

- Getting old PHP-5 source code to work
- XAMPP installation and setup on 2 test machines
  - Apache/2.4.41 (Win64) OpenSSL/1.1.1c PHP/7.4.x
- Getting PHP-7.4 source code to work
- Code and file optimization
  - UTF8 encoding for all source code and project files
  - Personal data no longer required for login (data privacy)
  - Remove unnecessary code blocks, files and folders
  - Restructured folder structure (simplified, improved consistency)
- MySQL database migration to the latest version
  - DB migration to server version: 10.4.11- MariaDB
  - Transformation into an anonymous DB (data privacy)  
4 tables with personal data were affected and removed
  - Table prefix „schumpatchtest\_“ changed to „tbl\_ prefix„
  - Encoding and collation order now utf8mb4\_unicode based
  - Fix of all German Umlaute errors in the SQL DB dump file
  - Change all DB table fields of data type BLOB to TEXT
- CSS changes and layout optimization
  - Color and button scheme like <https://dkg.ivdk.org>
- Beta-1 test on the IVDK Server URL <https://ablesetraining.ivdk.org>
- Beta-2 test on the IVDK Server with doccheck base authentication
- Beta-3: + change DE text/labels (rb), code revision regarding utf-8 support  
+ `<meta http-equiv="content-type" content="text/html; charset=utf-8" />`  
+ new image color and format: `balken_statistik_gefuellt.png/ balken_statistik_leer.png`
- Beta-4: fix wrong filenames (missing file extension JPG) regarding image lib  
+ fix some minor issues regarding text (labels and links) in DE and EN version  
+ fix error in `adm_speichern.php` regarding image file upload  
+ dropping 2 tables with pseudonymous data (unnecessary, data crap)  
+ dropping 1 table with unused data (unnecessary, data crap)
- Beta-5: + vi (visual improvements: increased font size, Montserrat medium:500)  
+ change `react_symbol ?+ into ?` in db and sourcecode, fix some errors in `imagelib`
- + Excel file with image and reaction details created in order to add new images/reactions
- Beta-6: missing vehicles in `tbl_tt_fragen_sprache` added, spelling corrections (rb/ra)
- Beta-7: Added reading criteria DKG in DE/EN in HTML+PDF format (ra/rb)
- Description of follicular reactions/images optimized (ra/rb)
- Beta-8: corrections of small typos, change reaction symbol "ir" in "lr"
- Prevention of security issues like SQL injection and XSS (student assistant SH)
  - `htmlspecialchars` (i.e. escaping)

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Green: accomplished

Red: open

#### *The 5 golden rules for UTF-8 in PHP/MySQL and HTML*

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- database, tables, columns should each be set to `utf8_bin/utf8_cs` (alternatively `utf8_ci`)\*
  - database connection must be set to UTF-8 with `SET NAMES utf8` (frequent error)
  - PHP scripts should be saved in development IDE/editor as UTF-8 file (not UTF-8 BOM)
  - PHP script should send an HTTP header accordingly:  
`header("Content-type:text/html; charset=utf-8");`
  - The HTML pages should also include an identical `<meta>` tag:  
`<meta http-equiv="content-type" content="text/html; charset=utf-8" />`
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The first point can be checked via phpMyAdmin's structure view of the database, tables and columns, the last two points can be checked in the browser: Firefox->View->Character encoding->Unicode UTF-8 (?)