

**PV168**

**GUI III**

# Swing Renderers

- `toString()` formats content/state of an object for internal usage
  - In a debugger
  - In various logs
  - Compare e.g. `"Department@123def"` with `"112: HR"`
- Renderers are intended for outputs towards the end users
  - Can render graphics on top of text (e.g. `Gender`)

# Swing Row Filters

- Allow for omission of certain *model* rows in *view*
- Configurable typically via combo boxes or multiselect fields
  - We have introduced `Either<L, R>` abstraction to deal with special values (*ALL* etc.)

# Swing Row Sorters

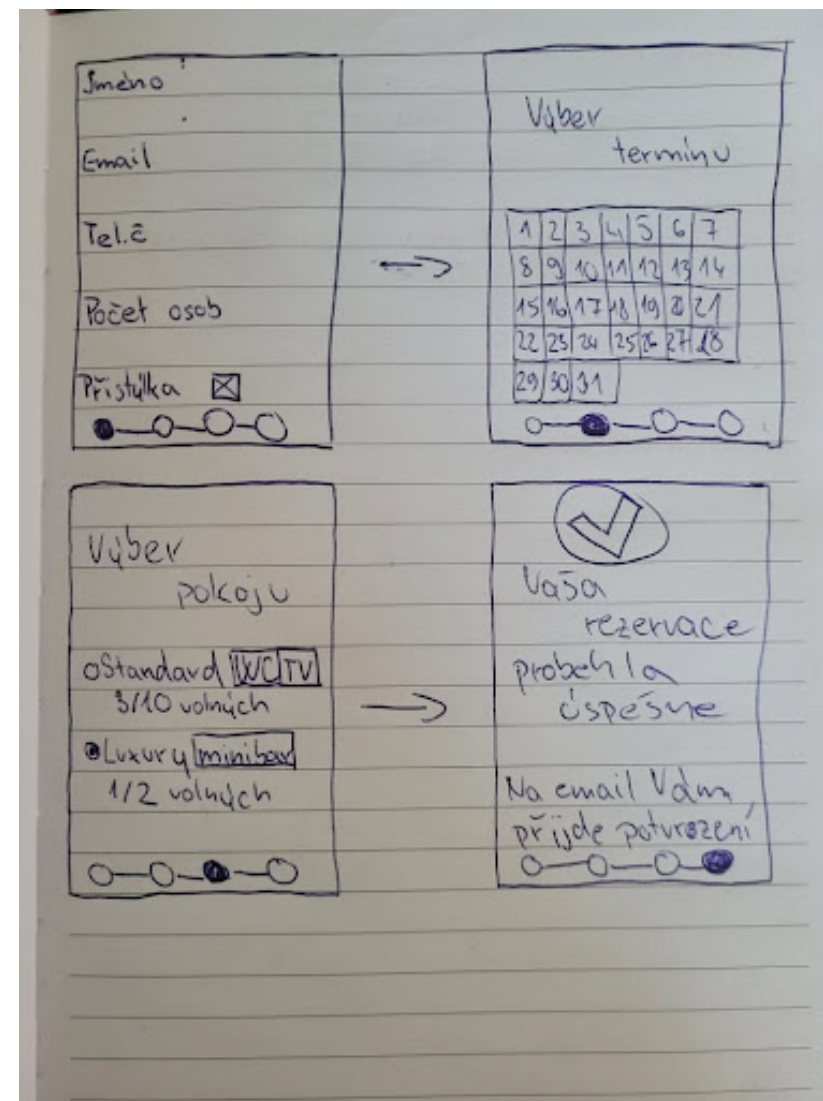
- Allow for changing the order of *model* rows in *view*
  - Row numbers in *view* are different from *model*!
- Needs to be synchronized with filtering for both to work correctly together
  - Pay extra attention in case both are used together
  - However, very simple set up in case of no filtering

# Why does PV168 begin with GUI?

- **Top-down** vs. **bottom-up** approach
- Top-down
  - Early value for users of the application
  - Fast convergence
- Bottom-up
  - Deep dive into technical details first
  - It takes long before we can show anything to users

# GUI creation process

- It starts with a feature
- Functionality is specified with UI
- UI is specified by the functionality
- Wireframes



# User Experience (UX) role

- Person responsible for *look & feel*
- Creative role
- Hard to do without talent
- Sometimes tied up too tight to product

# UX vs. Developer

- Ideas can be too ambitious
- Developer wants to make it work
- UX wants to make it pleasant to use



# Frontend - Backend - Full-stack

- Frontend
  - mostly JS, various frameworks, CSS
- Backend
  - business logic
- Full-stack
  - both together

# Accessibility

- We never know who will use our application
- Text in pictures
- Contrast

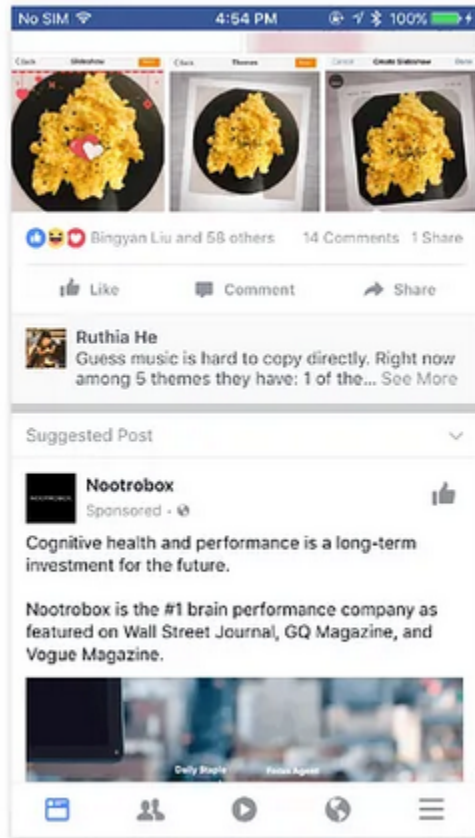
# A / B testing

- You probably participated and you didn't even realize it
- Not really a testing
- UX utility

# Dark Side of the UX

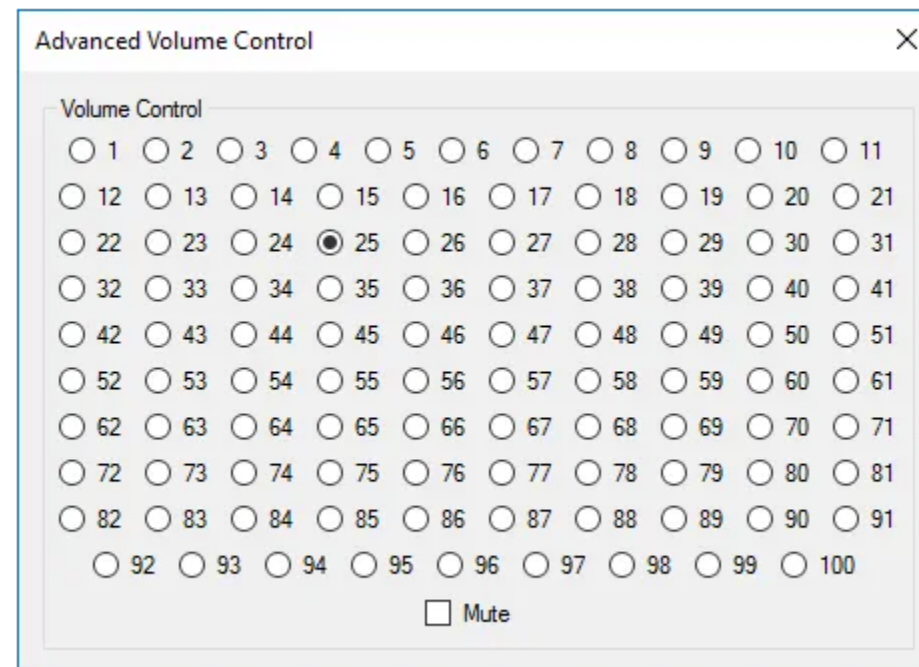
- Selling must be fast
- Ads placement
- Exclamation marks
- Red colors, danger

# Patterns ...



# ... and anti-patterns

Please enter your phone number:



# Creating GUI for group project

- Use pen and paper
- Make sure the whole team is on the same page
- Keep it simple

# Figma

