Internet and Web Applications, Übung 3

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Aufgabe 1: Interaction models

Es gab die folgenden 3 Modelle:

- Synchronous model (*Click, wait, and refresh user interaction paradigm*): synchronous (user activities are blocked), high degree of dependence between HTTP Request and HTTP Response

- Non blocking model (AJAX): asynchronous (user activities are not blocked), high degree of dependence between HTTP Request and HTTP Response

- Asynchronous model (Comet via long- polling, WebSockets): asynchronous, minimum degree of dependence between HTTP Request and HTTP Response

Aufgabe 2: JSON

(a) Vorteile: viel weniger Overhead, JavaScript-Support; Nachteil: Daten sind nicht deklarativ

(b) JSON-Schema:

```
1  {
2    "definitions": {},
3    "$schema": "https://json-schema.org/draft/2020-12/schema",
4    "$id": "https://example.com/newspaper.schema.json",
5    "title": "Root",
6    "type": "object",
7    "required": [
8    "articles"
9    ],
10   "properties": {
11     "articles": {
12       "$id": "#root/articles",
13       "title": "Articles",
14       "type": "object",
15       "required": [
16         "article"
17       ],
18       "properties": {
19         "article": {
20           "$id": "#root/articles/article",
21           "title": "Article",
22           "type": "array",
23           "default": [],
```

```
24          "items": {
25            "$id": "#root/articles/article/items",
26            "title": "Items",
27            "type": "object",
28            "required": [
29              "title",
30              "author",
31              "published",
32              "_id"
33            ],
34            "properties": {
35              "title": {
36                "$id": "#root/articles/article/items/title",
37                "title": "Title",
38                "type": "string",
39                "default": "",
40                "examples": [
41                  "First man on moon"
42                ],
43                "pattern": "^.*$"
44              },
45              "author": {
46                "$id": "#root/articles/article/items/author",
47                "title": "Author",
48                "type": "string",
49                "default": "",
50                "examples": [
51                  "Ted Markson"
52                ],
53                "pattern": "^.*$"
54              },
55              "published": {
56                "$id": "#root/articles/article/items/published
                    ",
57                "title": "Published",
58                "type": "object",
59                "required": [
60                  "day",
61                  "month",
62                  "year"
63                ],
64                "properties": {
65                  "day": {
66                    "$id": "#root/articles/article/items/
                        published/day",
67                    "title": "Day",
68                    "type": "integer",
69                    "examples": [
70                      21
71                    ],
72                    "default": 0
```

```
 73                        },
 74                        "month": {
 75                          "$id": "#root/articles/article/items/
                                   published/month",
 76                          "title": "Month",
 77                          "type": "integer",
 78                          "examples": [
 79                            7
 80                          ],
 81                          "default": 0
 82                        },
 83                        "year": {
 84                          "$id": "#root/articles/article/items/
                                   published/year",
 85                          "title": "Year",
 86                          "type": "integer",
 87                          "examples": [
 88                            1969
 89                          ],
 90                          "default": 0
 91                        }
 92                      }
 93                    },
 94                    "_id": {
 95                      "$id": "#root/articles/article/items/_id",
 96                      "title": "_id",
 97                      "type": "string",
 98                      "default": "",
 99                      "examples": [
100                        "5"
101                      ],
102                      "pattern": "^.*$"
103                    }
104                  }
105                }
106              }
107            }
108          }
109        }
110      }
```

Aufgabe 3: Web Sockets

HTML-Seite

```
1  <!doctype html>
2    <head>
3      <script type="text/javascript">
4        function WS() {
5          var ws = new WebSocket("ws://echo.websocket.events")
6          ws.onopen = function() {ws.send("Hallo")}
```

```
 7              ws.onmessage = function(evt) {alert(evt.data)}
 8          }
 9      </script>
10    </head>
11    <body>
12      <a href="javascript:WS()">Run example</a>
13    </body>
14  </html>
```