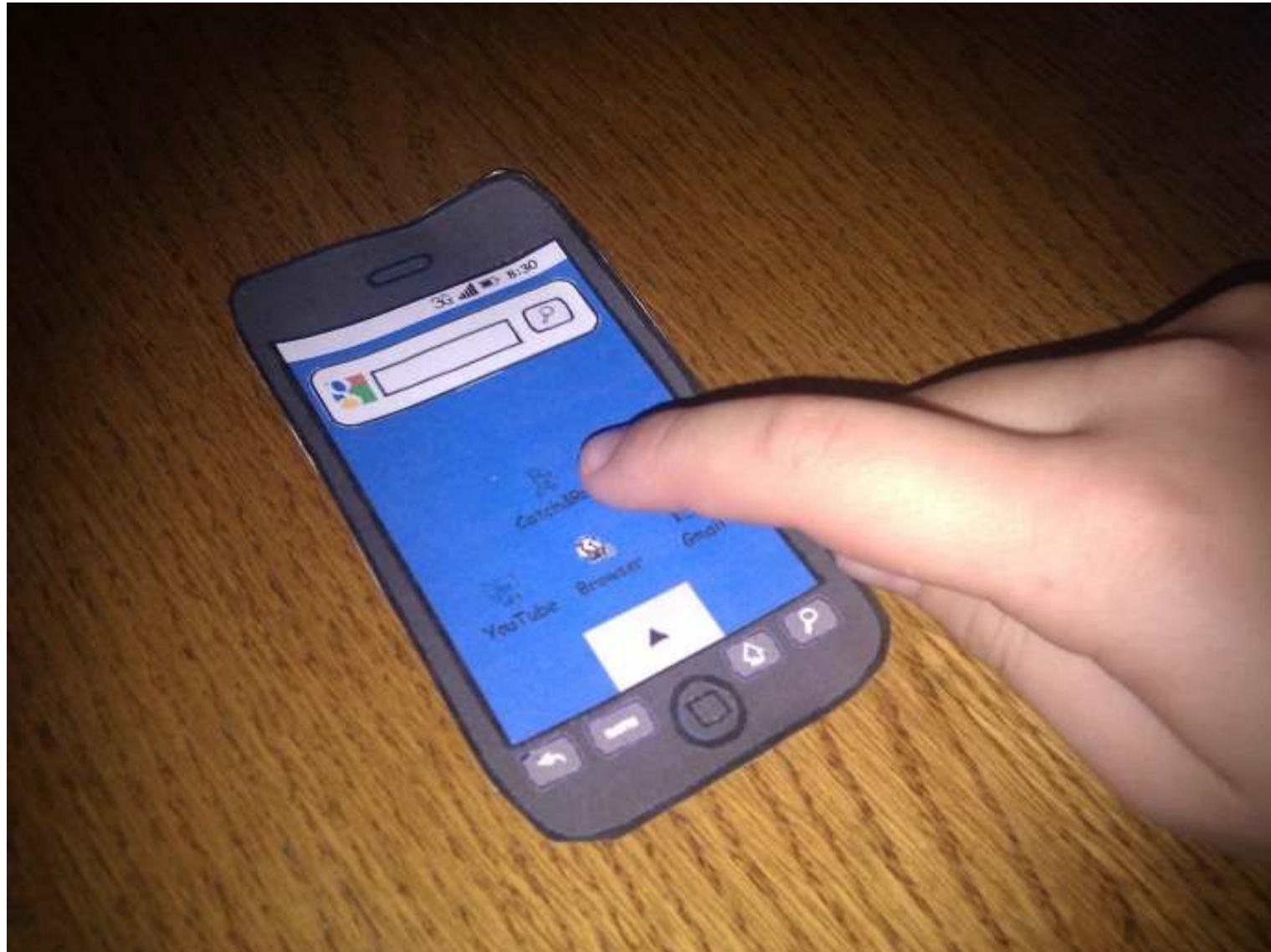
Catch&Run – HTA



- Plan: Try to find a treasure as Idler and avoid contact with others
 - 2.3 Join game
 - 3.2.1 See my money
 - 3.2.2 See my role
 - 2.2.1 See players
 - 3.3.2 Alert about treasure find



Catch&Run – prototype

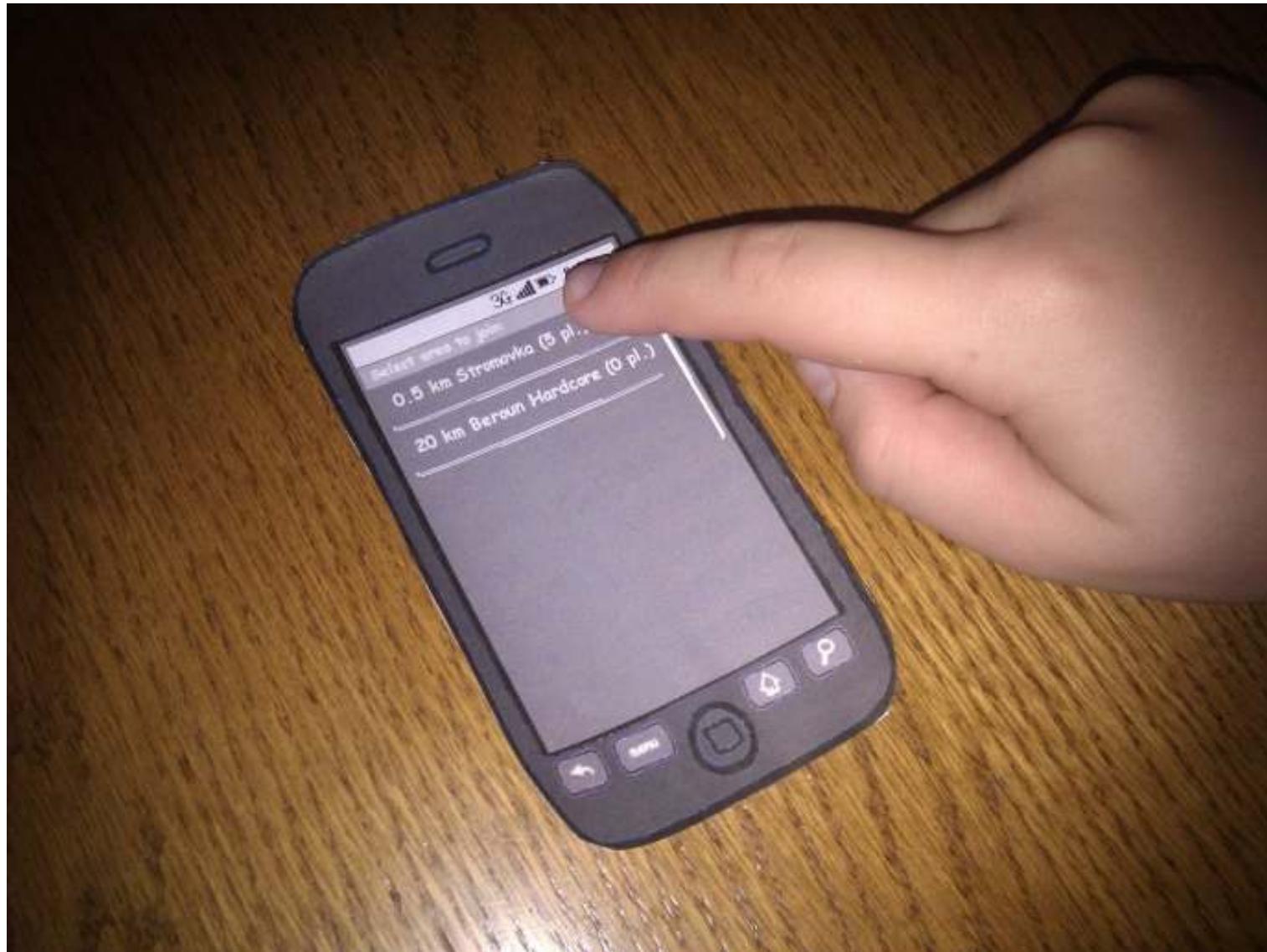


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NUR - Prototyping (low fidelity)

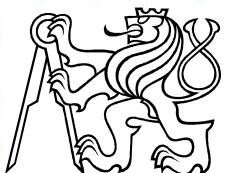
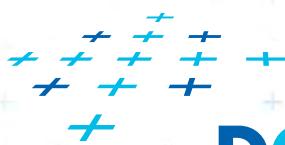


Catch&Run – prototype

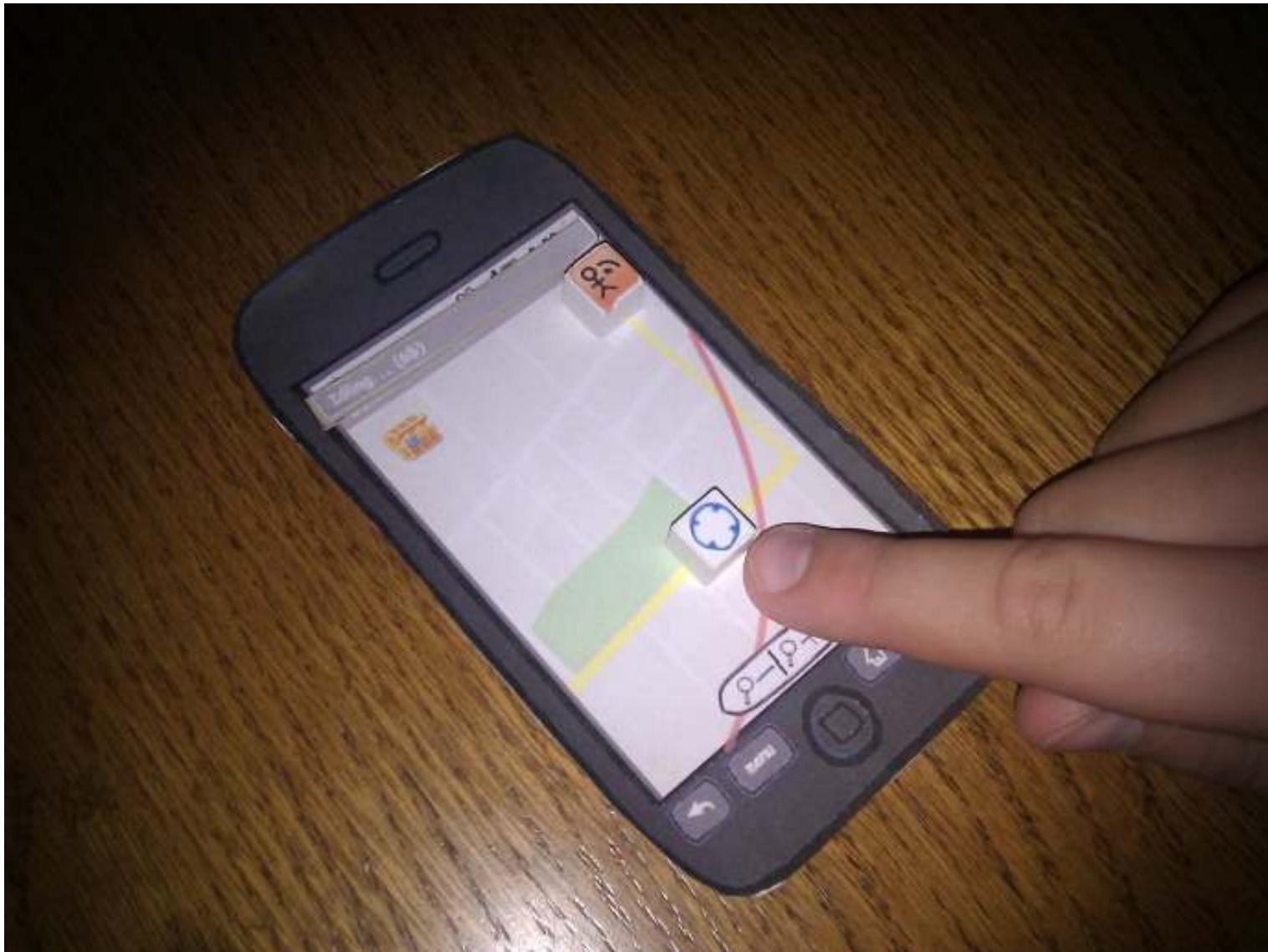


NUR - Prototyping (low fidelity)

(10)

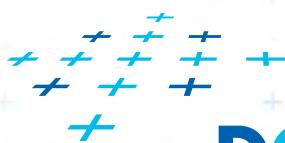


Catch&Run – prototype

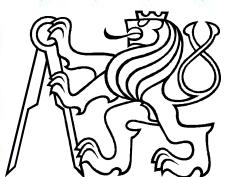


NUR - Prototyping (low fidelity)

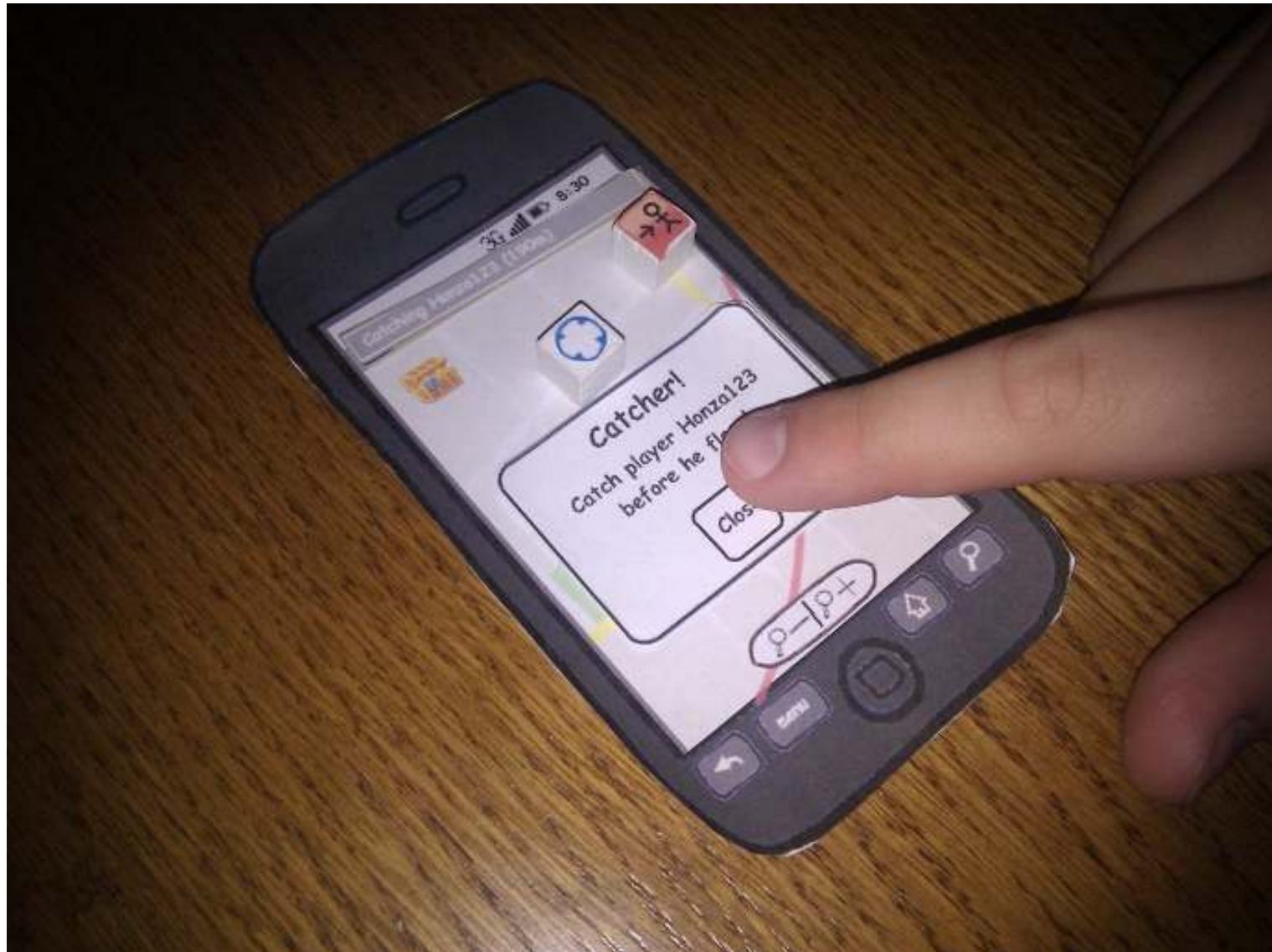
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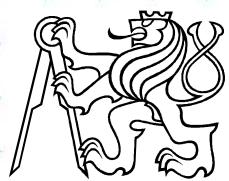


Catch&Run – prototype

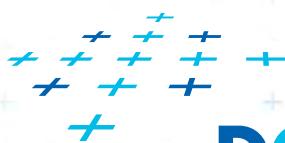
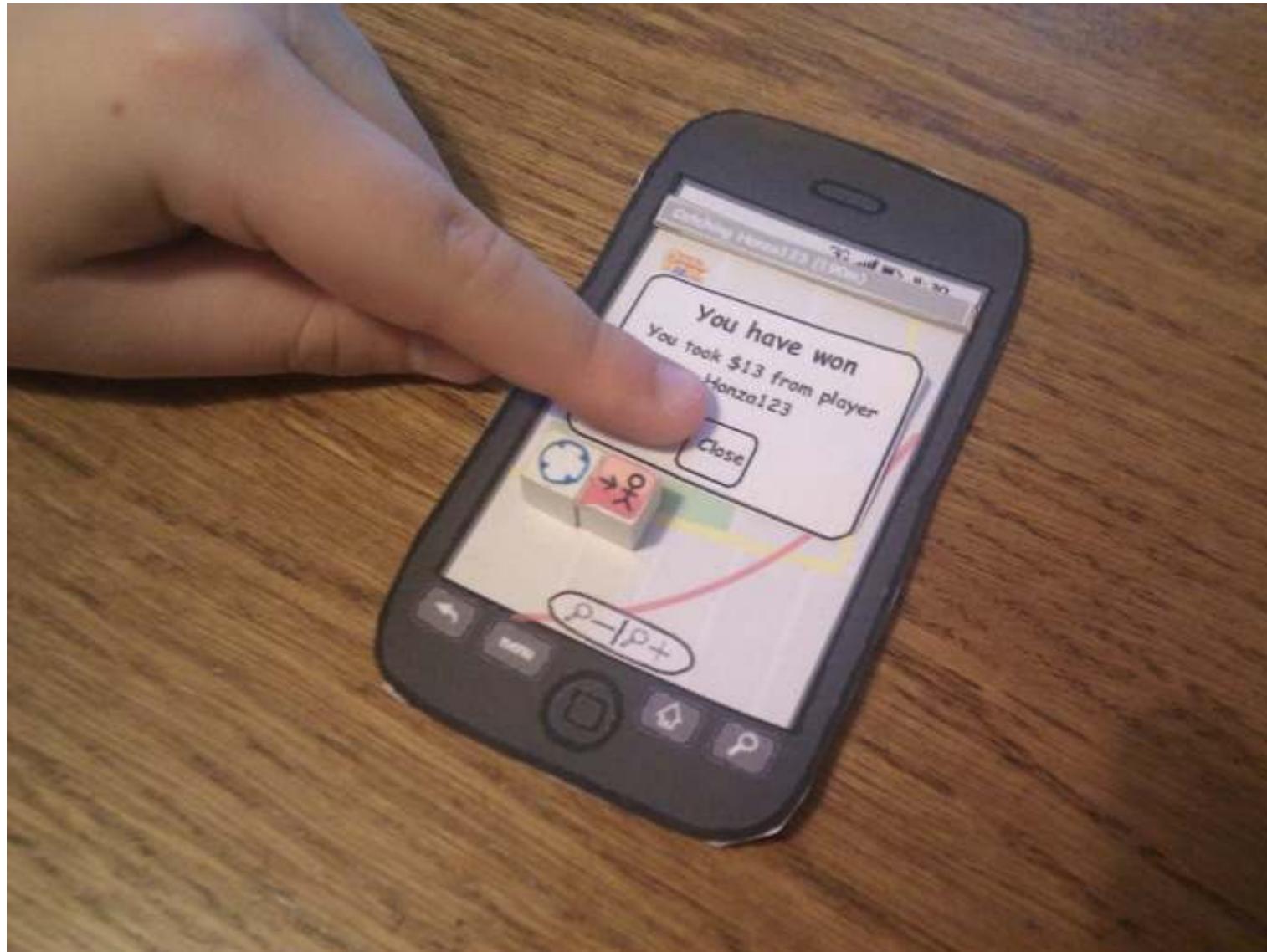


DCGI

NUR - Prototyping (low fidelity)



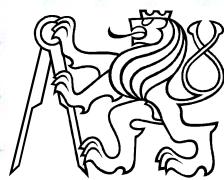
Catch&Run – prototype



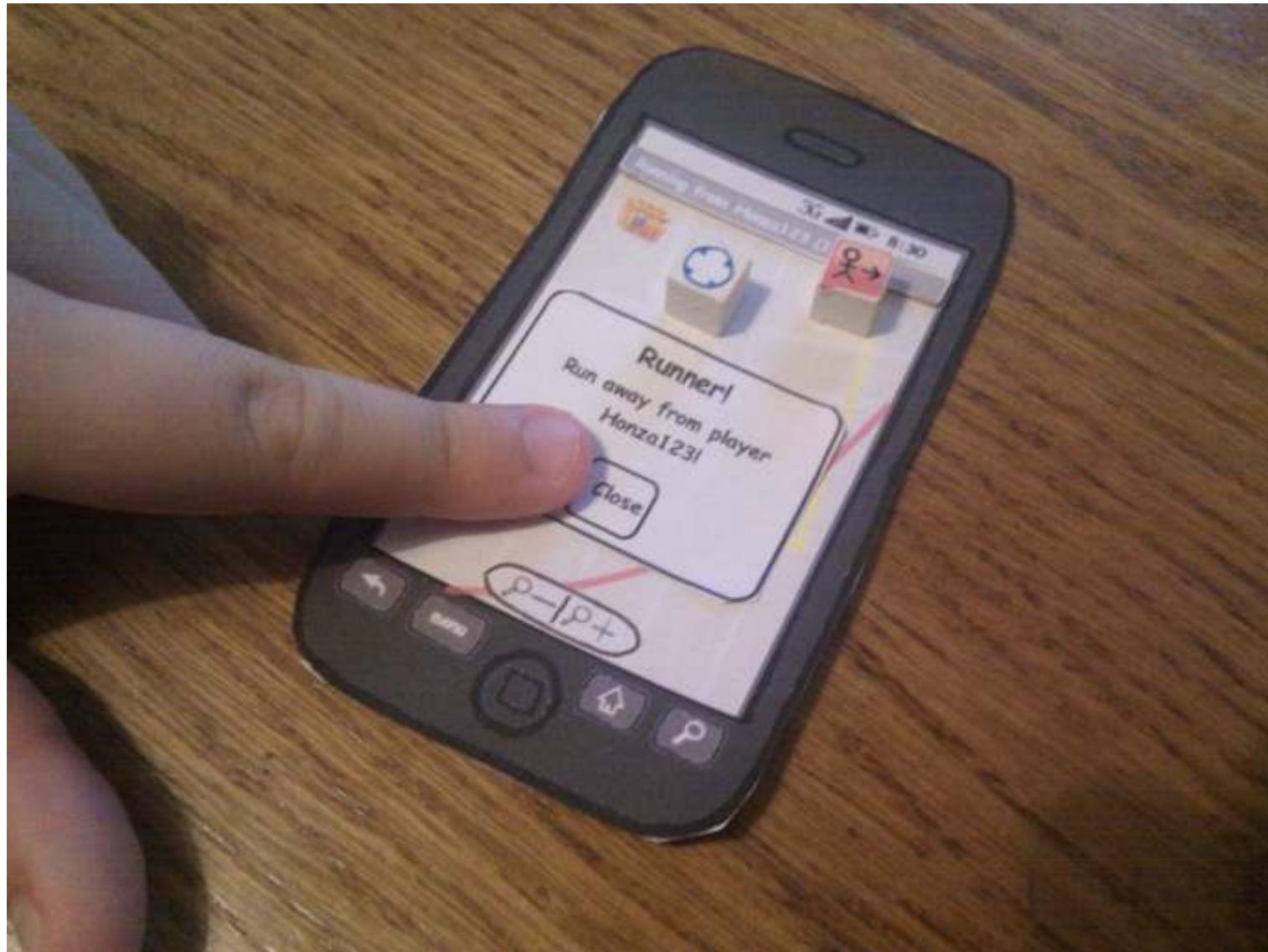
DCGI

NUR - Prototyping (low fidelity)

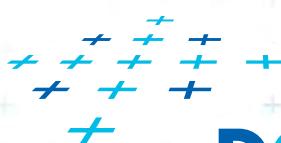
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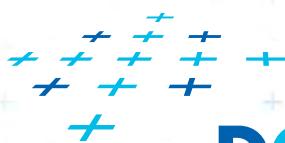
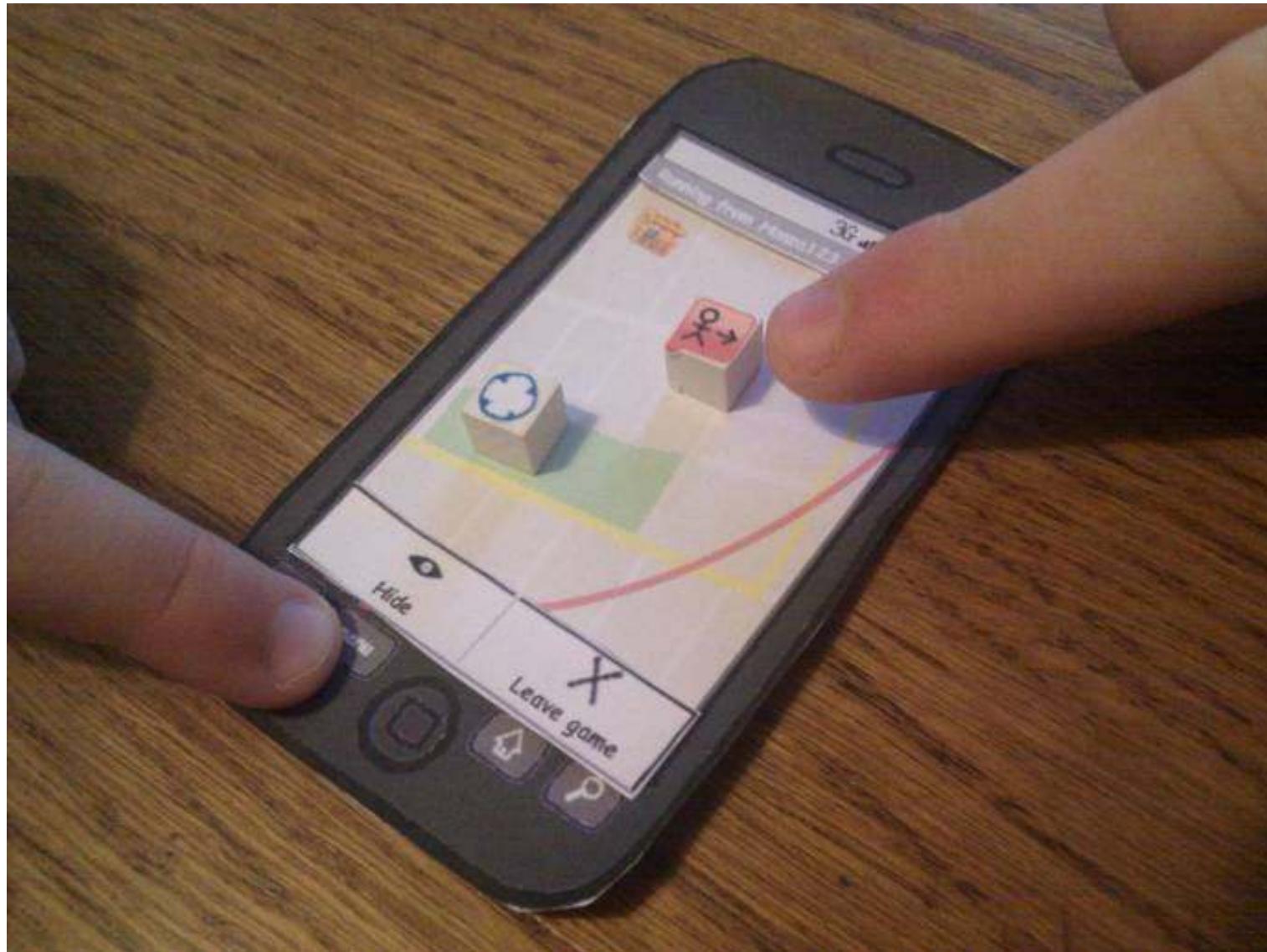
Catch&Run – prototype



NUR - Prototyping (low fidelity)



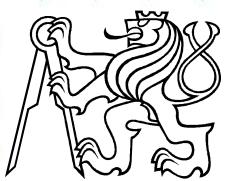
Catch&Run – prototype



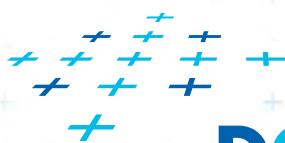
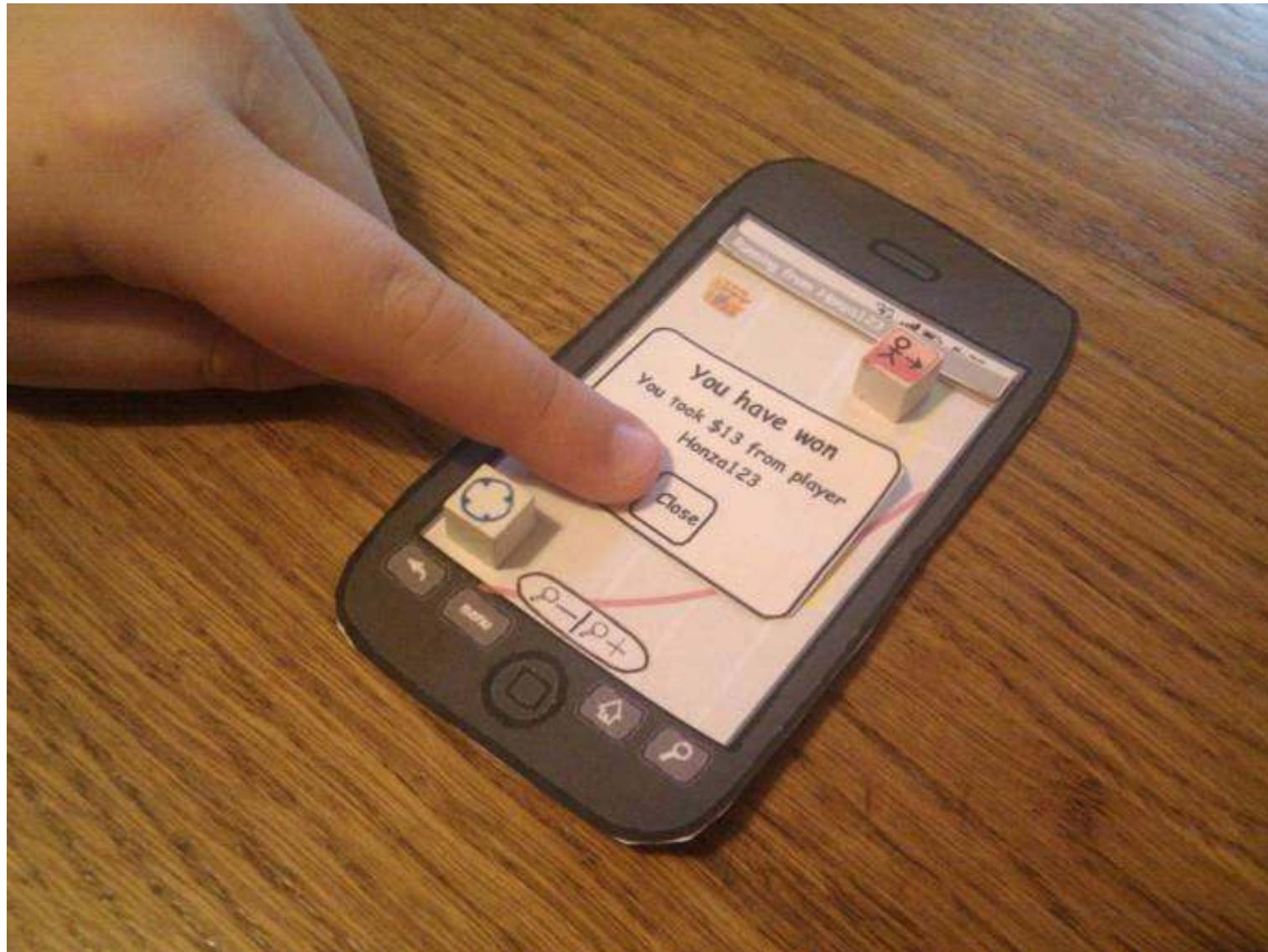
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NUR - Prototyping (low fidelity)

(15)



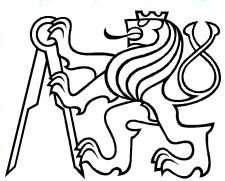
Catch&Run – prototype



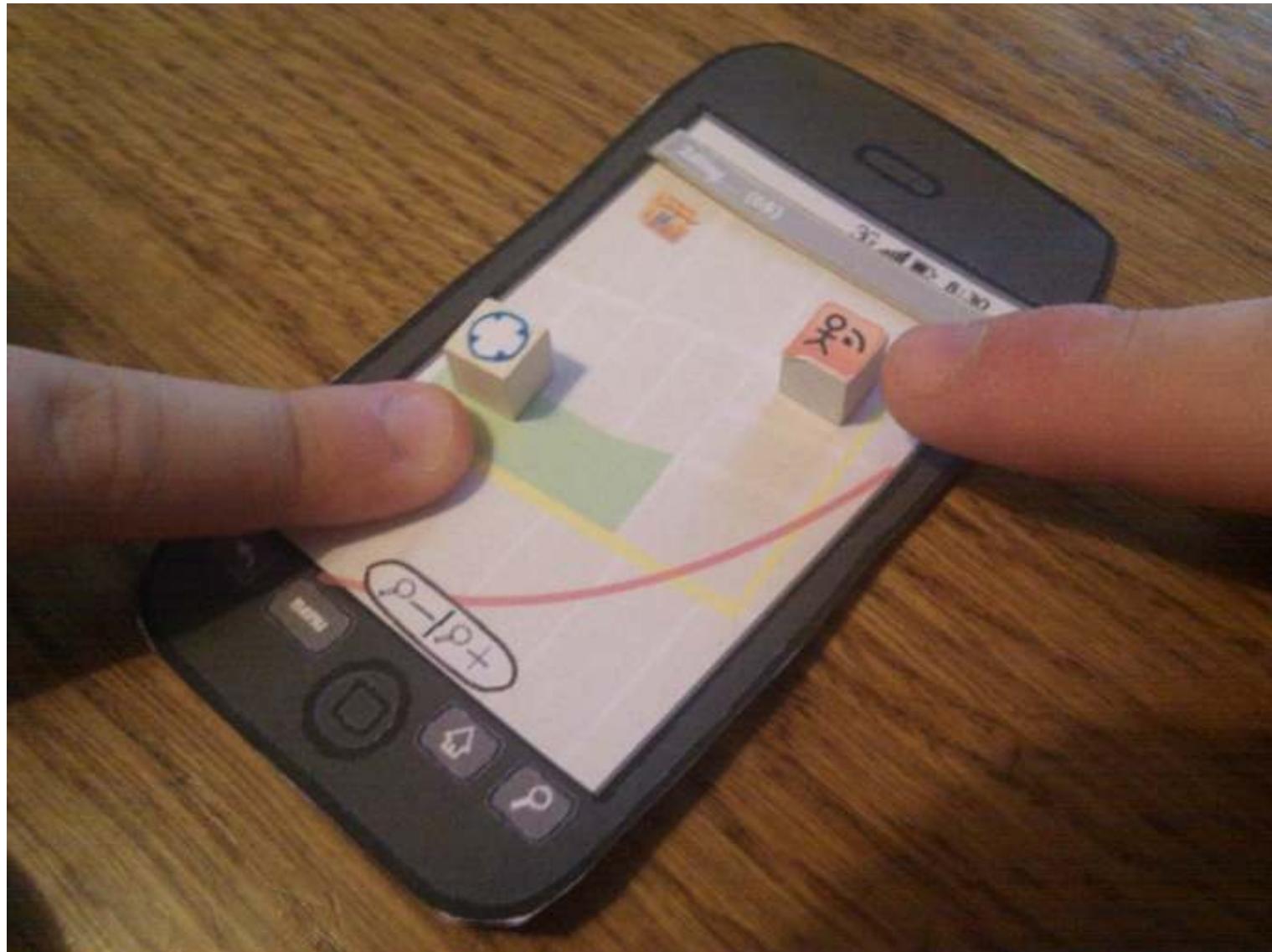
DCGI

NUR - Prototyping (low fidelity)

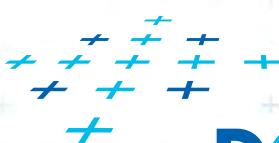
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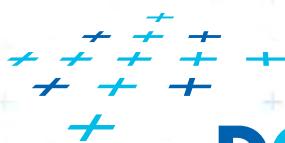
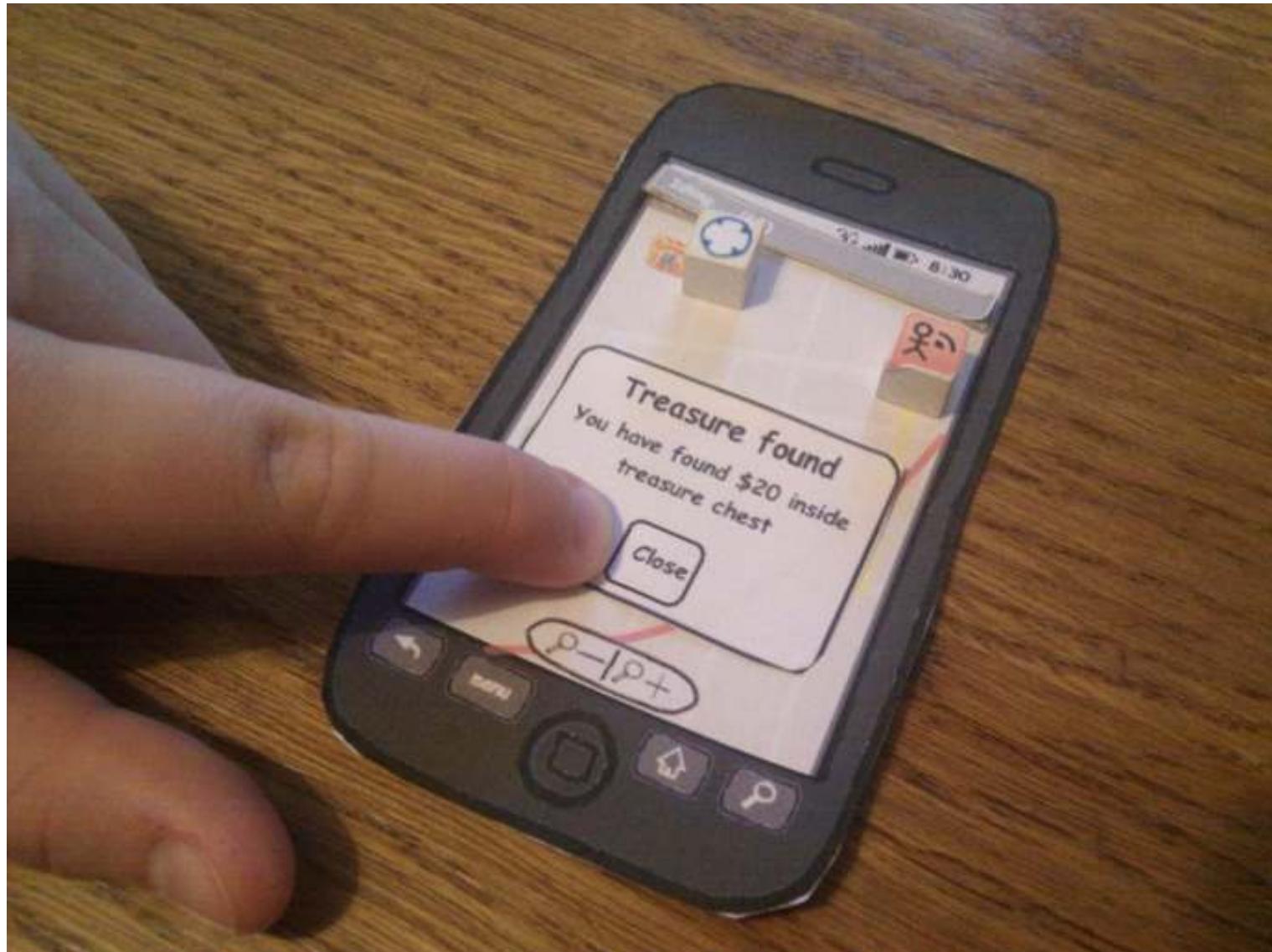
Catch&Run – prototype



NUR - Prototyping (low fidelity)

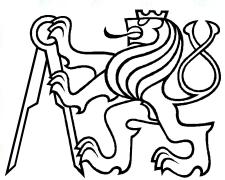


Catch&Run – prototype

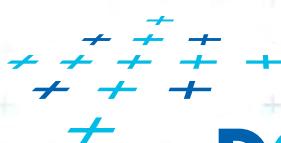
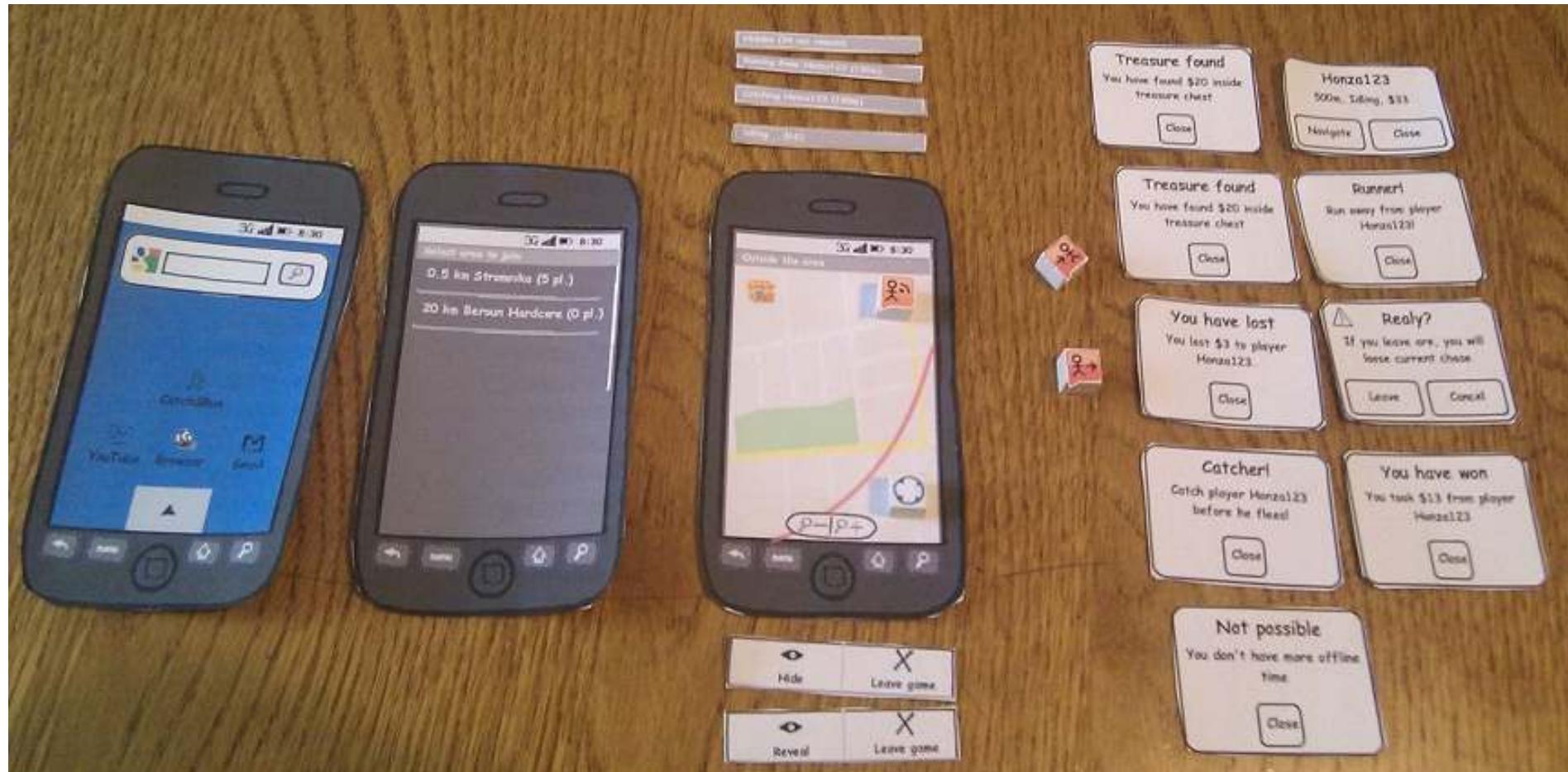


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NUR - Prototyping (low fidelity)

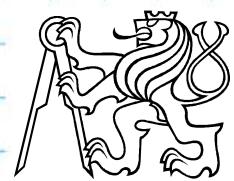


Catch&Run – prototype creation



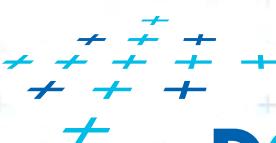
DCGI

NUR - Prototyping (low fidelity)



Ticket kiosk

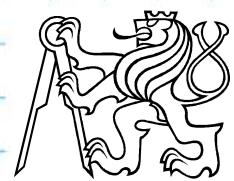
- Ticket kiosk for city transport
 - electronic ticket
 - electronic wallet
 - paper ticket
- Goal: intuitive UI for people struggling with IT



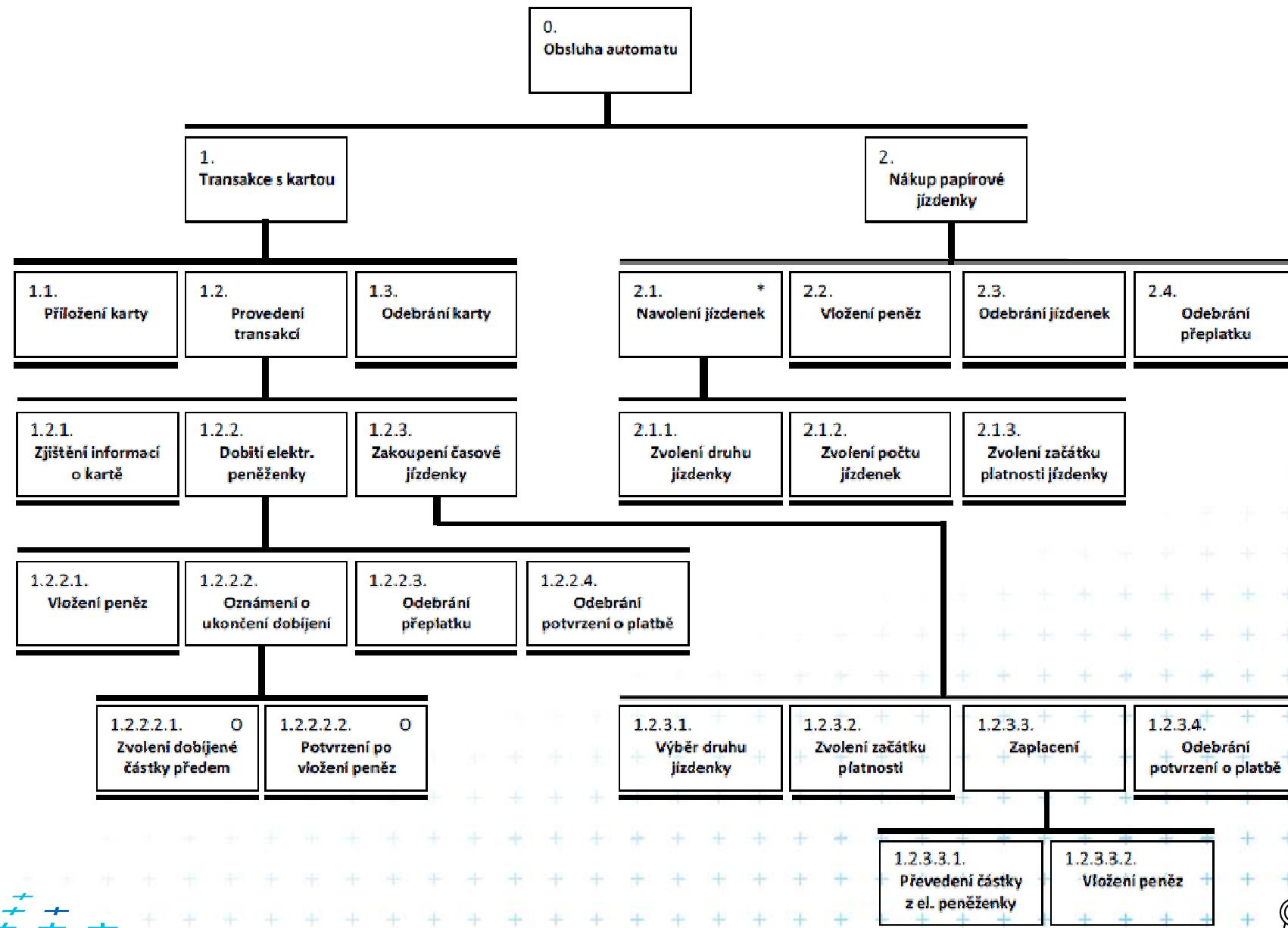
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NUR - Prototyping (low fidelity)

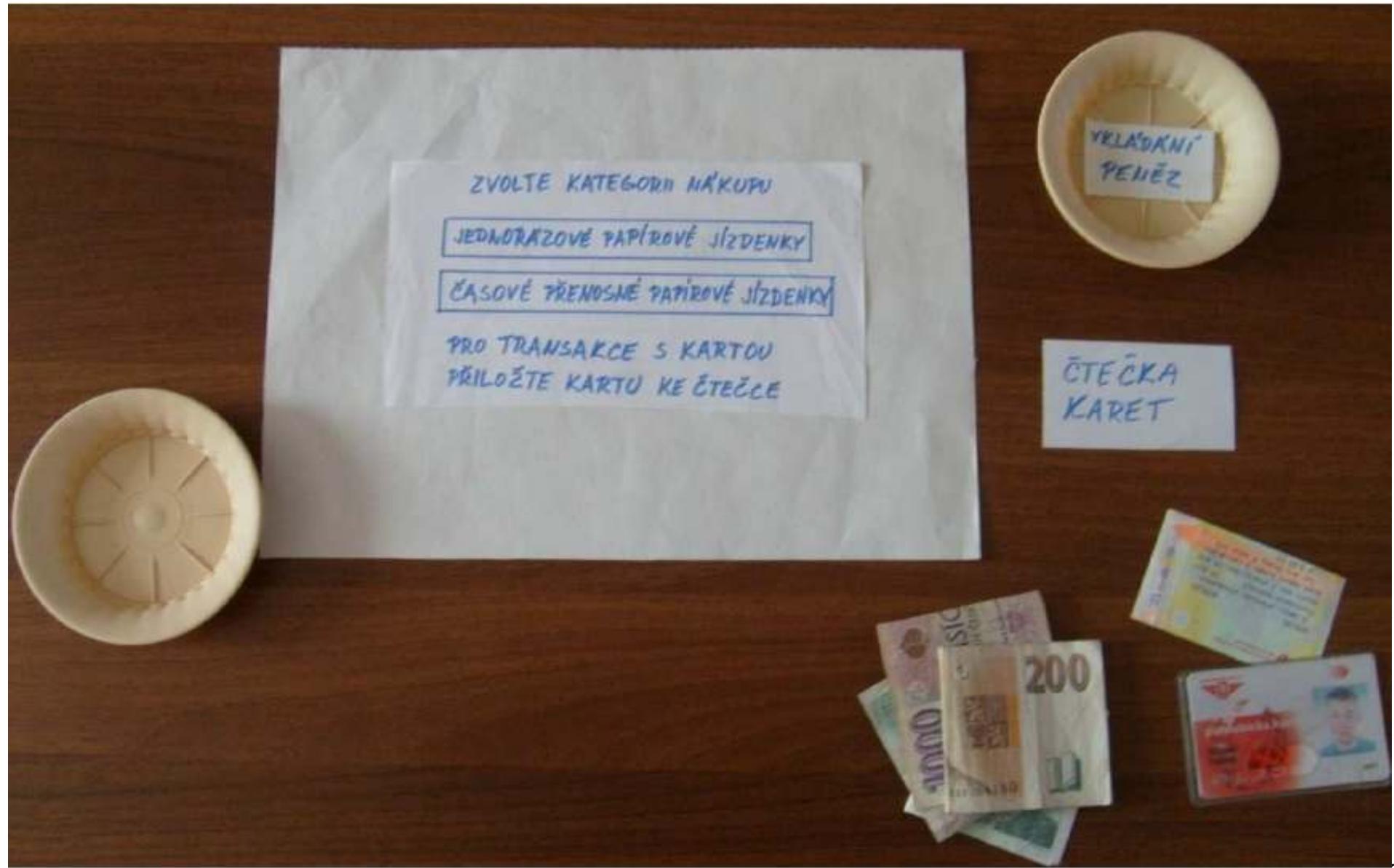
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Ticket kiosk – HTA



Ticket kiosk – prototype

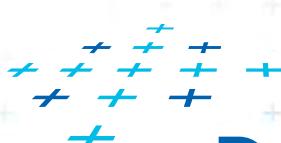
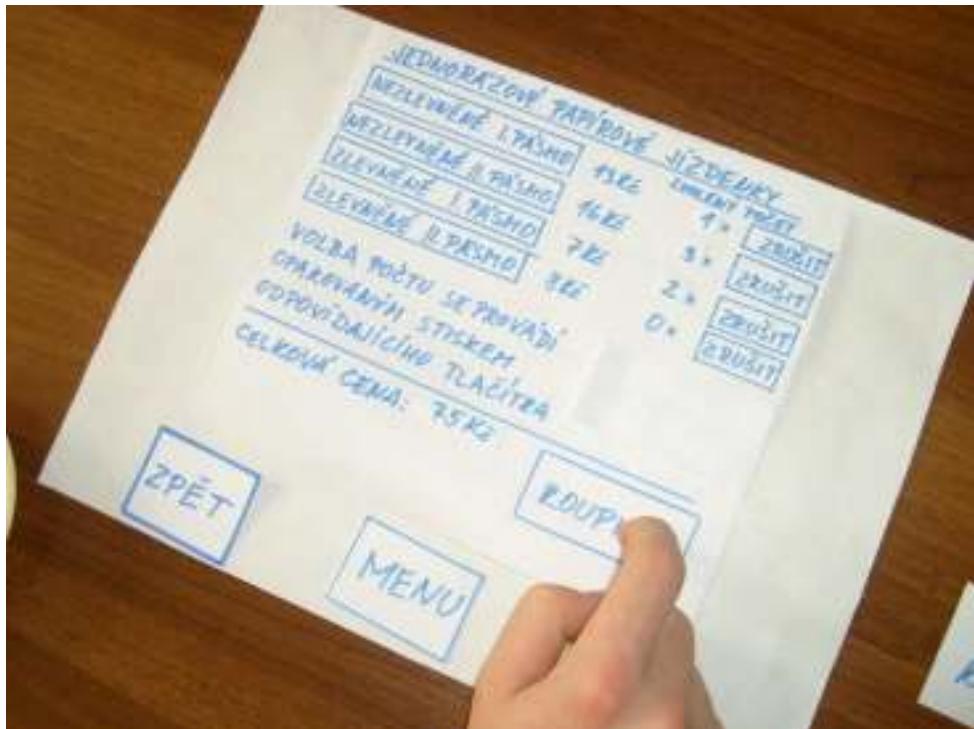


DCGI

NUR - Prototyping (low fidelity)



Ticket kiosk – prototype



DCGI

NUR - Prototyping (low fidelity)



Ticket kiosk – prototype test setup



NUR - Prototyping (low fidelity)

(24)



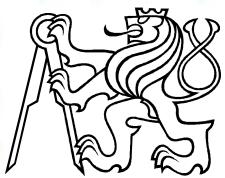
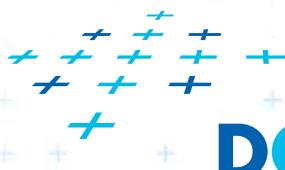
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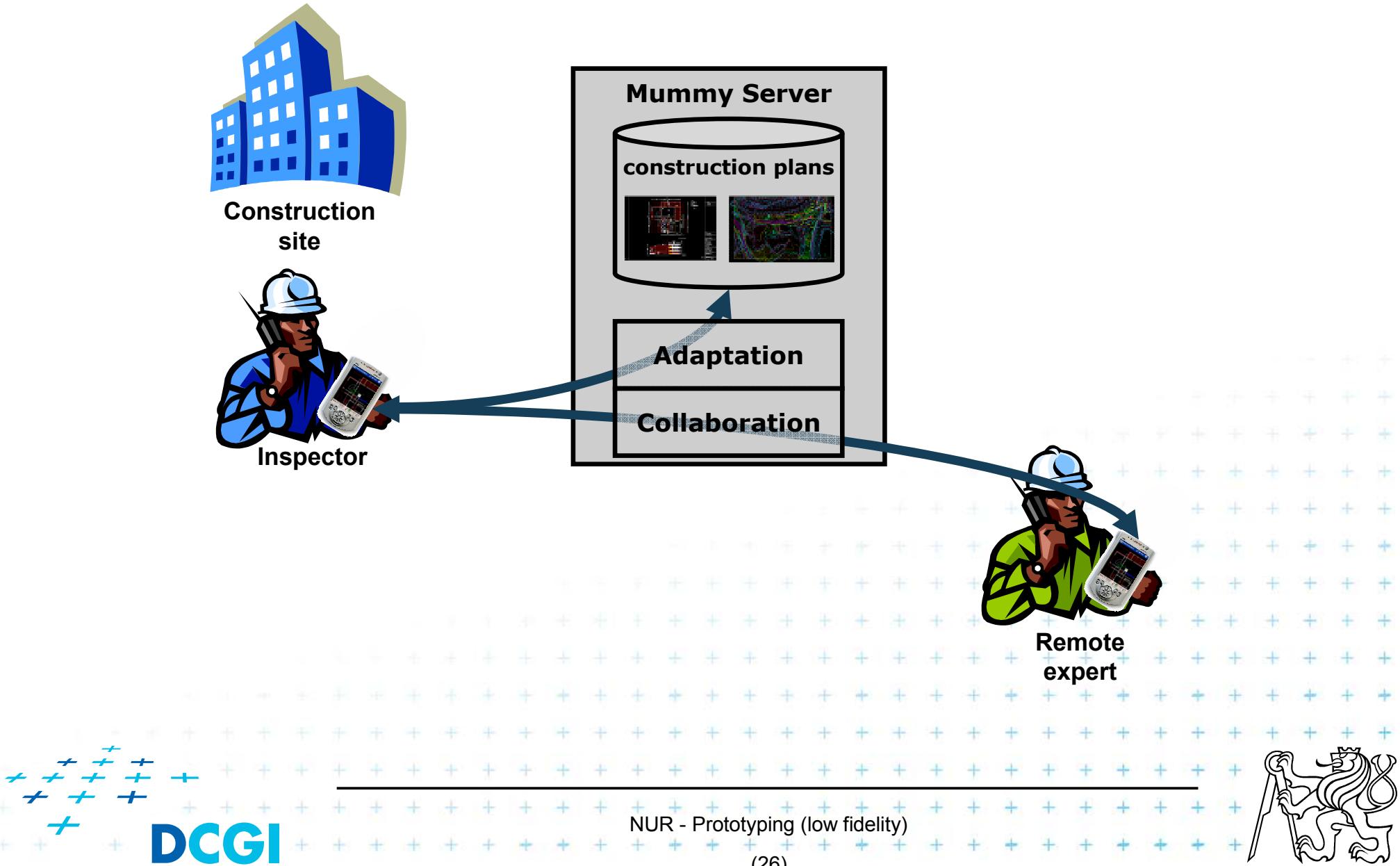
Mummy - construction site inspection

Paper prototype

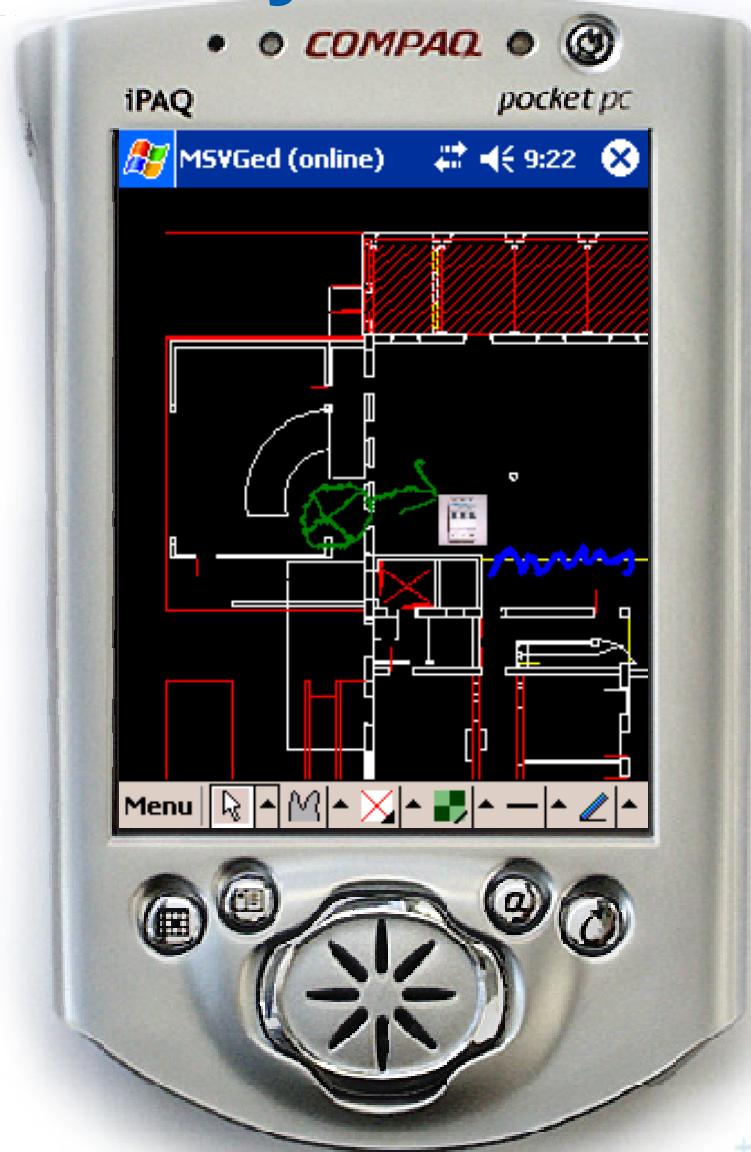
Electronic prototype (HTML, PPT)



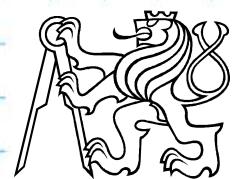
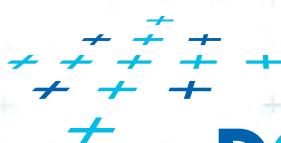
Mummy: construction site inspection



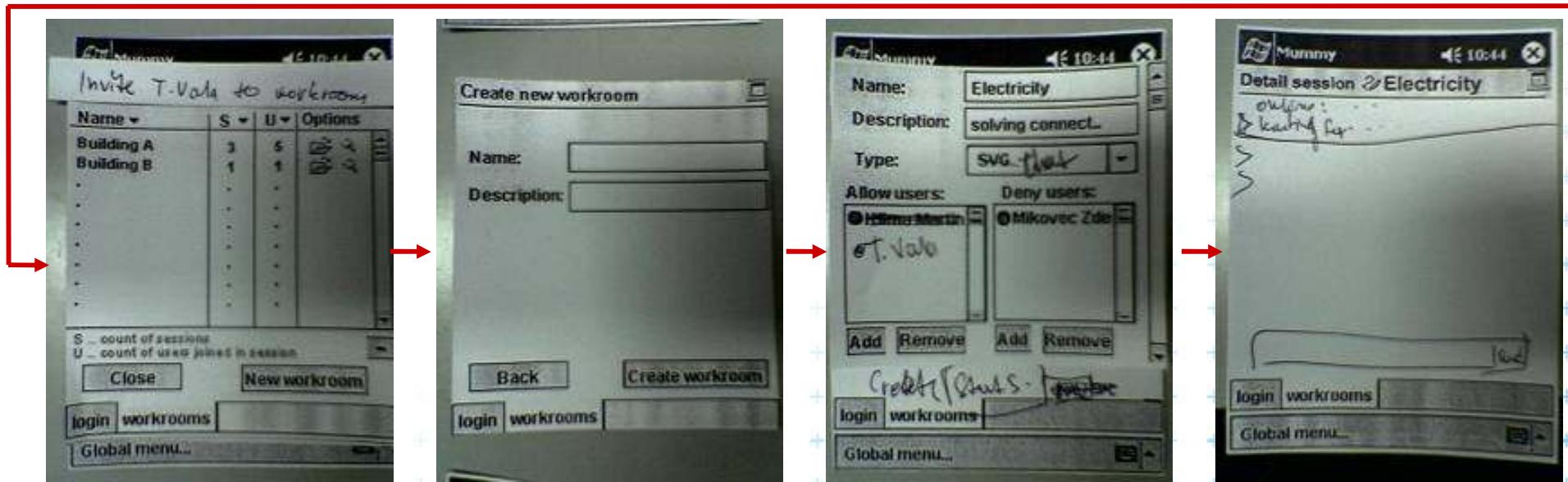
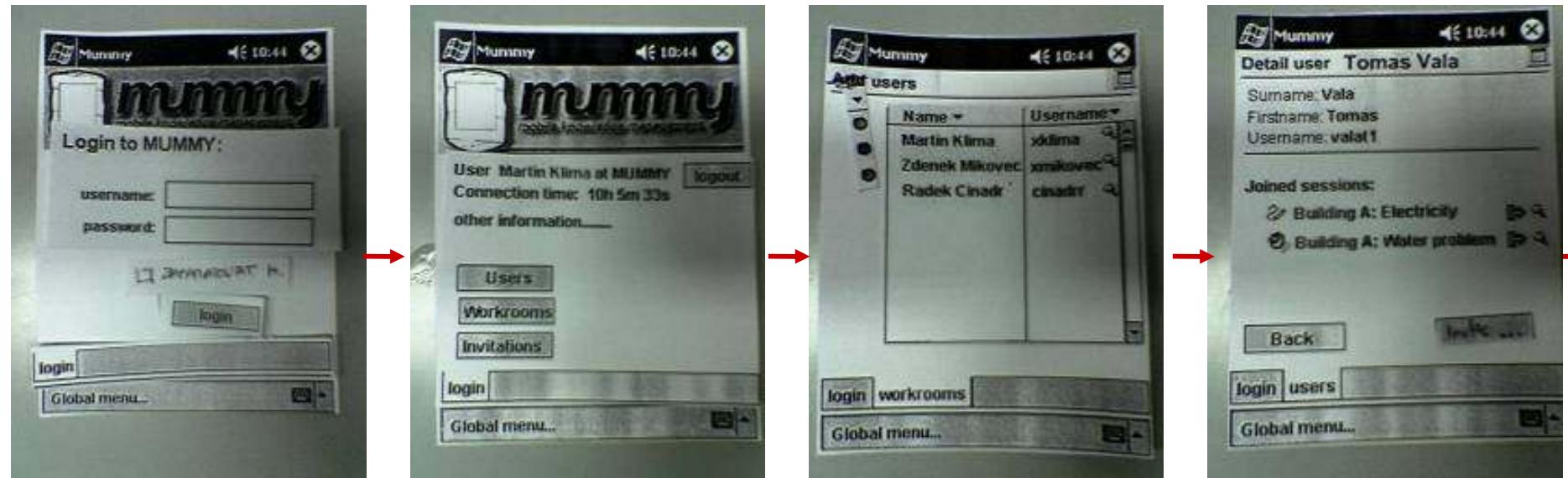
Mummy: construction site inspection



NUR - Prototyping (low fidelity)



Paper prototype

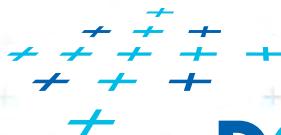
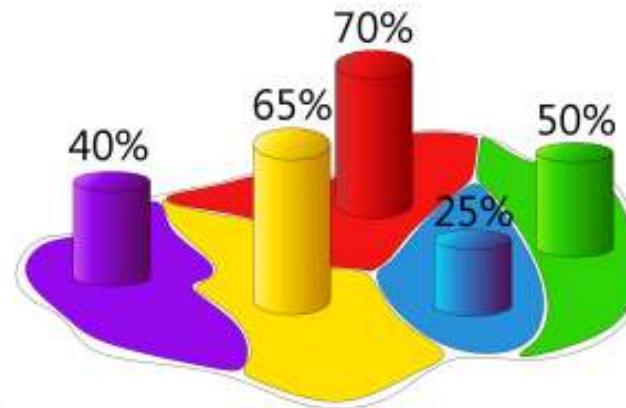
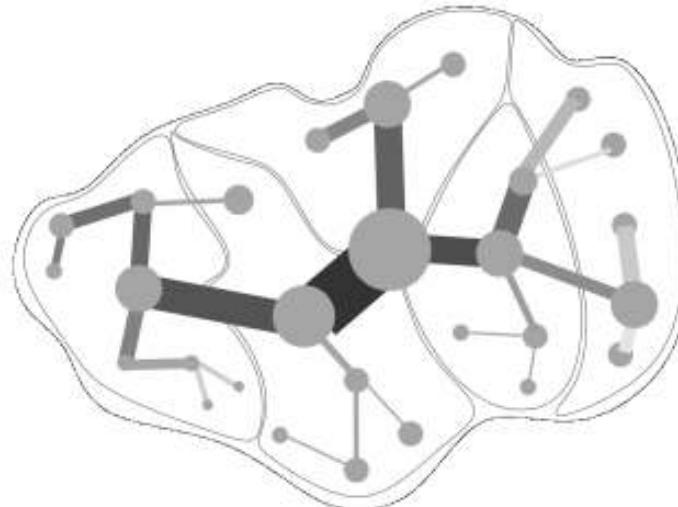


DCGI



Load visualization

- Visualization of the internet load in the city
- Goal: intuitive interaction and clear visualization of in time changing values
- Problems
 - control of animation
 - visualization

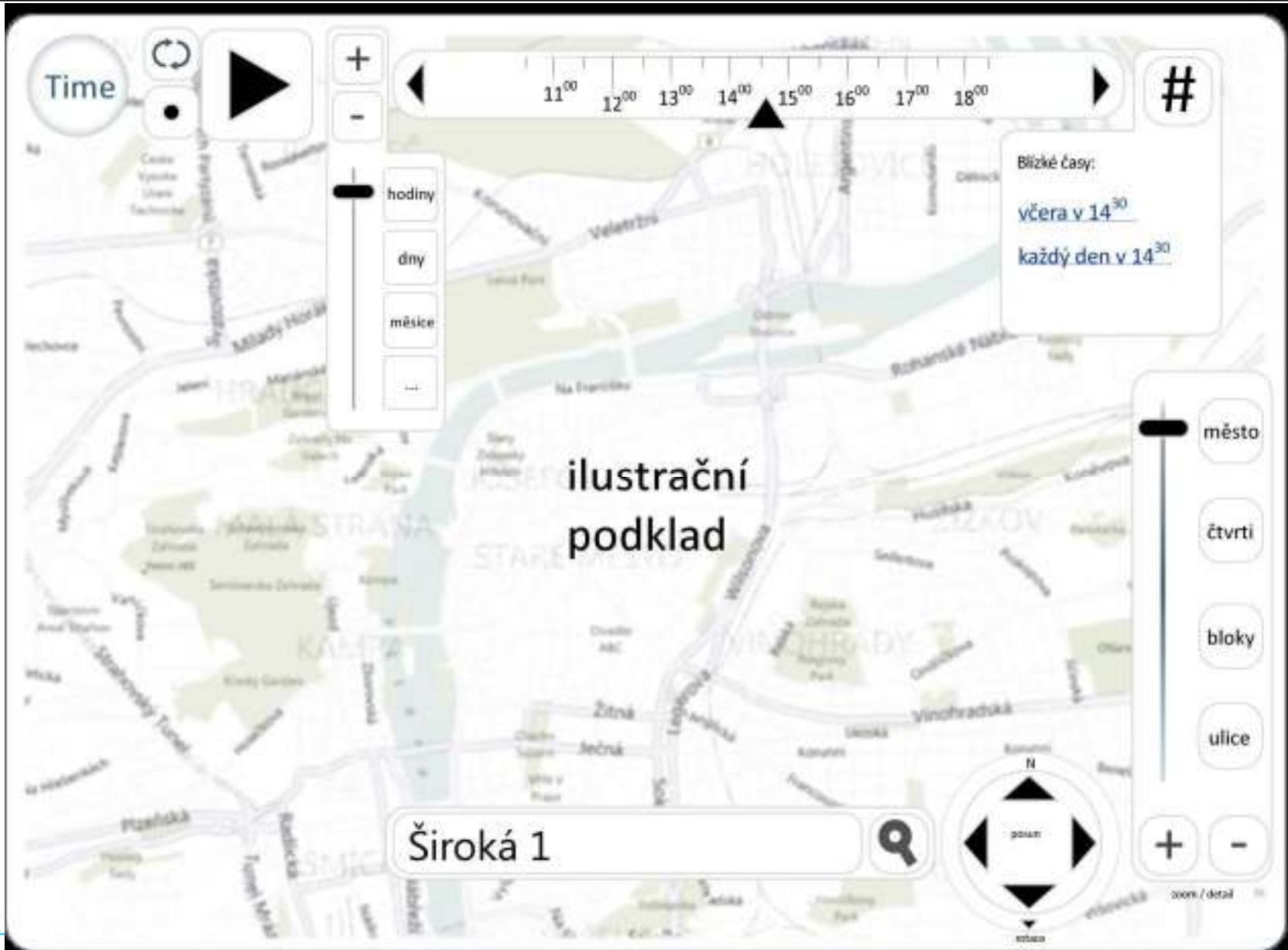


DCGI

NUR - Prototyping (low fidelity)



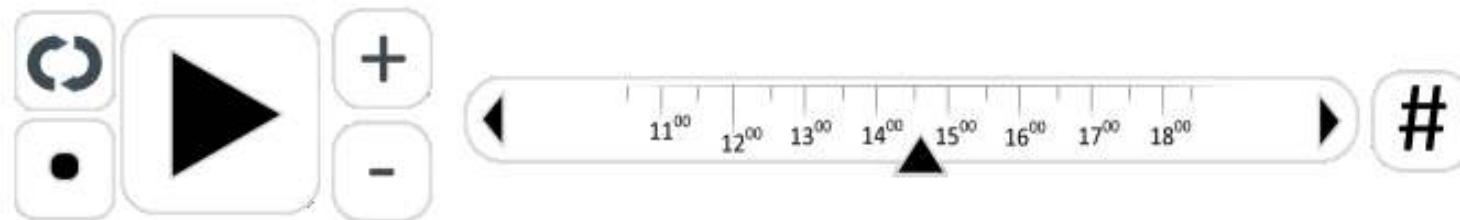
Load visualization – prototype



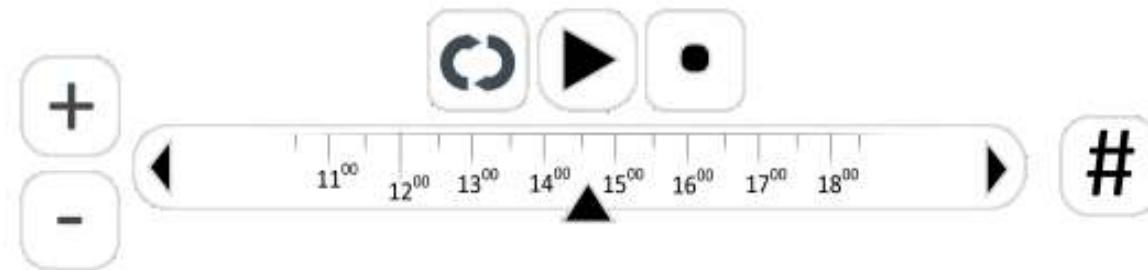
NUR - Prototyping (low fidelity)

Load visualization – animation control

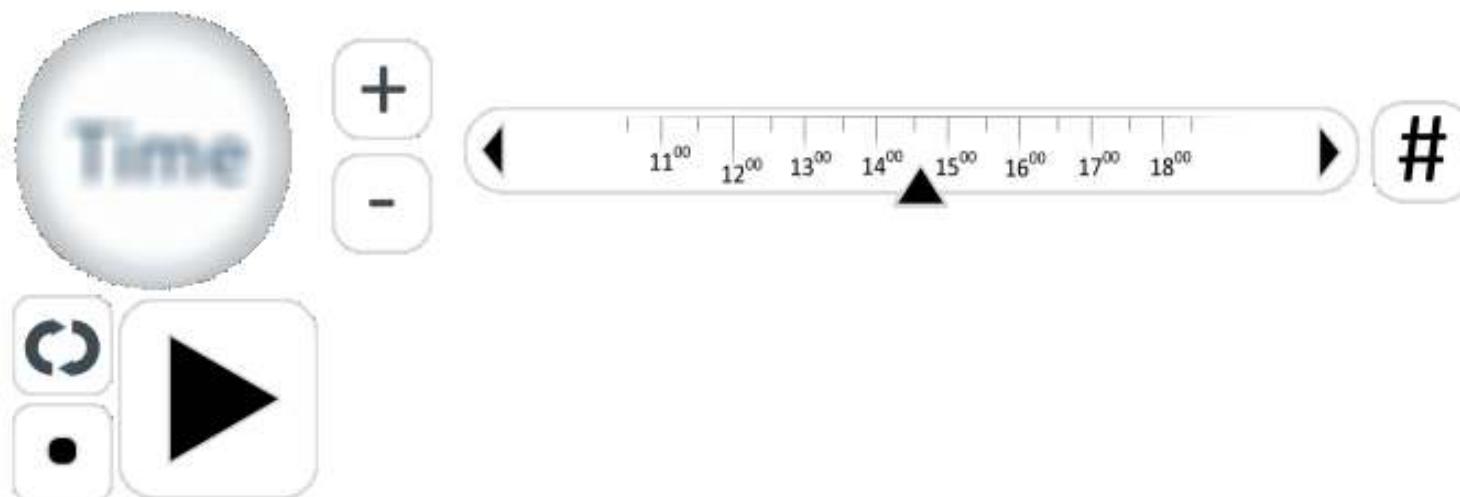
Variant A



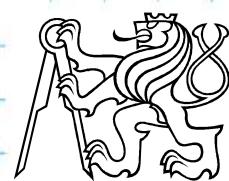
Variant B



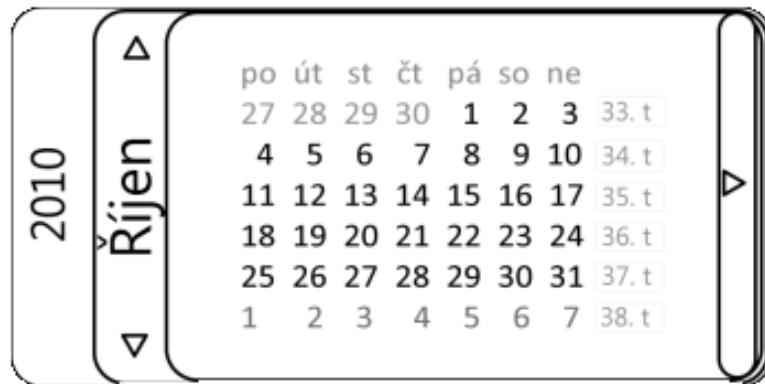
Variant C



NUR - Prototyping (low fidelity)



Load visualization – date picker



Variant A



Variant B

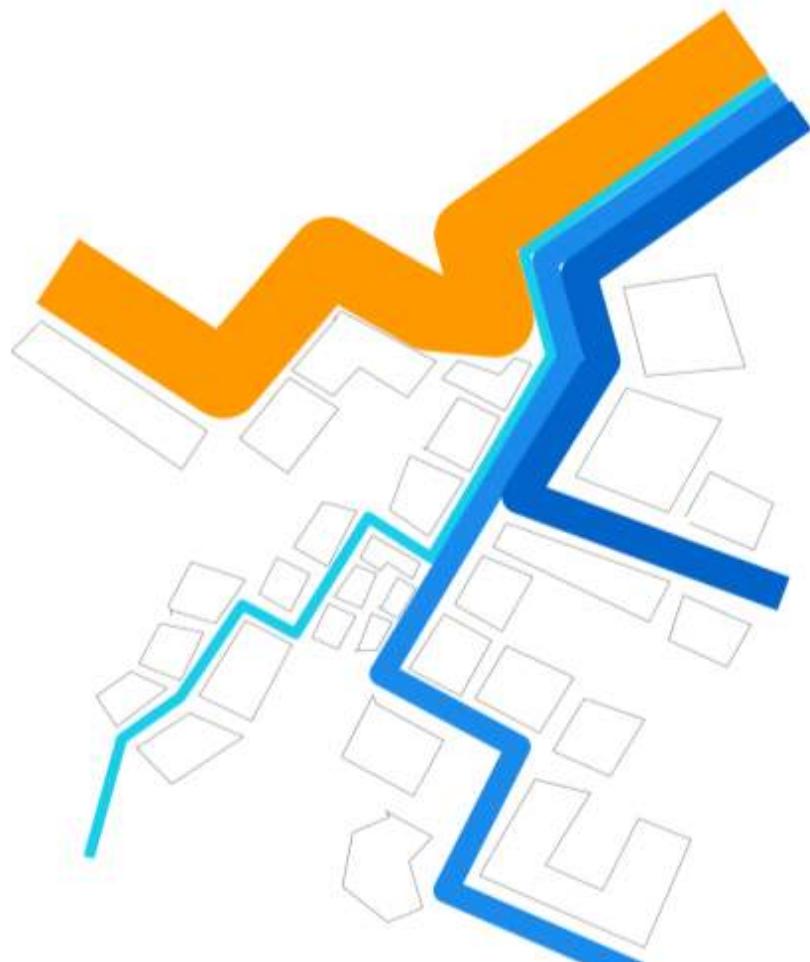


DCGI

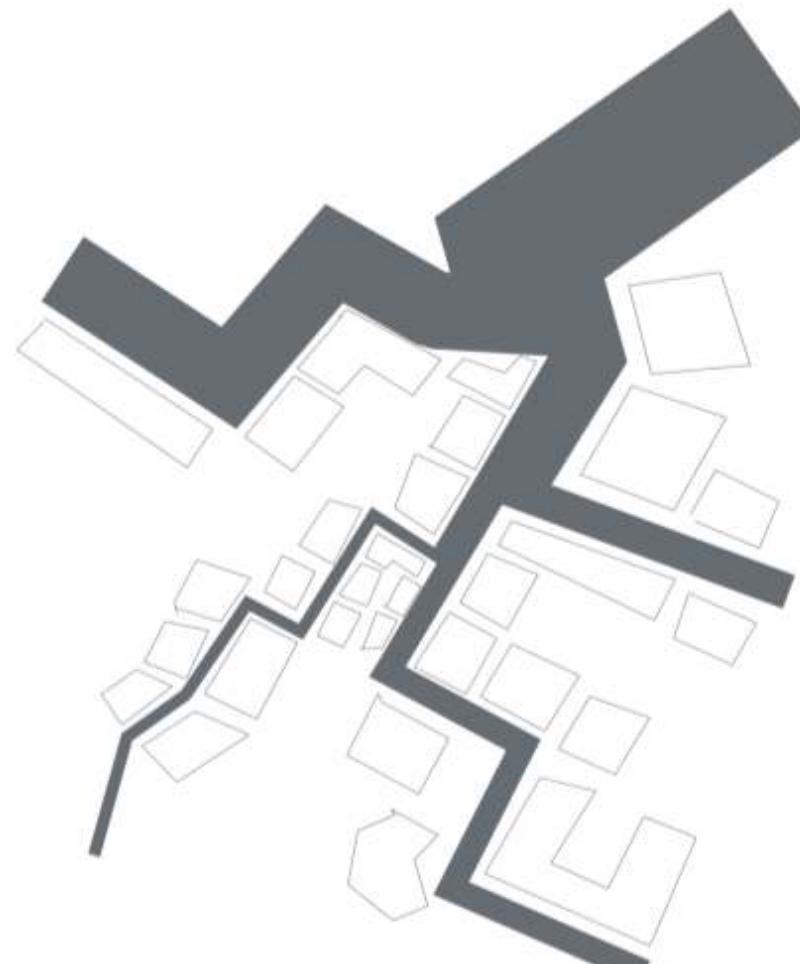
NUR - Prototyping (low fidelity)



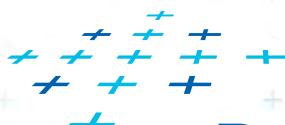
Load visualization – proportions



Use of color for lines distinction



Black&white visualization

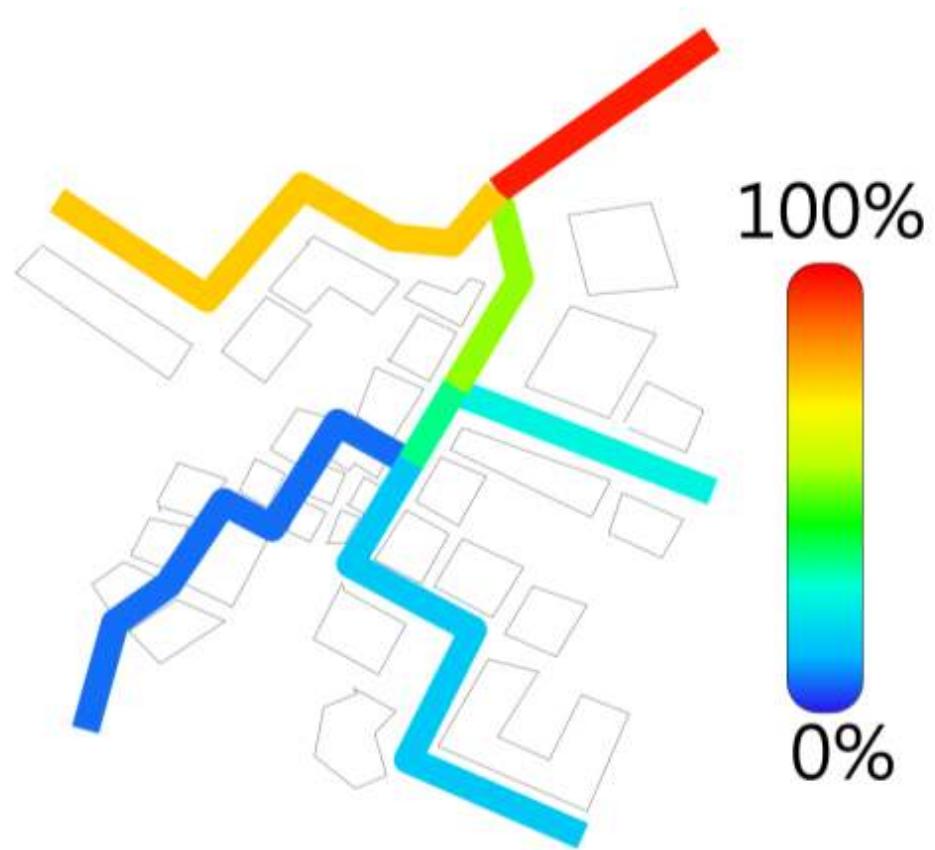


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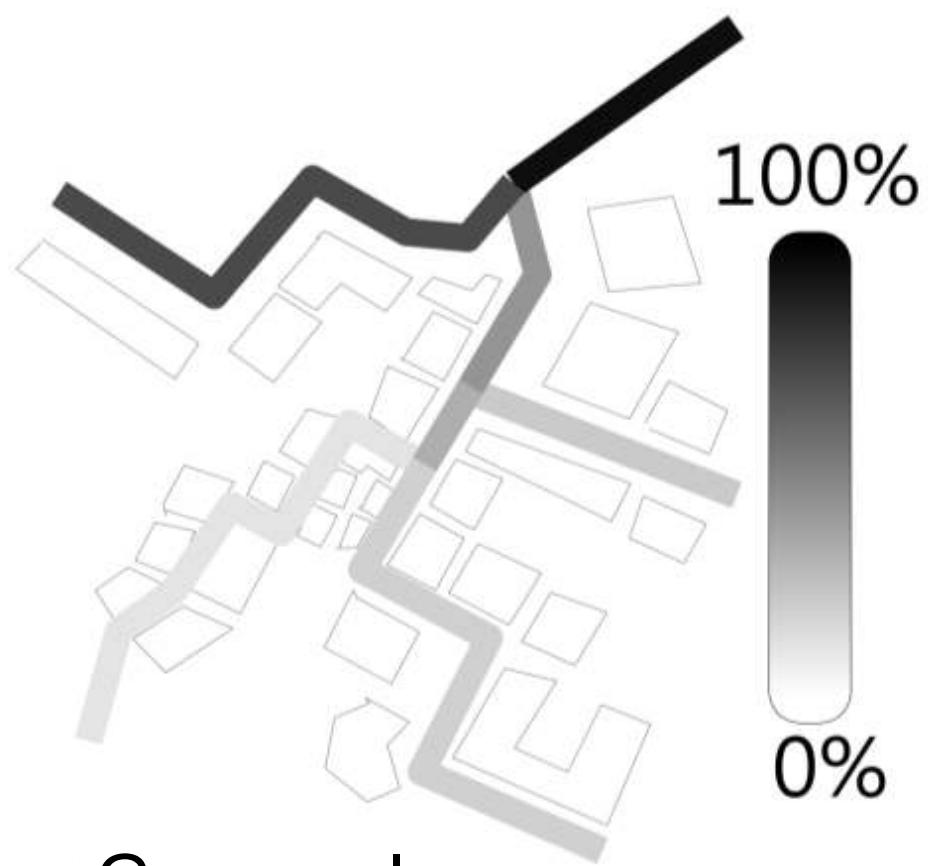
NUR - Prototyping (low fidelity)



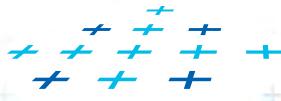
Load visualization – colors



Colors

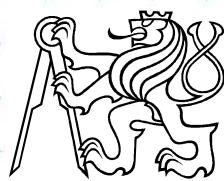


Gray scale



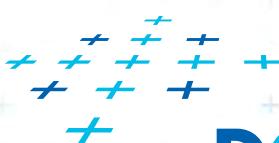
DCGI

NUR - Prototyping (low fidelity)



Traffic situation

- Visualization of the city traffic situation progress
- Gíl: quick overview of traffic situation
- Problem: visualization of the progress in time

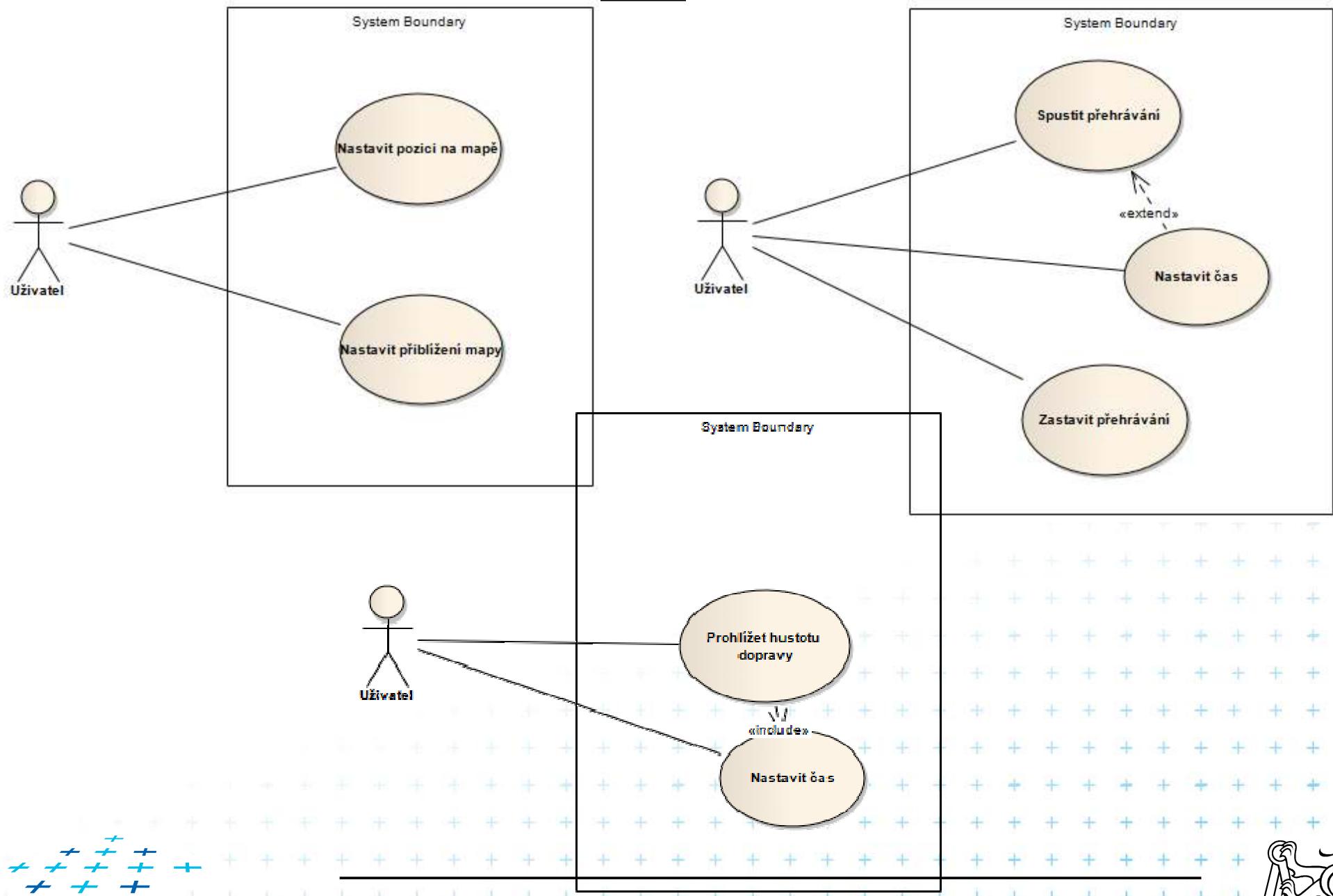


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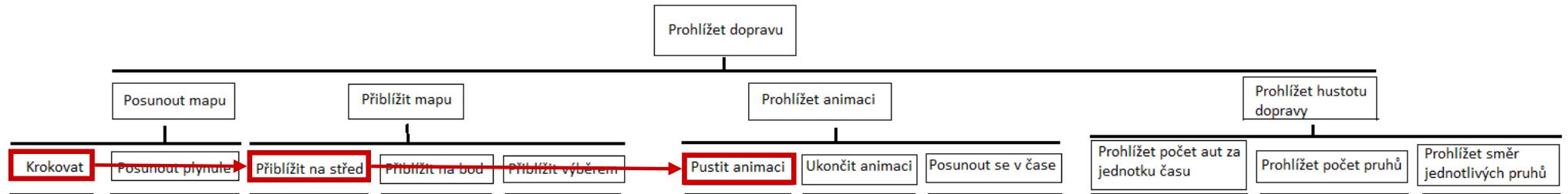
NUR - Prototyping (low fidelity)



Traffic situation – use-cases

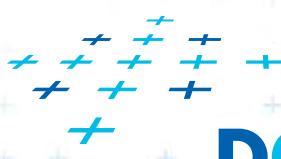


Traffic situation – HTA

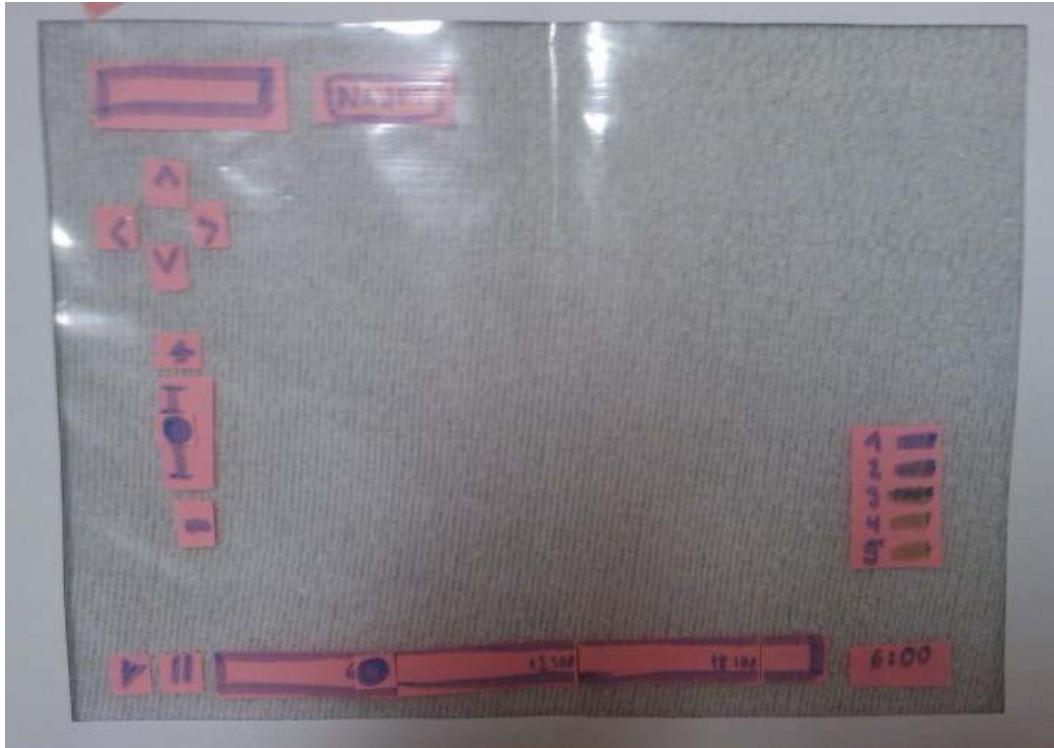


■ Plan: Traffic situation overview

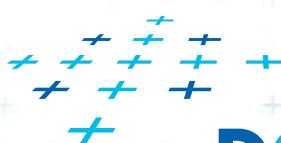
- stepwise view
- zoom to center
- run animation



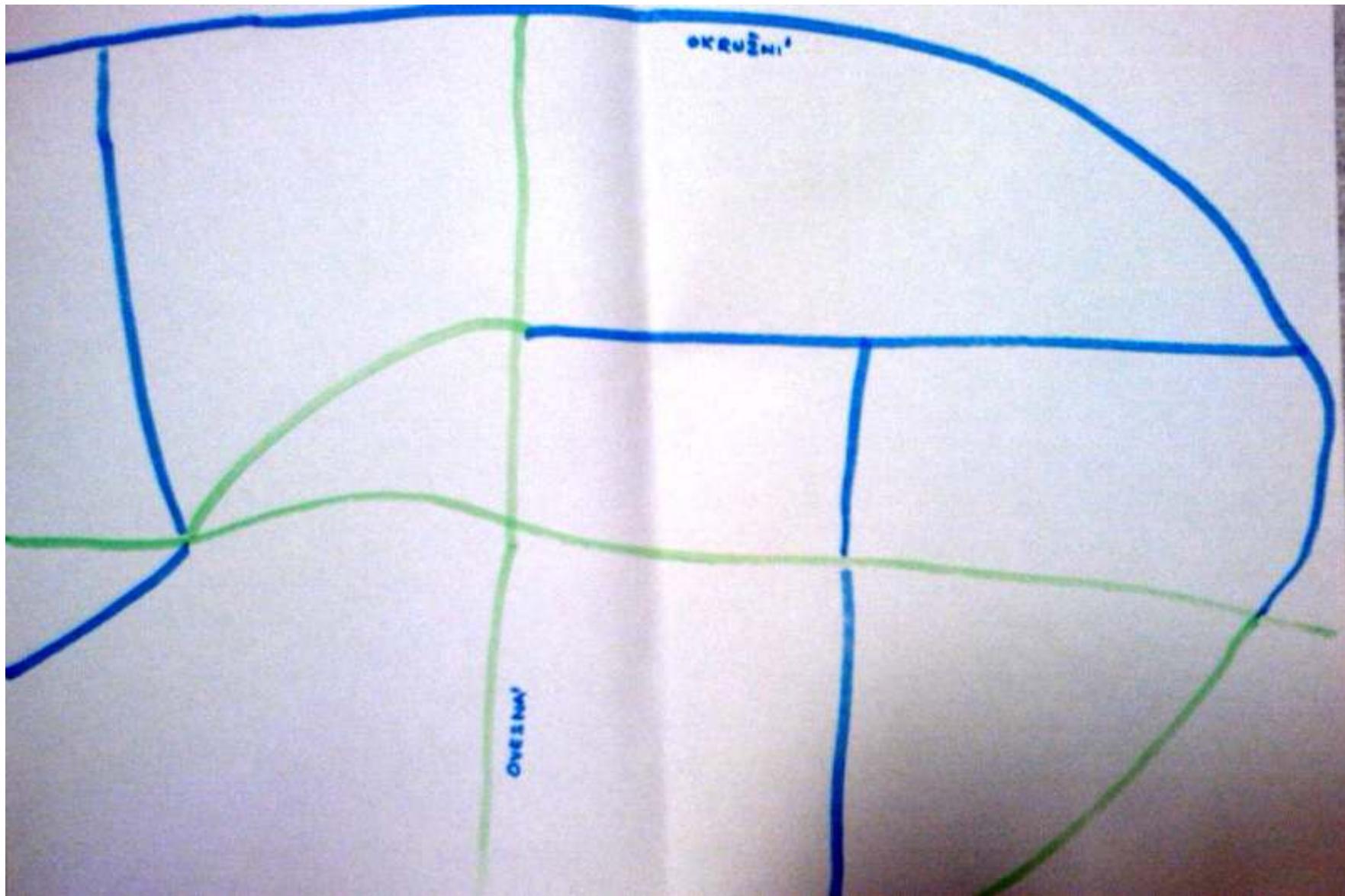
Traffic situation – UI control



NUR - Prototyping (low fidelity)



Traffic situation – map



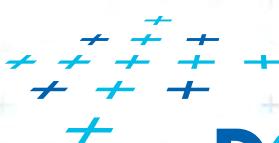
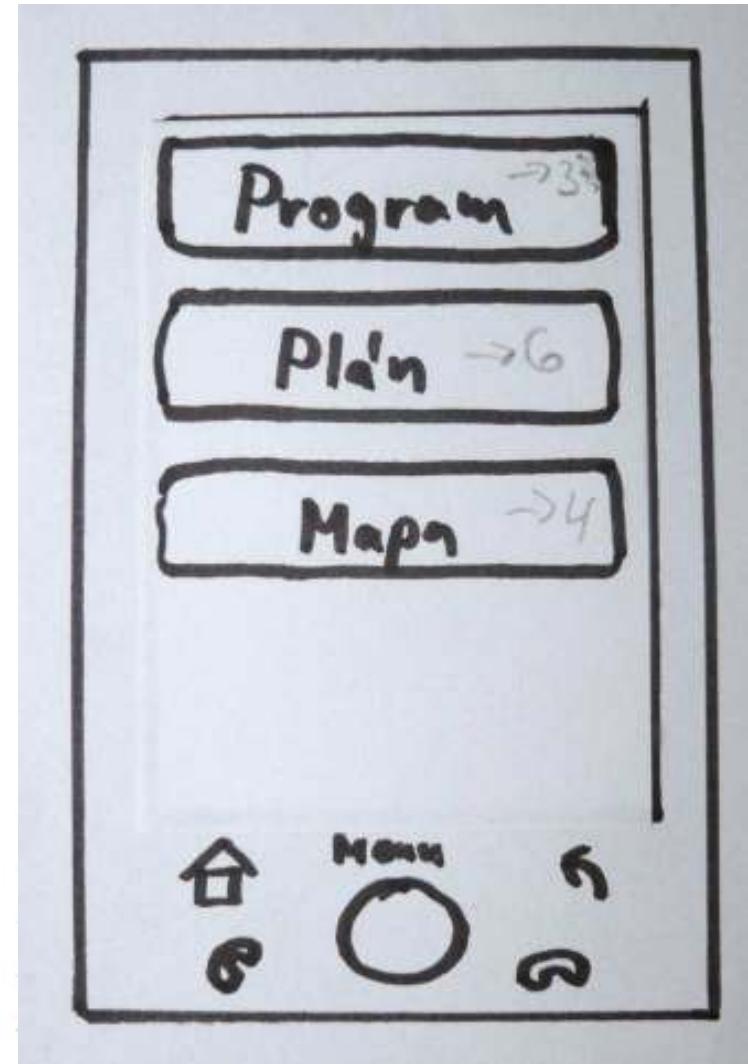
NUR - Prototyping (low fidelity)

(39)



Conference schedule

- Personal schedule of the conference attendee
- Cíl: quick and simple planning

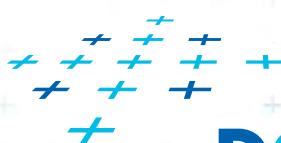
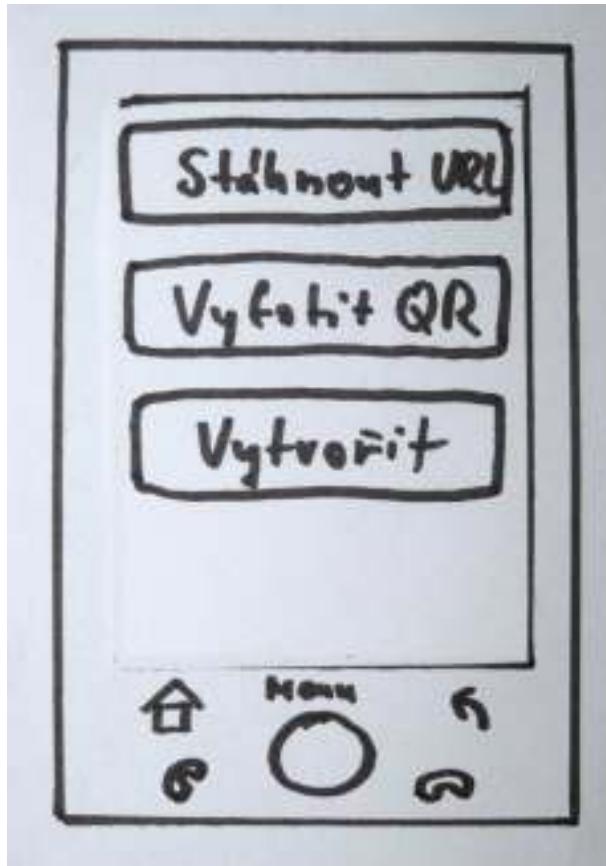


DCGI

NUR - Prototyping (low fidelity)



Conference schedule – prototype

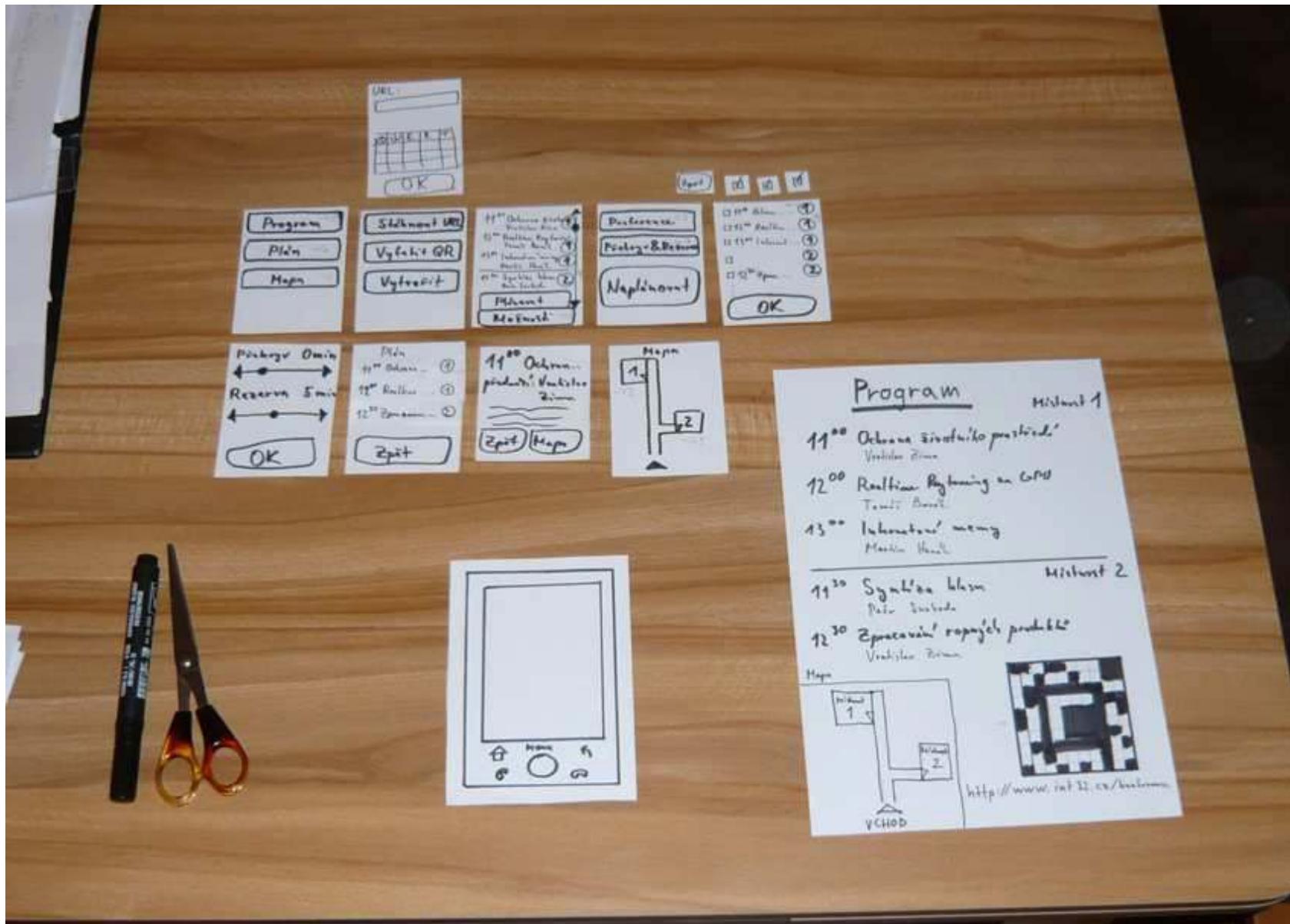


DCGI

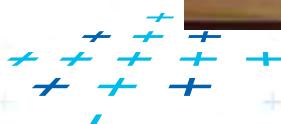
NUR - Prototyping (low fidelity)



Conference schedule – prototype creation

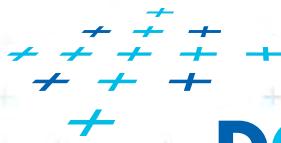


NUR - Prototyping (low fidelity)

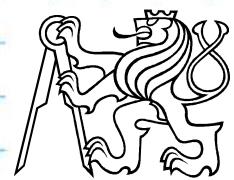


Electronic prototype

- HTML prototype
- PPT prototype

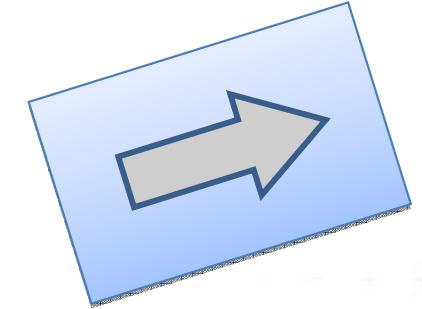
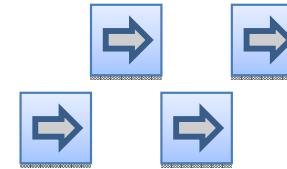
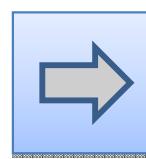


NUR - Prototyping (low fidelity)



MS PowerPoint

- Vector graphics



- Hyperlinks

- Embedded videos, images



- Animations



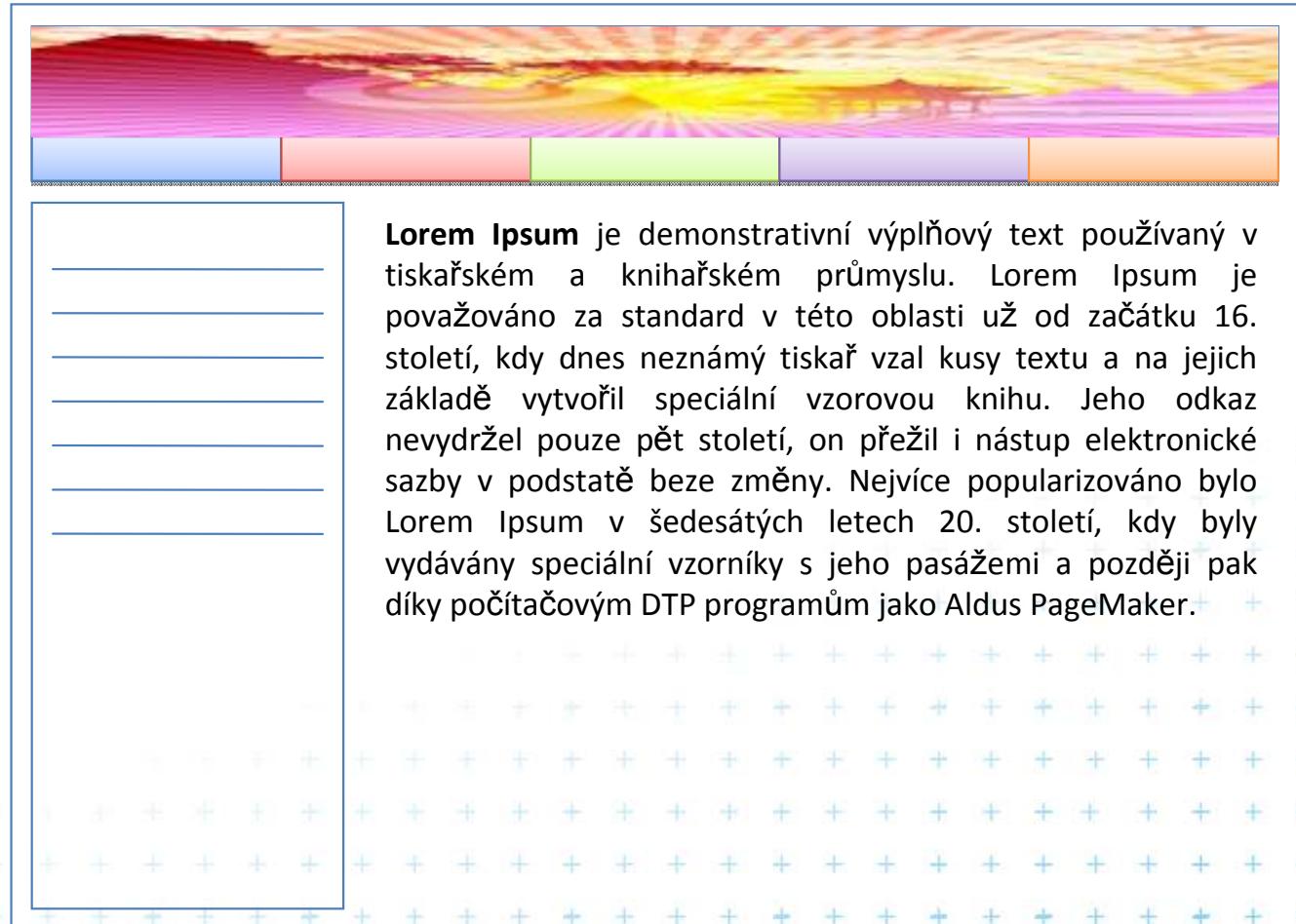
DCGI

NUR - Prototyping (low fidelity)



MS PowerPoint – vector graphics

- Shapes
- Styles
- Groups
- Z-axis

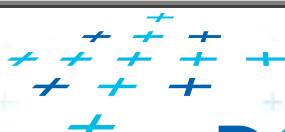
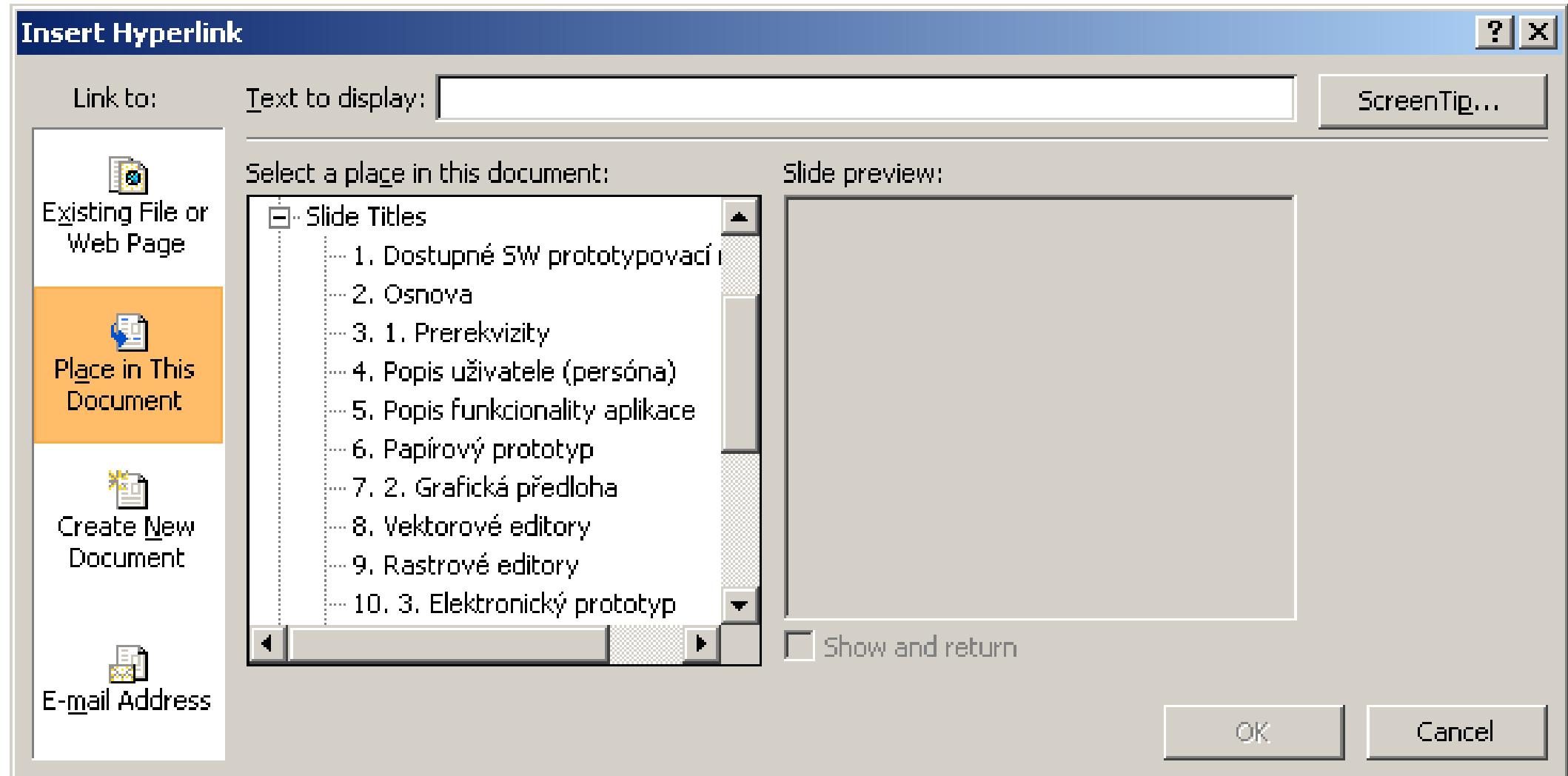


DCGI

NUR - Prototyping (low fidelity)

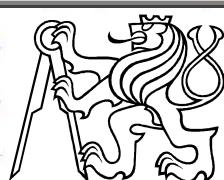


MS PowerPoint - hyperlinks

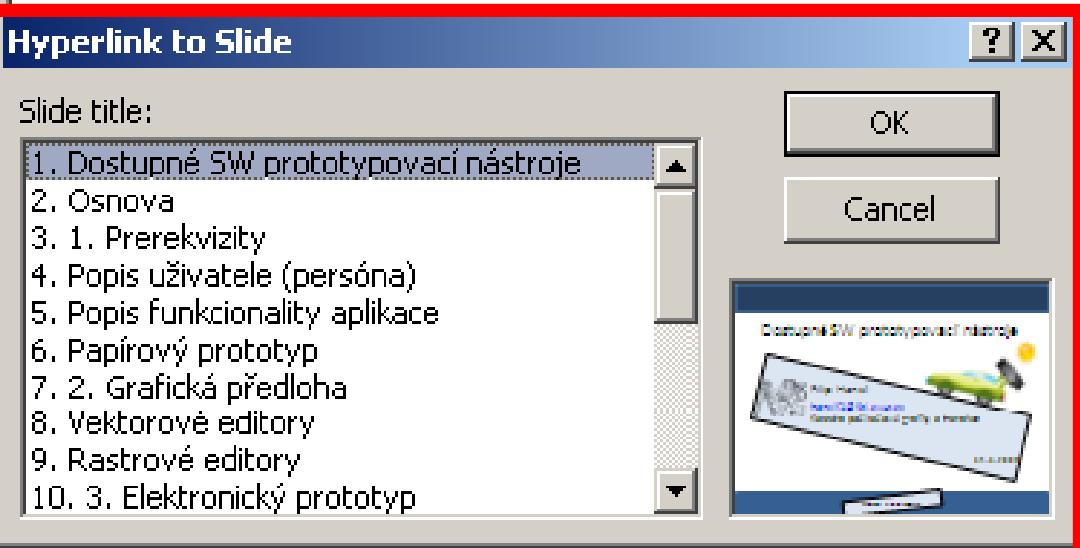
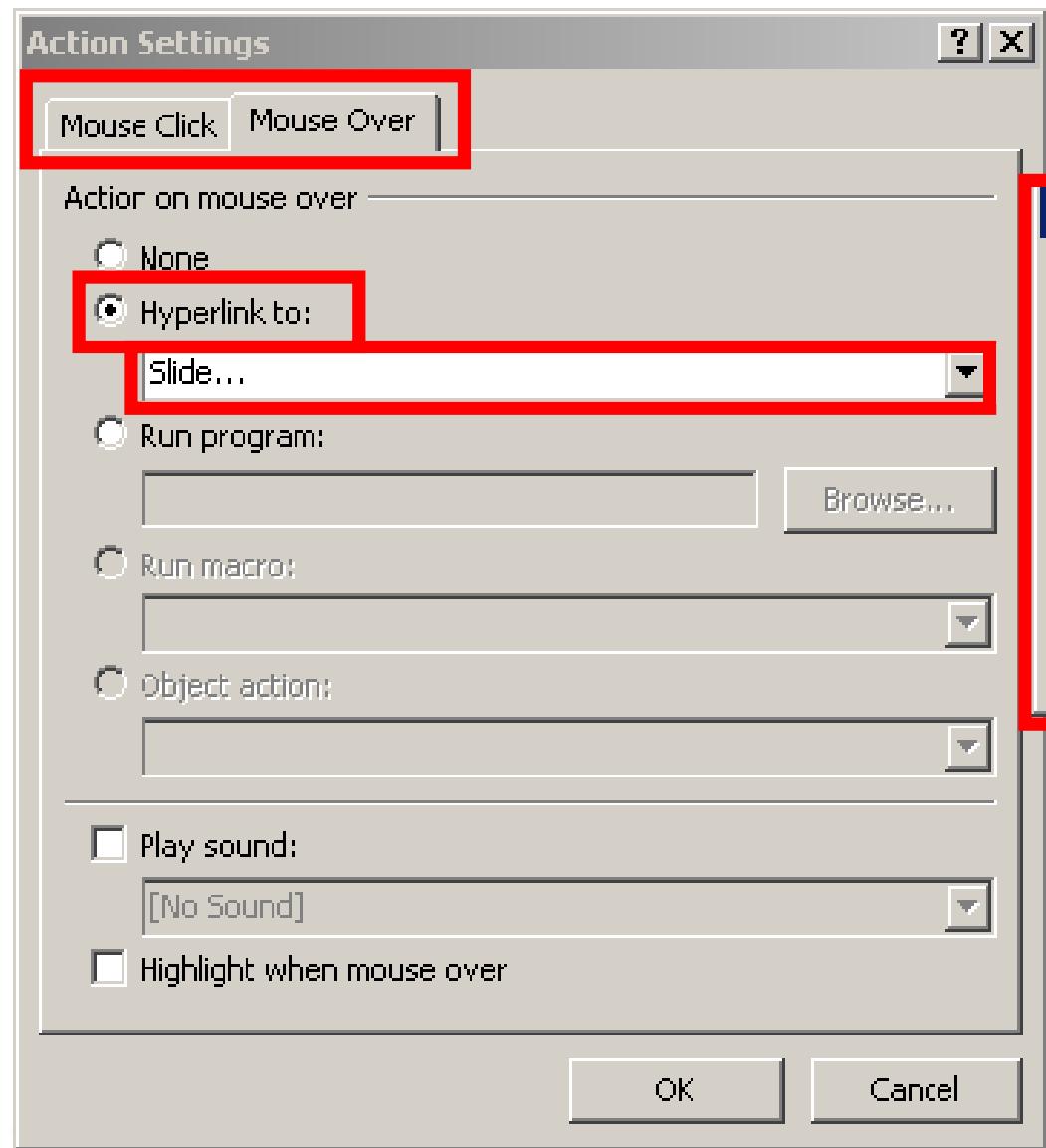


DCGI

NUR - Prototyping (low fidelity)

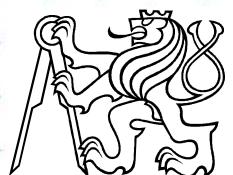


MS PowerPoint - Action



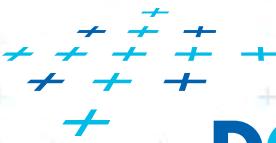
DCGI

NUR - Prototyping (low fidelity)



MS PowerPoint - animation

- Custom animation
- Fading
- Emphasis
- Move on path

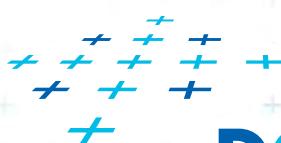
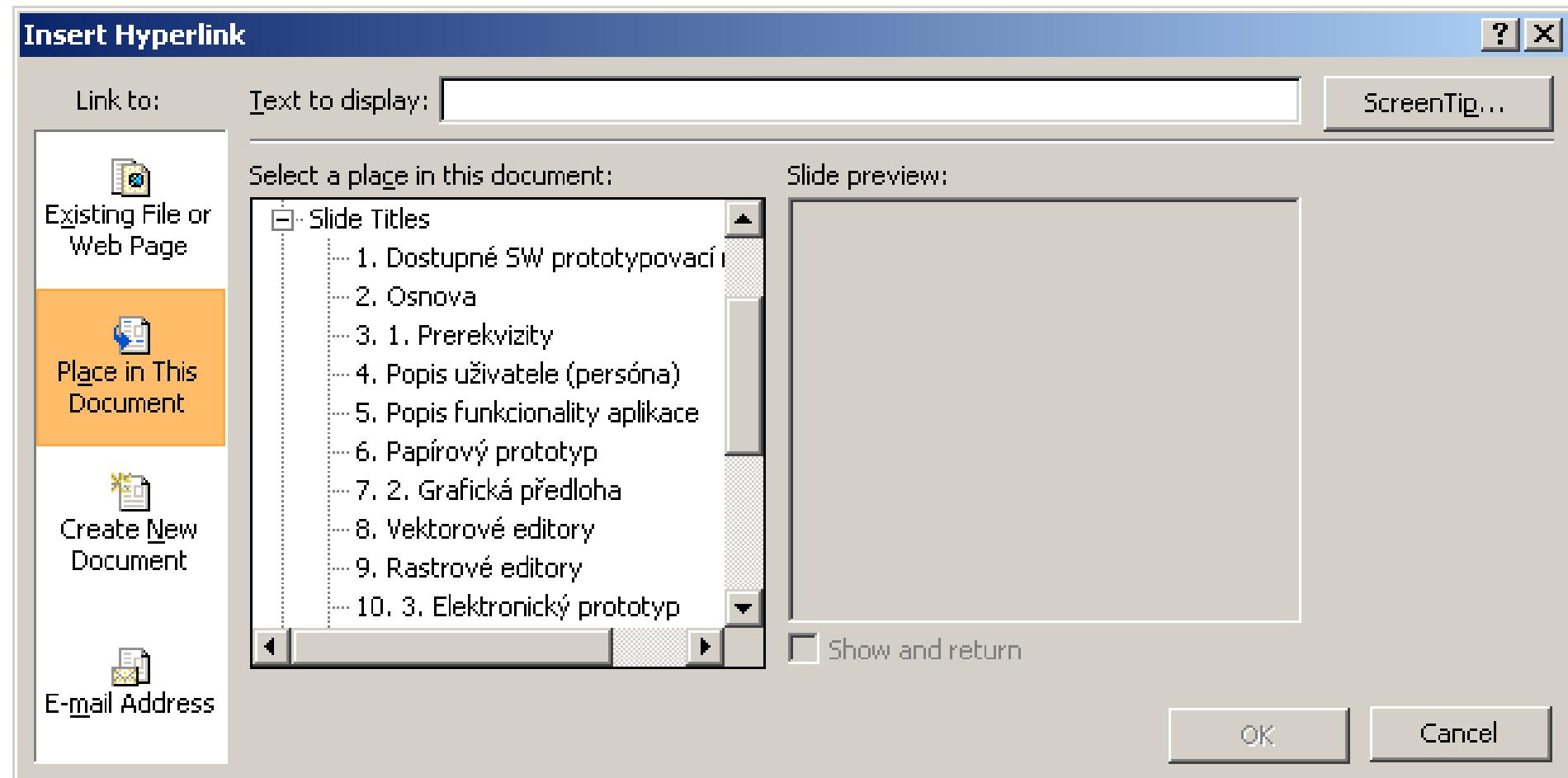


NUR - Prototyping (low fidelity)

(48)



MS PowerPoint - example

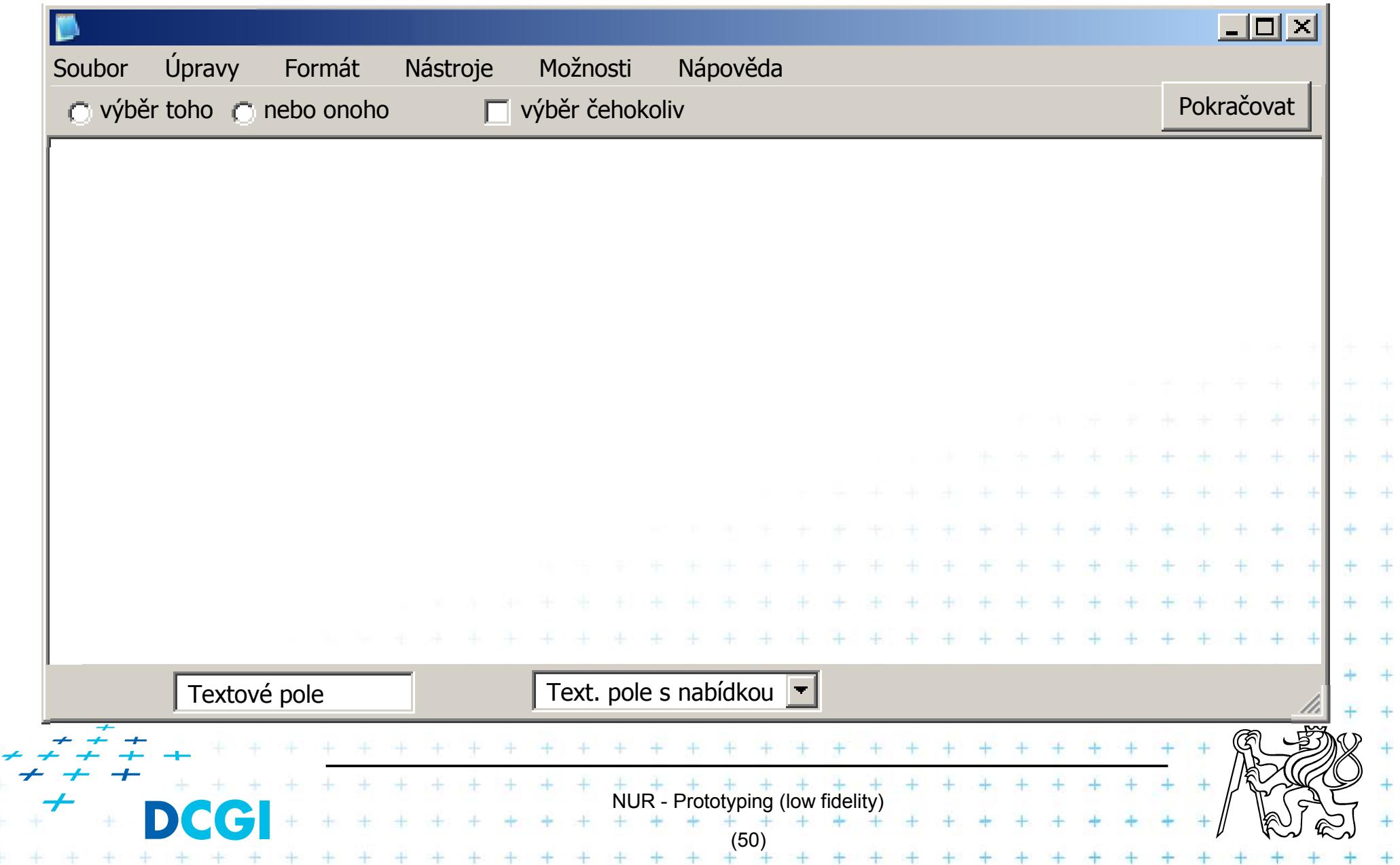


DCGI

NUR - Prototyping (low fidelity)



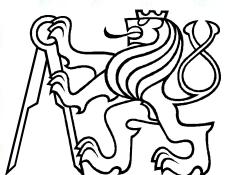
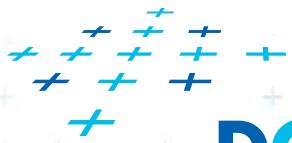
Windows – classical theme



Text insertion

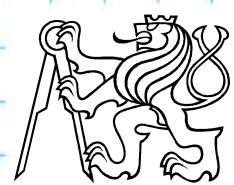
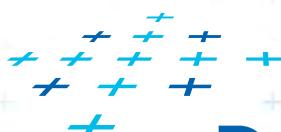
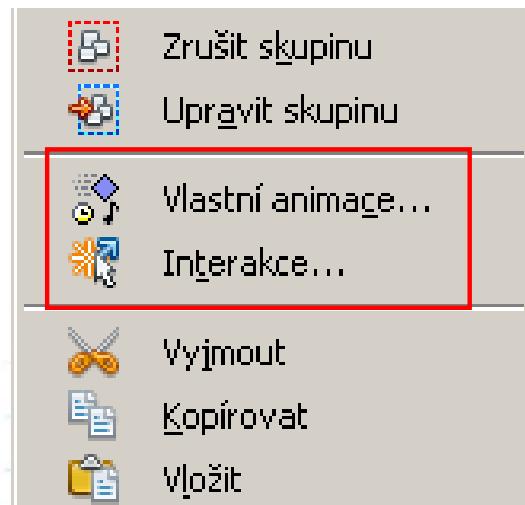


Vpisování textu nahrazeno
stiskem tlačítka a vyplněním
přednastaveného textu.



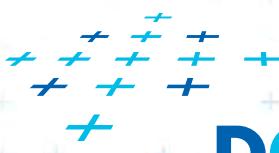
OpenOffice

- Similar to MS Office
- Object animation in context menu

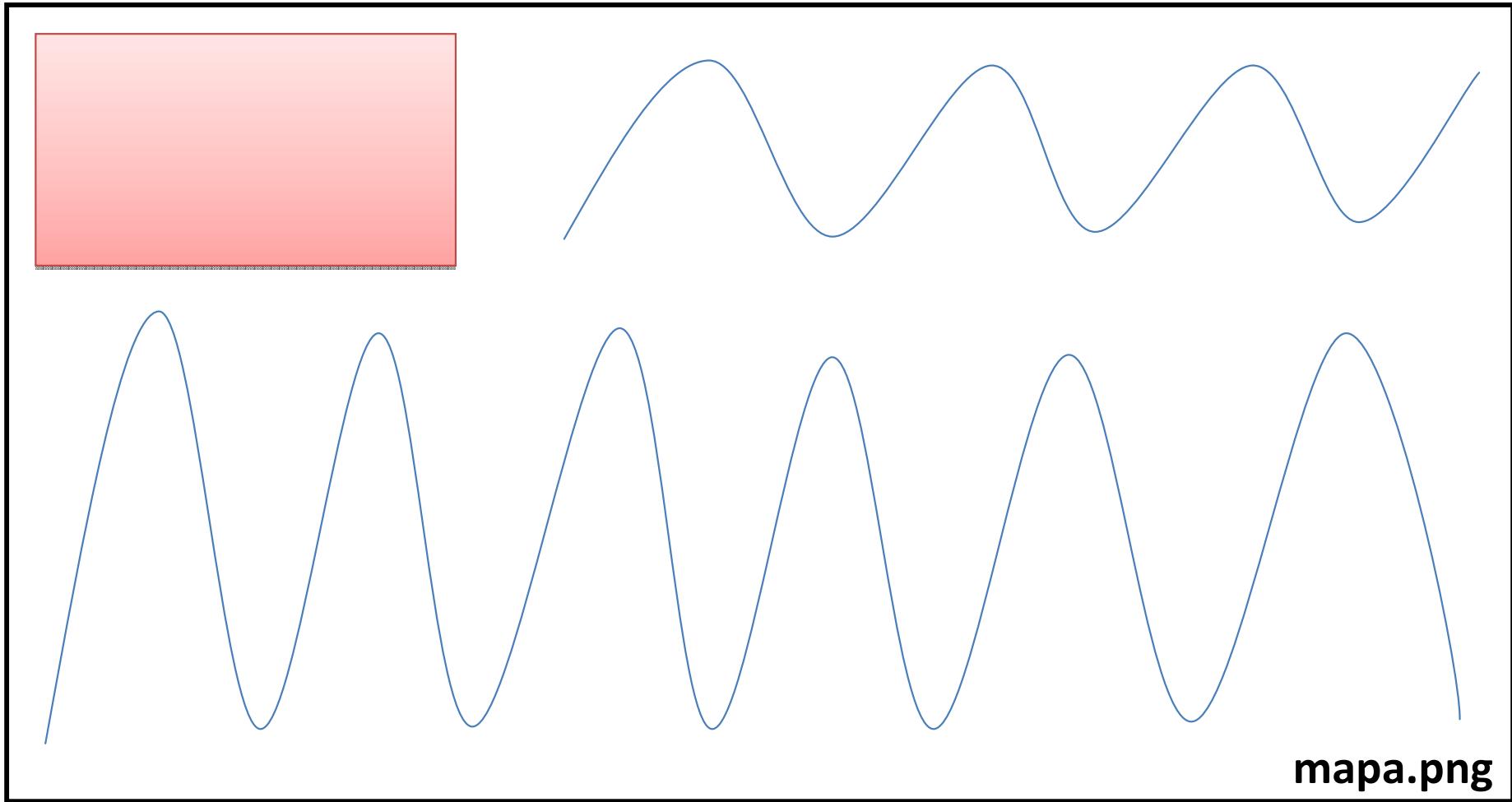


Web - Simple web page

- Screenshots
- Active parts – hyperlinks
 - click map
 - table
 - div
- Shortcut keys

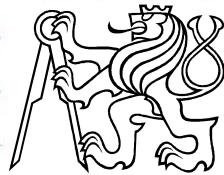


Web – clickable area



DCGI

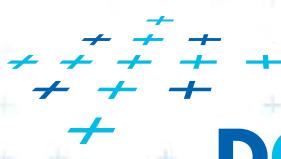
NUR - Prototyping (low fidelity)



Web – clickable area

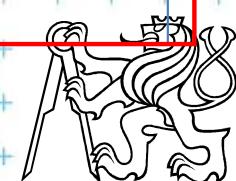
```
<map name="mapa">  
  <area href= "link1.html" shape="rect"  
    coords="10,10,210,110">  
  <area ... >  
</map>  

```



Web – table

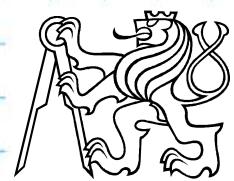
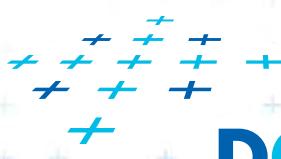
					
<p>Lorem Ipsum je demonstrativní výplňový text používaný v tiskařském a knihařském průmyslu. Lorem Ipsum je považováno za standard v této oblasti už od začátku 16. století, kdy dnes neznámý tiskař vzal kusy textu a na jejich základě vytvořil speciální vzorovou knihu. Jeho odkaz nevydržel pouze pět století, on přežil i nástup elektronické sazby v podstatě beze změny. Nejvíce popularizováno bylo Lorem Ipsum v šedesátých letech 20. století, kdy byly vydávány speciální vzorníky s jeho pasážemi a později pak díky počítačovým DTP programům jako Aldus PageMaker.</p>					



Web – shortcut keys

■ Hyperlinks

```
<a href= "link 01.html" accesskey="A"></a>
```



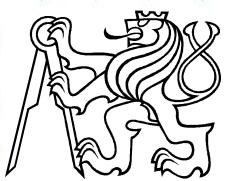
Web – shortcut keys

■ JavaScript

```
<body onkeypress = "show_page(event.which)">  
...  
<script type="text/javascript">  
    function show_page ( key_pressed ) {  
        if (key_pressed == 119)  
            this.location.href = "index04.html";    else if  
(key_pressed == 115)  
            this.location.href = "index02.html";  
        else if (key_pressed == 122)  
            this.location.href = "tel_ct1.html";  
    }  
</script>
```

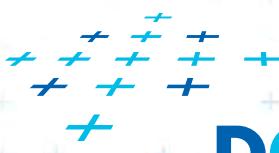


DCGI



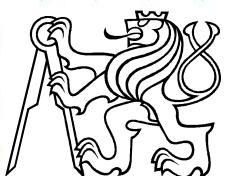
Web vs. presentation?

- Type of application
- Design speed
 - Experience, reuse, ...
- Interaction
 - mouse, keyboard,



NUR - Prototyping (low fidelity)

(59)



Electronic program guide

- Visual design - Gimp



- Photographs

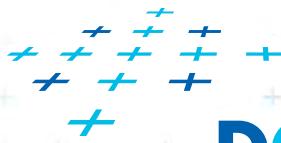
- Snapshot series + JavaScript



NUR - Prototyping (low fidelity)

EPG - prototype showcase

- ... simple approach



DCGI

NUR - Prototyping (low fidelity)

(61)



TELEVIZE

ČT 1

ČT 2

NOVA

PRIMA

ČT 24

ČT 4 SPORT



NÁVOD NA OVLÁDÁNÍ



Přesun nahoru



Přes celou obrazovku



Přesun dolů



Zpět do hlavní nabídky

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NÁVOD NA OVLÁDÁNÍ

- Přesun nahoru
- Přes celou obrazovku
- Přesun dolů



Zpět do hlavní nabídky

TELEVIZE

ČT 1

ČT 2

NOVA

PRIMA

ČT 24

ČT 4 SPORT



Zpět do hlavní nabídky

NÁVOD NA OVLÁDÁNÍ



Přesun nahoru



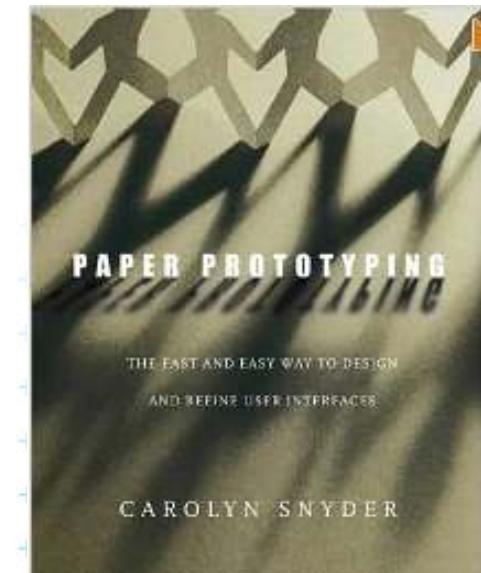
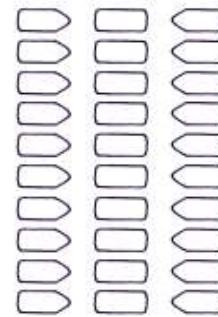
Přes celou obrazovku



Přesun dolů

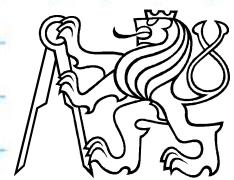
Paper prototyping

- <http://paperprototyping.com/>
- <http://balsamiq.com/>
- <http://gomockingbird.com/>



DCGI

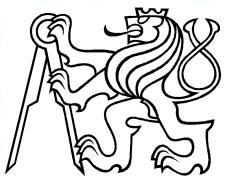
NUR - Prototyping (low fidelity)



Thank for your attention

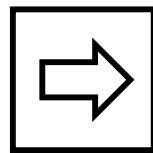


DCGI

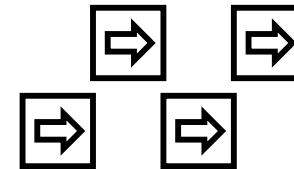


MS PowerPoint

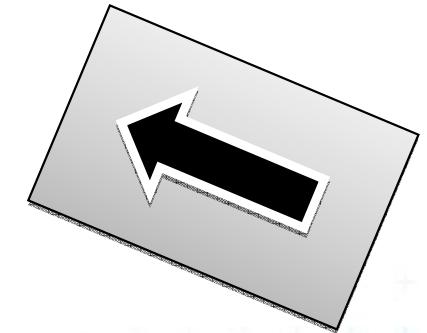
- Vektorová grafika



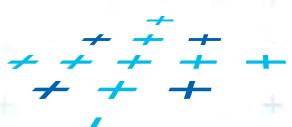
- Hypertextové odkazy



- Vložené obrázky a videa



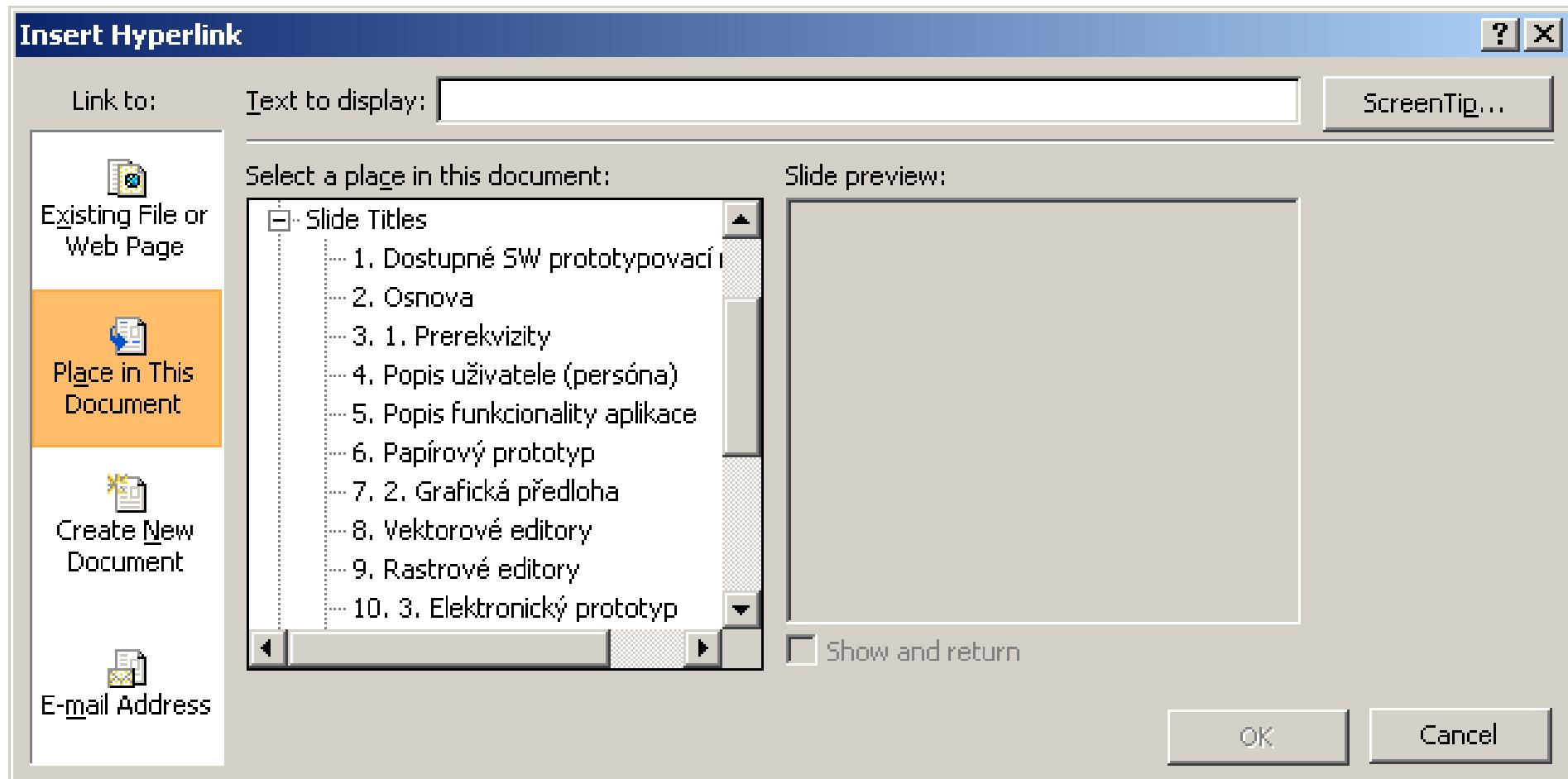
- Animace



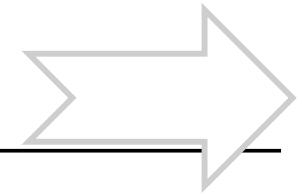
DCGI



MS PowerPoint - příklad



Vkládání textu

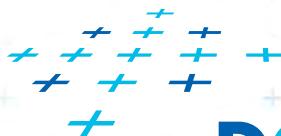


Martin Martinovský

J. A. Komenského 321

Martin

Slovensko

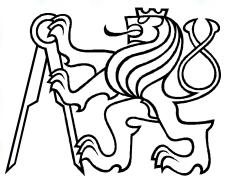


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NUR - Prototyping (low fidelity)

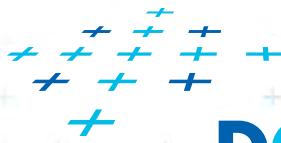


Thank for your attention



Resources

- [Buxton 2007] B. Buxton: Sketching User Experiences, Morgan Kaufman, 2007



NUR - Prototyping (low fidelity)

(73)

