

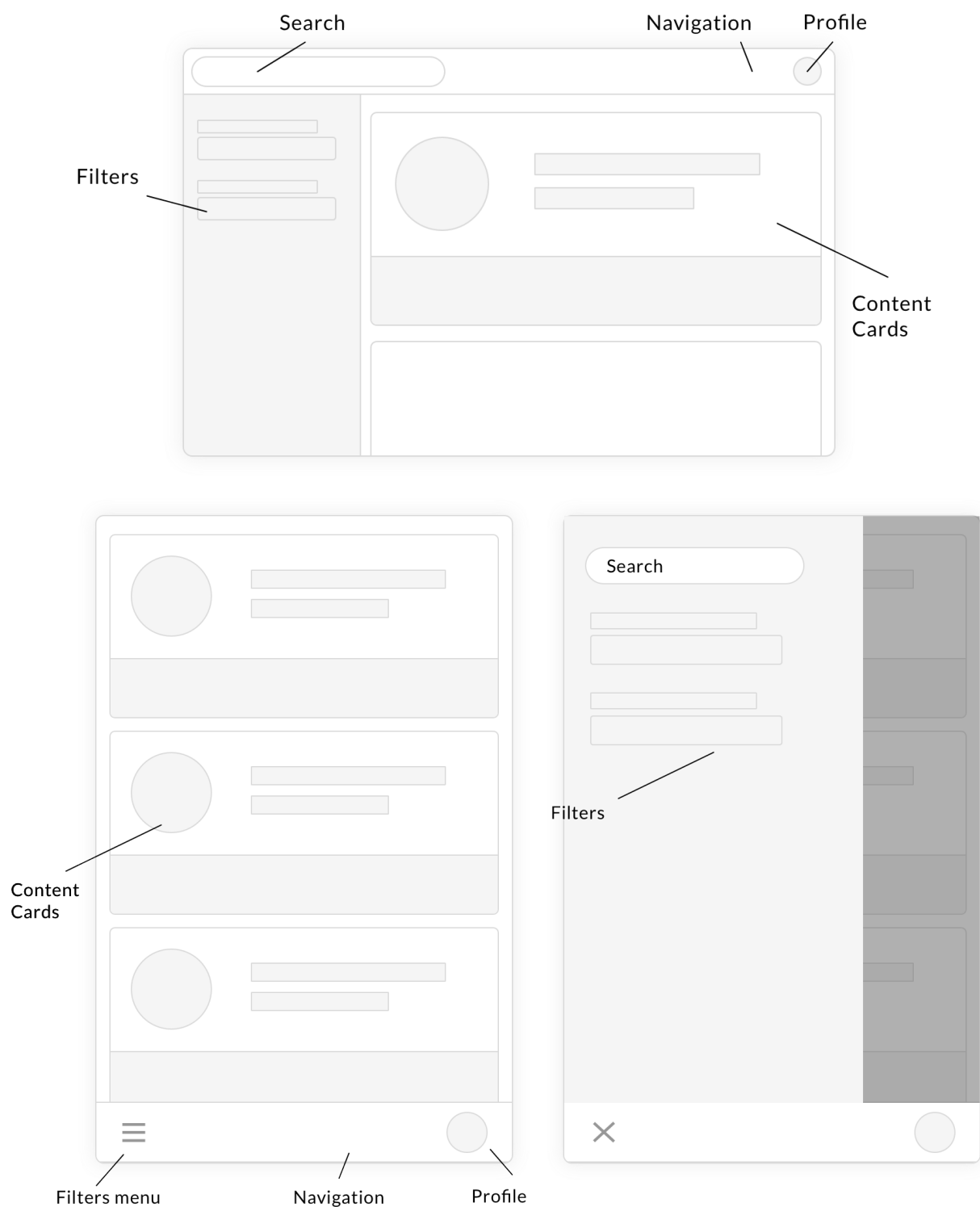
CRITERION B - DESIGN

Date commenced: Jan 8th, 2019

Date completed: Feb 16th, 2019

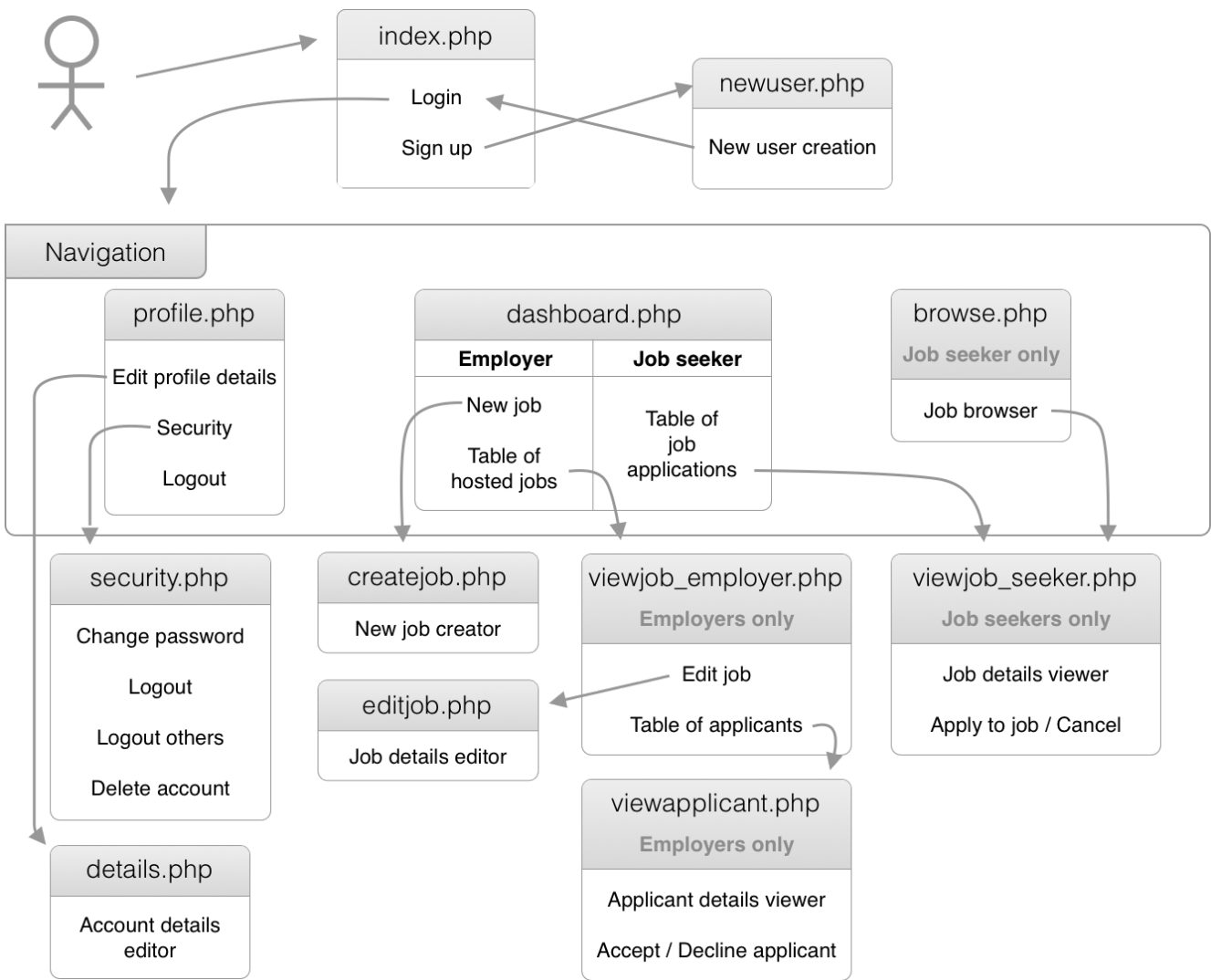
Mockups of the job browsing page

Showcasing the planned layout and adaptability for mobile devices (specifically, a collapsible menu and a bottom navigation bar for better reachability). These were sent to and approved by the client.



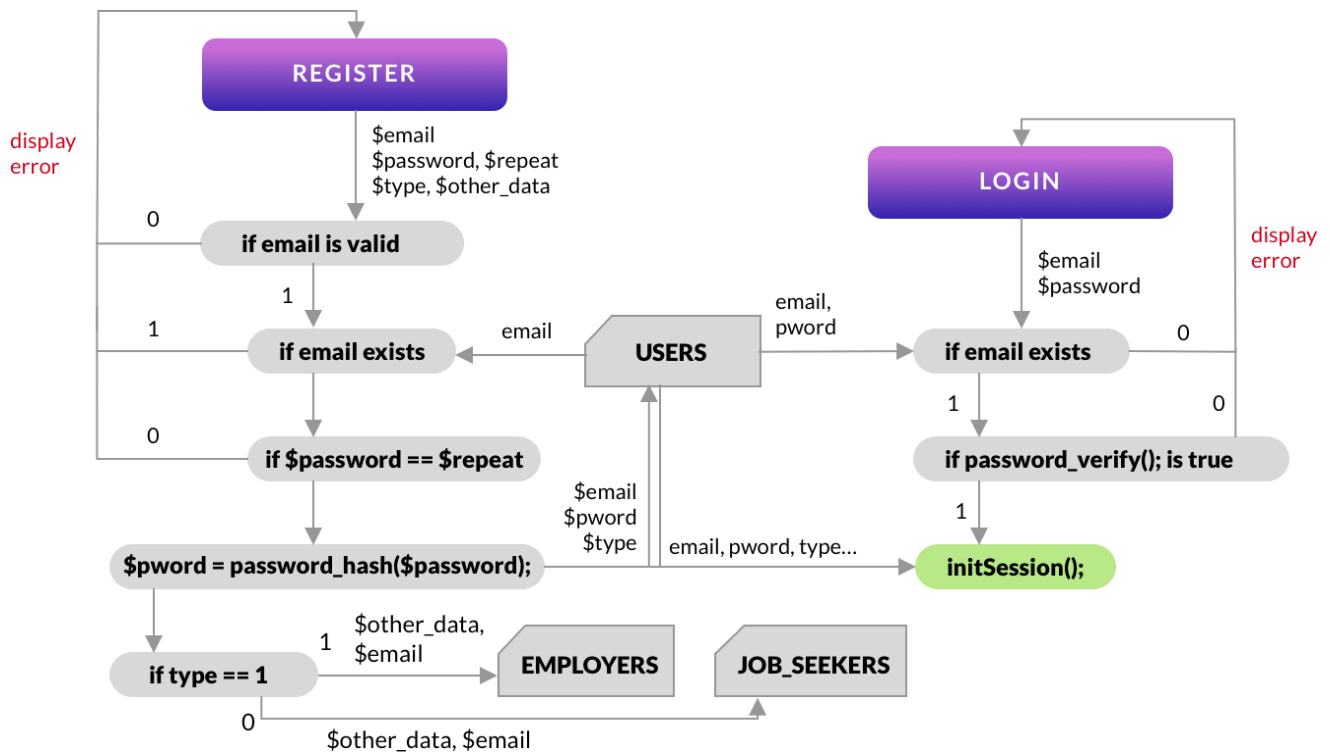
App structure diagram

Showing only visitable pages.



A schematic view of the login framework

Session hashes were introduced later in the development cycle and are not displayed on the diagram.



Final table structures for the MySQL database

“USERS” Table

FIELD	DATA TYPE	DESCRIPTION
id	INT	Primary key. A unique id is automatically assigned to each entry.
email	VARCHAR	User’s email, also used as a login.
pword	VARCHAR	A hash of the user’s chosen password (using PHP’s password_hash function). The password itself is not stored for security reasons.
type	VARCHAR	User’s account type (0 for job seeker, 1 for employer).
shash	VARCHAR	A unique session hash used to identify and remember the user. If a device’s session hash doesn’t match the one in the database, it will be logged out. Uses bin2hex(random_bytes(10)).

“JOB_SEEKERS” Table

FIELD	DATA TYPE	DESCRIPTION
id	INT	Primary key. A unique id is automatically assigned to each entry.
email	VARCHAR	User’s email.
firstname	VARCHAR	User’s first name.
lastname	VARCHAR	User’s last name.
gender	TINYINT	User’s gender (0 for male, 1 for female).
citizen_of	CHAR	User’s country of citizenship (storing ISO-3166-1: Alpha-2 Codes).
country	CHAR	User’s country of residence (storing ISO-3166-1: Alpha-2 Codes).
city	VARCHAR	User’s city of residence.
phone	VARCHAR	User’s phone number.
website	VARCHAR	User’s website.
about	TEXT	User’s “About Me” section, intended to be used for short bibliographies or CV highlights.

“EMPLOYERS” Table

FIELD	DATA TYPE	DESCRIPTION
id	INT	Primary key. A unique id is automatically assigned to each entry.
email	VARCHAR	User’s email.
comname	VARCHAR	User’s company name.
phone	VARCHAR	User’s phone number.
website	VARCHAR	User’s website.
address	TEXT	Business address.
fax	VARCHAR	User’s fax.

“JOBS” Table

FIELD	DATA TYPE	DESCRIPTION
id	INT	Primary key. A unique id is automatically assigned to each entry.
name	VARCHAR	Title of the job.
description	TEXT	Job’s description.
company_email	VARCHAR	Email of the company hosting the job.
min_exp	VARCHAR	Minimum years of experience required for the job (if any).

country	CHAR	Country where the job is hosted.
city	VARCHAR	City where the job is hosted.
address	TEXT	Address of the job.
is_open	TINYINT	Applications: 0 for closed, 1 for open.
salary	VARCHAR	Expected salary.

“JOB_APPLICATIONS” Table

FIELD	DATA TYPE	DESCRIPTION
id	INT	Primary key. A unique id is automatically assigned to each entry.
applicant_email	VARCHAR	Email of the job seeker
company_email	VARCHAR	Email of the company hosting the job
job_id	INT	ID of the job as per the JOBS table.
app_status	VARCHAR	Application status: Accepted, Rejected, or Pending.

Test plan

Security

TEST	METHOD	EXPECTED OUTCOME
Test login with valid credentials	Initiate login with email and password that are part of the "USERS" table.	User is redirected to their dashboard page. Session is initialized.
Test login with non-existent email	Initiate login with an email that does not exist in the "USERS" table.	Login function terminates and user sees an error saying "Email not found".
Test login with invalid password	Initiate login with a valid email and an invalid password.	Login function terminates and user sees an error saying "Wrong password".
Illegal URL action test	Attempt to access URLs meant for a certain user type (eq. viewapplicant.php) via an account of a different type.	The user is redirected to their Dashboard with no chance to perform illegal actions.
SQL injection test	Attempt to execute SQL code through input fields.	The injected code is not executed by the server and no SQL errors appear. Special characters are possibly replaced.
Test "terminate other sessions" functionality	Log into the same account on two or more devices, one of which initiates the "terminate other sessions" function.	All devices except the one calling the function are logged out.
Test "change password" functionality	Initiate password change.	The hash of the user's password in the "USERS" table is updated and the new password can be used to log into their account.
Test account deletion	Initiate account deletion from both account types.	A confirmation dialog pops up. If operation is not cancelled, the upload folders and all database entries related to the accounts are deleted.

Features

TEST	METHOD	EXPECTED OUTCOME
Test account creation	Initiate account creation with sample data for both job_seeker and employer types.	Account details are added into the relevant database tables.
Test job creation	Initiate job creation with sample data (optional fields included).	Job details are added to the proper fields in the "JOBS" table.
Test job applications	Apply to a sample job using a job seeker account, then cancel the application.	The application entry is correctly added to the "JOB_APPLICATIONS" table, and

		then removed.
Test job filtering	Prefill the “JOBS” table with sample data. Using a job seeker account, attempt using filters one by one or together.	When filters are used, all and only appropriate jobs are outputted.
Test job seeker dashboard	Apply to sample jobs	Jobs that have been applied to show on in the table and no longer show on the browse page. Clicking a job opens a viewjob_applicant.php instance for the respective job.
Test employer dashboard	Create sample jobs using an employer account.	The job shows on the table with correct details. Clicking it opens a respective viewjob_employer.php instance.
Test applicant management.	Accept or decline a job application using an employer account.	The application status changes respectively in the “JOB_APPLICATIONS” table. This status replaces the cancel button for the applicant.
Test job detail editing.	Initiate detail update for a job with both closed and open status.	Job's entry is updated in the “JOBS” table. Jobs that are closed never display on the browse.php page and can't be applied to by seekers.

Accessibility

TEST	METHOD	EXPECTED OUTCOME
Browser compatibility test	Open the website in latest revisions of Chrome, Firefox, Safari and Edge browsers.	The website functions identically in all browsers.
Test with various device form factors	Run the applications on devices with various screen sizes (for example, smartphones, tablets and desktop computers).	Appropriate UI elements are used for devices of various form factors - the interactivity is not compromised and text is legible.