

Freelance developer and security tester

SKILLS

Web technologies: HTML (4 years), CSS (4 years), JavaScript (4 years), PHP (3 years), Node.js (1 year)

Programming: C / C++ (2 years), Python (1 year), Perl (1 year), shell script (3 years)

Databases: MariaDB / MySQL (3 years), PostgreSQL (1 year), MongoDB (1 year), LibreOffice Base (1 year)

Libraries: Qt (1 year), OpenGL (1 year), SDL (1 year)

Networks: HTTP / HTTPS / Apache (3 years), FTP / SFTP (1 year), SSH / VPN / PGP (1 year), VNC / NX (1 year), iptables (1 year), Postfix (1 year), Samba (1 year)

Computer graphics: GIMP (2 years), Inkscape (1 year), Blender (1 year)

Operating system: GNU/Linux / Unix (5 years)

Languages: French (native), English (fluent), German (good knowledge)

TRAINING

Bachelor degree in Computer Science (Licence professionnelle Systèmes Informatiques et Logiciels, spécialité développeur informatique) 2015
Graduated (honors) at University of Upper Alsace, Mulhouse, in apprenticeship

Associate degree in Computer Science (Brevet de technicien supérieur Informatique et Réseaux pour l'Industrie et les Services techniques) 2012
Graduated at Lycée Blaise Pascal, Colmar

High school diploma in Electronics (Baccalauréat technologique Sciences et Technologies Industrielles, spécialité Génie Electronique) 2010
Graduated at Lycée Théodore Deck, Guebwiller

WORK EXPERIENCE

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2017

since 18/08/2017

Keywords: *HTML, CSS, JavaScript, PHP, MySQL, WordPress, BuddyPress, Node.js, WebRTC, WebSocket, GeoNames, responsive web design, progressive enhancement, web security, privacy*

WordPress development and customization of the BuddyPress social networking plugin using action and filter hooks.

- Creation of a functionality to search people in a range of kilometers using GeoNames database for self-hosted geocoding.
- WebRTC webcam chat with adapter.js and fullscreen.js shims, using Node.js and WebSocket for signaling.
- Email setup with Postfix, Dovecot, SpamAssassin, procmail and Roundcube.
- HTTPS setup using Let's Encrypt certificate with automatic renewal cronjob.

Security testing following applications vulnerabilities described by the categories of Open Web Application Security Project (OWASP) and Common Weakness Enumeration (CWE).

References: vulnerability reports on several bug bounty platforms.

Web developer at Tschach Solutions, Karlsruhe, Germany

2016

from 07/03/2016 to 11/08/2017 (1 year, 5 months)

Keywords: *HTML, CSS, JavaScript, PHP, MySQL, WordPress, responsive web design, progressive enhancement, web security, privacy*

Plugin development on the WordPress content management system.

- Creation of shortcodes (configurable via parameters) and administration menu pages. Use of WordPress's wpdb PHP object to access database and hooks like wp_ajax action to handle AJAX requests.
- Contact buttons and contact boxes were built using object-oriented programming with class inheritance, to display information of an article's author or a customized contact.
- Development of a tool to create, read, update and delete (CRUD) questions that will be sent to customers by email. A random and unique token is generated to answer questions. The tool limits the number of questions and answers displayed on a web page, by using a pagination (beginning, previous, next, end) with page number and page count. The results can be sorted alphabetically by clicking on a column name.
- Discovery and prevention of web security vulnerabilities like SQL injection, XSS, CSRF, clickjacking and access control.
- Initiative to enhance privacy by removing third-party HTTP requests like Google Fonts and creation of self-hosted social media buttons.

Computer science project for Alsace Nature, Strasbourg, France

2015

from 11/07/2015 to 14/09/2015 (2 months)

Keywords: *HTML, CSS, JavaScript, PHP, MySQL, Google Maps API, OpenStreetMap, responsive web design, web security*

Volunteer work for an environmental organization, realized within my bachelor degree, as a remote work during my spare time.

The project goal was to update a cartographic web application making a census of wetlands and fills in Alsace region. The application used Google Maps JavaScript API version 2 but was not working anymore after the switch to version 3.

My missions were to make the application compatible with the new version of Google Maps API, to create an images gallery to show photos when moving mouse over thumbnails and to make the application mobile compatible using responsive web design (CSS3 media queries with HTML meta viewport).

The application can be configured to use OpenStreetMap instead of Google Maps. Suggestion to enhance the security of the web application.

- Replacement of deprecated PHP functions (mysql_*) with new ones (mysqli_*) to connect to the database using prepared statements.
- Correction of different SQL injection, XSS and access control vulnerabilities (a non-authorized user could delete data using HTTP requests not protected by an identification). CSRF vulnerabilities fixed by using an authenticity token and switch to HTTPS to prevent man-in-the-middle attacks.
- Password storage with the PHP password_hash function that generates a Bcrypt hash corresponding to a salted password hash, which is more secure than MD5.
- Modification of the "lost password" function which initially sent the password in clear text to the user email address. Henceforth, a new random and temporary password is created and stored in a PHP session (identified by a cookie in the web browser) before sending it via email (Postfix).

When a user connects to the application with the temporary password, he must create a new password by indicating his current password (prevents password and email address modification in case if a non-authorized person gains access to the session).

Web developer apprenticeship at Jnesis, Mulhouse, France

2014

from 01/10/2014 to 30/09/2015 (1 year), 4 days per week

Keywords: *HTML, CSS, JavaScript, PHP, MySQL, PostgreSQL, WordPress, responsive web design, progressive enhancement*

Realization of different web development missions for clients in France and abroad.

Use of Scrum agile software development methodology with JIRA and Confluence tools. Work with Linux (Xubuntu) and in a team with Git revision control system.

- Web integration (background video, sticky footer, CSS sprite) in order to personalize eXo Platform, an enterprise social platform.
- Application creation using Ext JS JavaScript framework and MVC (model-view-controller) architectural pattern.

- Maintenance of a WordPress site made unavailable through a plugin security vulnerability.
- Mail coding in HTML/CSS for the company communication.
- Company website update, following principles of responsive web design and progressive enhancement (initiative in order to have a website usable without JavaScript).
Pure HTML, CSS and JavaScript programming as well as with jQuery and Bootstrap libraries from a CDN, with local fallback. Use of "HTML5 Boilerplate" template with "Modernizr" and "Normalize.css" libraries.
- Automatic selection of French or English version of the website, depending on the browser language, with PHP. Use of the URL rewriting functionality of Apache web server to select manually the language.

Developer summer job at Novartis Pharma, Basel, Switzerland

2012

from 30/07/2012 to 17/08/2012 (3 weeks)

Keywords: *Visual Basic, Excel macro*

Excel macro creation to copy data from an Excel worksheet to another. Within the bioinformatics department, this work consisted in merging data from CHO cells, collected from different laboratory equipment.

Use of Visual Basic programming language (VBA) and practice of English language.

Computer science project for the CRDP of Strasbourg, France

2012

from 03/01/2012 to 05/07/2012 (6 months)

Keywords: *HTML, CSS, JavaScript, PHP, MySQL, HTML5 canvas, web security*

ELAN (Enseigner la Langue Allemande par le Numérique) project was realized during my associate degree for the "Centre Régional de Documentation Pédagogique". The project consisted in creating web applications to teach the German language to children in a fun way.

In a team of 5 students, my part of the work was to create a 2D graphic application to connect points between them. Points can correspond to French words that have to be connected with their German translation for example.

It is possible to undo and redo drawn lines. The application can create, edit and delete exercises.

Application design was free but had to be validated by the IT manager. Self-education on HTML5 novelties and web security.

Use of the HTML5 canvas element and the JavaScript programming language.

Work in a LAMP environment with Linux (Debian), Apache, MySQL and PHP.

Use of PDO (PHP Data Objects) to access the database. Data serialized in JSON and sent/received using AJAX. HTML page updated with DOM (Document Object Model) APIs. CSS positioning, prevention of XSS vulnerability and SQL injection.

Database internship at Emerson Process Management, Cernay, France
from 23/05/2011 to 01/07/2011 (6 weeks)

2011

Keywords: *MySQL, Excel*

Creation of a MySQL database using Excel files from the company in order to ease the search of informations by employees.

Use of SQL and batch scripts as well as XAMPP and phpMyAdmin applications.

INTERESTS

- Computer science: security, privacy, progressive enhancement
- Sport: jogging, skiing, surfing
- Environment
- Drawing