

# PROIECT FINAL

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# PARTEA I - Notiuni Teoretice

## *Informații teoretice pe care le-am dobândit în urma parcurgerii cursului de testare manuală*

- **Cerintele de business:** Sunt cerinte esentiale specificate de către client, descrise in detaliu, ce trebuie implementate in dezvoltarea unui produs software.
- **Test Condition** – Este o descriere generala a ceea ce trebuie sa fie testat, dar nu furnizeaza detalii specifice despre cum sa se efectueze testul sau ce date de intrare sa fie folosite.
- **Test Case** - Un test case este o descriere detaliata a unui scenariu de test, care include toate informatiile necesare pentru a efectua testul.

Asadar, “test conditions” sunt utilizate pentru identificarea scenariilor de testare, in timp ce “Test Cases” sunt utilizate pentru a implementa si a executa aceste scenarii.

## *Etapele procesului de testare software:*

Procesul de testare software este un aspect critic al dezvoltarii software si urmeaza de obicei mai multe etape bine definite pentru a asigura calitatea si fiabilitatea produsului final. Iata o descriere generala a etapelor comune ale procesului de testare software:



**Planificare:** Definirea obiectivelor si a scopului testarii, stabilirea cerintelor si resurselor necesare cat si crearea unui plan de testare care sa includa strategia de testare, programul si responsabilitatile echipei de testare.

**Analiza cerintelor:** Intelegerea in profunzime a cerintelor si specificatiilor software-ului. Identificarea scenariilor de testare si a conditiilor de testare.

•**Design:** Crearea cazurilor de testare (test cases) bazate pe cerinte si scenario cat si dezvoltarea datelor de testare necesare.

•**Implementarea testelor:** Executarea cazurilor de testare conform planului stabilit. Inregistrarea rezultatelor testelor si identificarea eventualelor erori.

•**Executarea testelor:** Este una dintre etapele cheie ale procesului de testare software si implica efectuarea efectiva a cazurilor de testare pentru a verifica functionalitatea si calitatea software-ului.

•**Completarea testelor:** Scopul principal al acestei activitati este de a asigura ca software-ul ramane stabil si fara erori pe masura ce acesta evolueaza si se dezvolta.

•**Monitorizarea testelor:** Este o parte esentiala a procesului de testare software si se refera la supravegherea si gestionarea continua a activitatilor de testare pe parcursul intregului ciclu de viata al proiectului.

•**Controlul** in cadrul procesului de testare software se refera la gestionarea si supravegherea activitatilor de testare pentru a asigura ca acestea se desfasoara eficient, ca rezultatele sunt conforme cu obiectivele si ca calitatea software-ului este mentinuta sau imbunatatita.

#### ➤ Diferenta dintre Retesting si Regression testing:

- Retestarea verifica daca un bug/defect sau eroare a fost fixat
- Testarea de regresie este un tip de testare a software-ului care se concentreaza pe asigurarea faptului ca schimbarile recente in codul unei aplicatii nu au afectat functionalitatea existenta.

#### ➤ Diferenta intre functional testing si non-functional testing:

- **Testarea functionala verifica daca produsul software isi indeplineste functionalitatile si cerintele clientului.**
- **Testarea non-functionala verifica aspect non-functionale cum ar fi: testarea securitatii, testare de performanta, testare pe diverse dispozitive.**

## Tehnici de testare grupate pe categorii:



### BLACK BOX:

- Partiționarea echivalenta;
- Analiza valorilor limita;
- Testarea tranzitiilor de stare;
- Tabel decisonal;
- Use case.

### WHITE BOX:

- Statement coverage;
- Decision coverage.

### EXPERIENCE BASED:

- Ghicirea erorilor
- Testarea exploratorie
- Checklist based testing

### Black Box Testing vs White Box Testing in testarea software

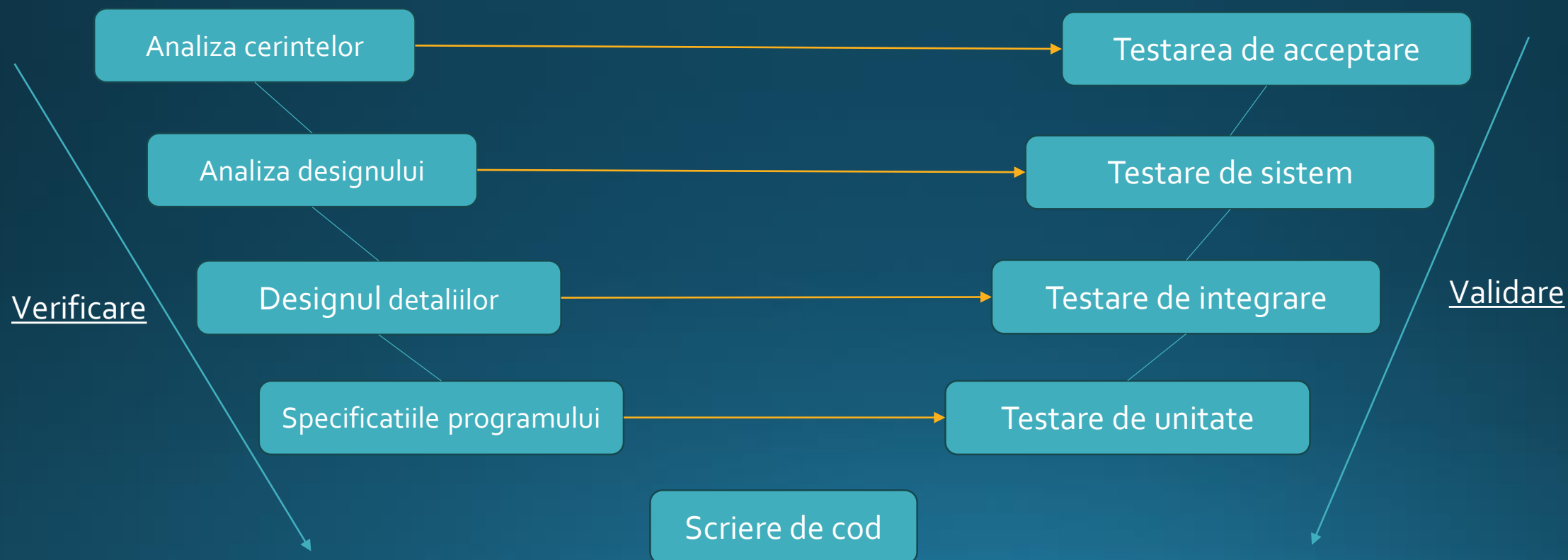
In testarea de tip "**Black Box Testing**" nu se ia in considerare structura interna a codului din spatele aplicatiei software.

In testarea de tipul "**White Box Testing**", testerul cunoaste codul sursa din spatele aplicatiei, arhitectura si logica sa. Acesta identifica defectele prin analiza codului

## Diferentele dintre procesele de “Validare” si “Verificare” in testarea software

“**Verificarea**” este procesul prin care se asigura daca produsul dezvoltat indeplineste cerintele clientului. Verificarea face parte din “Testarea Statica”

“**Validarea**” este un proces mai complex de analiza tehnica a produsului software. Validarea face parte din “Testarea Dinamica”



# Positive testing vs Negative testing

Testarea pozitiva si testarea negative sunt doua tipuri total diferite in testarea software, fiecare cu scopul ei.

## **Positive testing sau testarea pozitiva:**

- Scop: Testarea pozitiva este un tip de testare in care se verifica daca software-ul functioneaza corect atunci cand se furnizeaza date de intrare valide si asteptate
- Exemplu: Atunci cand un utilizator al unui site web de e-commerce, doreste sa comande diverse produse, acesta introduce date corecte cum ar fi o adresa de email, o parola, adresa de livrare si se verifica daca sistemul permite plasarea comenzii.

## **Negative testing sau testarea negativa:**

- Scop: Testarea negativa este un tip de testare in care se evalueaza comportamentul sistemului in cazul in care primeste de la utilizator date de intrare nepermise sau eronate.
- Exemplu: Continuand exemplul de mai sus, un test negativ ar implica introducerea unei parole gresite sau a unei adrese de email nevalide si observarea modului in care sistemul gestioneaza aceste situatii. Daca sistemul afiseaza un mesaj de eroare corespunzator sau previne inregistrarea comenzii, atunci testul negativ este reusit.

# Nivelurile de testare software



- **Testarea unitara:** Se concentreaza pe testarea unor parti ale software-ului, cum ar fi functii, metode sau secvente de cod;
- **Testarea de integrare:** Se concentreaza pe testarea modului in care componente mai mari ale software-ului interactioneaza intre ele.
- **Testarea de sistem:** Scopul acesteia este de a asigura ca sistemul indeplineste cerintele functionale si non-functionale. Testele sunt efectuate pe intregul sistem si se verifica performanta, compatibilitatea, siguranta si altele
- **Testarea de acceptanta:** Scopul este de a verifica daca software-ul indeplineste cerintele si asteptarile utilizatorilor. Utilizatorii pot identifica probleme, sugera imbunatatiri si decide daca produsul este pregatit pentru implementare.



# PARTEA II – Aspecte Practice

## Punerea in practica a cunostintelor acumulate

### 1. Cerintele pentru aplicatia/website-ul ales

Am ales sa testez website-ul [www.Autokarma.ro](https://www.autokarma.ro), un magazin online pe care eu il folosesc atunci cand am nevoie de piese auto. Proiectul de testare a fost realizat cu ajutorul unelei JIRA si contine patru cerinte de business (Story).

Cele patru story-uri acopera cele mai importante si esentiale cerinte pe care trebuie sa le indeplineasca un magazin online si anume, utilizatorul sa poata crea si accesa propriul cont, sa poata cauta cat si sa poata cumpara produsele dorite. Mai jos puteti urmari continutul celui de-al doilea story, (AS-26)

AS-2 As a user, I want to be able to create account on website

AS-26 As a user, I should be able to login with my account

AS-27 As a user, I should be able to search auto parts

AS-10 As a user, I should be able to buy auto parts from website



#### [AS-26] As a user, I should be able to login with my account

Created: 12/Sep/23 1:29 PM - Updated: 15/Sep/23 12:40 AM

##### Description

**Description:** As a user, I want to be able to log in to my existing account on the AutoKarma website (<https://autokarma.ro>). This feature will allow me to access my account, view my profile, and perform various account-related actions.

##### Requirements:

###### 1: User Login Interface

- The website should provide a user-friendly login interface that is easily accessible from the homepage or a dedicated login page.

###### 2: Required Information

- Users should be required to provide the following information to log in:
  - Registered Email Address
  - Password

###### 3: Successful Login

- Upon entering valid login credentials, the system should authenticate the user's identity and grant access to the user's account.

##### Password Reset

- Users should have the option to reset their password if they forget it.
- The password reset process should involve a secure method, such as receiving a password reset link via email.

##### Preconditions:

- The AutoKarma website (<https://autokarma.ro>) is accessible and operational.
- Users have registered accounts on the AutoKarma website.

##### Acceptance Criteria:

###### 1: User Login Interface

- The website should provide a clearly labeled and easily accessible login interface.

###### 2: Required Information

- Users must provide a registered email address and a valid password to log in.

- Invalid or missing information should result in appropriate error messages.

### 3: Successful Login

- After entering valid login credentials, the system should authenticate the user's identity and grant access to their account.
- The user should be directed to their account dashboard or a designated landing page after successful login.

### 4: Password Reset

- Users should have the option to reset their password if they forget it.
- The password reset process should be initiated from the login page or account recovery page.
- Users should receive a password reset link via email, and the link should expire after a specified time.
- Clicking the password reset link should allow users to set a new password for their account.
- After a successful password reset, users should receive an on-screen confirmation message.

### 5: Data Security

- The system should securely handle login credentials and protect user data.
- Failed login attempts should be logged for security purposes.












### 6: Website Availability

- The website (<https://autokarma.ro>) should be accessible and operational throughout the testing process.

These acceptance criteria should guide the testing of the "User Login on AutoKarma Website" story to ensure that users can log in securely and access their accounts with ease while maintaining data security.



## Conditii de testare

-  AS-35 Verify if the user is able to create a new account
-  AS-9 Verify if the user can login into his account
-  AS-22 Verify if the user can access his already created account
-  AS-15 Verify the "Forgot password" function
-  AS-20 Verify if the user can add products to cart
-  AS-28 Verify if an user can add products to wishlist
-  AS-25 Verify if the user is able to add his own car model into his account dashboard.
-  AS-18 Verify if the user can search by chasis code (VIN)
-  AS-19 Verify if the user can search products by universal name or product code
-  AS-21 Verify if the user can find parts for a specific car
-  AS-33 Verify the GUI elements from the website

# Cazuri de testare



## [AS-25] Verify if the user is able to add his own car model into his account dashboard.

Created: 11/Sep/23 3:39 PM - Updated: 15/Sep/23 12:39 AM

**Status:** In Progress  
**Project:** Adrian Sandu

### Description

The registered users should be able to save their own car models into the account, in order to search easier the auto parts from website [www.autokarma.ro](http://www.autokarma.ro).

### Preconditions:

Website [www.autokarma.ro](http://www.autokarma.ro) is online;

User have to a valid and unique user account;

User can login with his account;

[www.autokarma.ro/masini](http://www.autokarma.ro/masini) page is available.

Test Step	Test Data	Expected Result
1. Assuming that user is already logged in, go to <a href="https://autokarma.ro">https://autokarma.ro</a>	<a href="https://autokarma.ro">https://autokarma.ro</a>	Website is online
2. Hover "Contul meu" button and click "Contul meu" link from the list		User is directed to the page: <a href="https://www.autokarma.ro/contul-meu">https://www.autokarma.ro/contul-meu</a>
3. Click the "Masinile mele" link		<a href="https://www.autokarma.ro/masini">https://www.autokarma.ro/masini</a> page is opened
4. Click "Adauga masina button"		<a href="https://www.autokarma.ro/index.php?route=account/cars/add">https://www.autokarma.ro/index.php?route=account/cars/add</a> is openede
5. Select the: Class / Brand / Group / Model / Engine type	Clasa: Automobile Marca: Opel Grupa: Astra Model: Astra H Classic Motor: 1.7 CDTI, L48 74Kw	
6. Write the chasis code into the "Serie categorie" field	W0L0AHL4848130867	
7. Click "Salvare" button		user is redirected to the page: " <a href="https://www.autokarma.ro/masini">https://www.autokarma.ro/masini</a> " and the added car is properly displayed on the page.

Version	Test Cycle	Status	Defects	Executed By	Executed On
Unscheduled	Ad hoc	PASS		IT Factory	13/Sep/23 4:32 PM



## [AS-35] Verify if the user is able to create a new account

Created: 15/Sep/23 1:52 PM - Updated: 15/Sep/23 2:52 PM

**Status:** To Do  
**Project:** Adrian Sandu  
**Component/s:** None  
**Fix Version/s:** None

**Type:** Test  
**Reporter:** IT Factory  
**Priority:** High  
**Assignee:** IT Factory

### Description

The user should be able to acces [autokarma.ro](http://autokarma.ro) website

The user have a valid email account

The user have a valid adress

User agree with Terms and condition and also with processing of personal data.

### Preconditions:

Internet connection;

Web browser;

The host page <https://www.autokarma.ro/creare-cont> should be online.

The user should be able to create a new account

Test Step	Test Data	Expected Result
1. Open website: Autokarma.ro		Website is online
2. Hover "CONTUL MEU" button located in the top-right corner and click "Autentificare"		"CONTUL MEU" is displaying the drop-down list properly and user is redirected to account creating page
3. Fill all the mandatory fields: Nume / Prenume / Email / Telefon / Judet / Localitate / Adresa / Cod Postal / Magazin preferat / Parola	Adrian / Sandu / adriansandu@yahoo.com / 0730000123 / Piatra Olt / Strada Stadionul / 235500 / Craiova Brancoveanu 7A / 1234	All the fields are accepting inputs
4. Check all the check boxes that the user agree with Terms and condition and also with processing of personal data.		The check boxes are working properly
5. Click "Inregistreaza cont" button		The system is creating the new account

Version	Test Cycle	Status	Defects	Executed By	Executed On
Unscheduled	Ad hoc	PASS		IT Factory	22/Sep/23 12:35 AM

# Matricea trasabilitatii pentru cele 2 story-uri ce contin si defecte

Requirement	Test	Execution	Defect
<p><b>AS-10</b> As a user, I should be able to buy auto parts from website <b>Status:</b> In Progress <b>Total defects:</b> 2</p>	<p><b>AS-19</b> Verify if the user can search products by universal name or product code</p>	<p><b>Cycle:</b> Ad hoc <b>Status:</b> PASS</p>	
	<p><b>AS-20</b> Verify if the user can add products to cart</p>	<p><b>Cycle:</b> Ad hoc <b>Status:</b> PASS</p>	<p><b>AS-31</b> The quantity field accept letters and special characters <b>Status:</b> To Do <span>step level</span></p>
	<p><b>AS-21</b> Verify if the user can find parts for a specific car</p>	<p><b>Cycle:</b> Ad hoc <b>Status:</b> PASS</p>	
	<p><b>AS-28</b> Verify if an user can add products to wishlist</p>	<p><b>Cycle:</b> Ad hoc <b>Status:</b> PASS</p>	
	<p><b>AS-33</b> Verify the GUI elements from the website</p>	<p><b>Cycle:</b> Ad hoc <b>Status:</b> FAIL</p>	<p><b>AS-34</b> Problems displaying header at different resolutions (Responsiveness bug) <b>Status:</b> To Do <span>step level</span></p>
<p><b>AS-2</b> As a user, I want to be able to create account on website <b>Status:</b> In Progress <b>Total defects:</b> 4</p>	<p><b>AS-3</b> Verify the redirection from "Contul meu" to the "Create Account" page.</p>	<p><b>Cycle:</b> Ad hoc <b>Status:</b> PASS</p>	
	<p><b>AS-4</b> Verify the required field inputs on the "Creare cont" page</p>	<p><b>Cycle:</b> Ad hoc <b>Status:</b> PASS</p>	
	<p><b>AS-15</b> Verify the "Forgot password" function</p>	<p><b>Cycle:</b> Ad hoc <b>Status:</b> PASS</p>	<p><b>AS-16</b> Forgot password function is actually generate new password <b>Status:</b> To Do <span>step level</span></p>
	<p><b>AS-35</b> Verify if the user is able to create a new account</p>	<p><b>Cycle:</b> Ad hoc <b>Status:</b> PASS</p>	<p><b>AS-6</b> Users can create accounts with less than 8 characters on password field <b>Status:</b> To Do <span>step level</span></p>
			<p><b>AS-30</b> Email validation rules don't work <b>Status:</b> To Do <span>step level</span></p> <p><b>AS-32</b> The website no longer displays error details after generating verification code <b>Status:</b> To Do <span>step level</span></p>

# Raportul de defecte



## [AS-31] The quantity field accept letters and special characters

Created: 14/Sep/23 4:00 PM - Updated: 15/Sep/23 2:35 PM

Status:	To Do		
Project:	Adrian Sandu		
Component/s:	None		
Affects Version/s:	None		
Fix Version/s:	None		
Type:	Bug	Priority:	Low
Reporter:	IT Factory	Assignee:	IT Factory

**Description**  
When attempting to add items to the cart, the quantity field does not enforce the maximum limit of 25 pieces. Instead, it allows the entry of letters and special characters.

- Steps to Reproduce:**
- Go to [www.autokarma.ro](http://www.autokarma.ro)
  - Hover "Universale" and click any category
  - In the quantity field, enter "abc" or special characters such as "!@#\$" and attempt to add the item to the cart.
  - Click "Adauga in cos"

**Expected Result:**  
The system should only accept numerical values for the quantity field and restrict entries to a maximum of 25 pieces.

**Actual Result:**  
The system allows the entry of non-numeric characters and does not enforce the quantity limit of 25 pieces, also displaying the message: "Succes! Ai adaugat Product X in cosul de produse"

- Environment:**
- Browser: [Google Chrome]
  - Operating System: [Windows 11 64 bit]

Pret cu TVA

22 RON

Cantitate

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🛒 Adauga in cos



## [AS-34] Problems displaying header at different resolutions (Responsiveness bug)

Created: 15/Sep/23 1:08 PM - Updated: 15/Sep/23 1:42 PM

Status:	To Do		
Project:	Adrian Sandu		
Component/s:	None		
Affects Version/s:	None		
Fix Version/s:	None		
Type:	Bug	Priority:	Medium
Reporter:	IT Factory	Assignee:	IT Factory

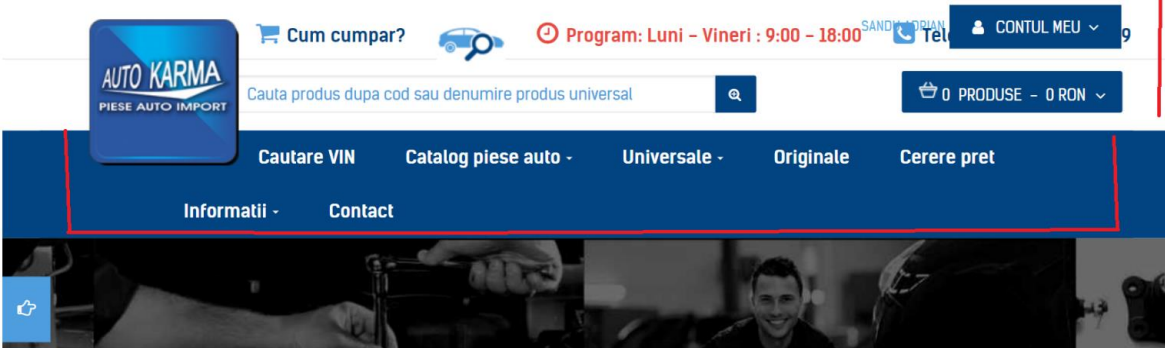
**Environment**  
Affected Browsers: [Google Chrome, Mozilla Firefox, Microsoft Edge]  
Affected Resolutions: [1024x600, 912x1368] (The most of these resolutions are for Tabled devices)

**Description**  
**Issue Summary:**  
Website layout issues and lack of responsiveness at certain browser resolutions.

**Steps to Reproduce:**  
Open a web browser.  
Visit the [autokarma.ro](http://autokarma.ro) website  
Set the browser resolution to [1024x600, 912x1368].

**Expected Behavior:**  
Navbar and header elements should be displayed properly.

**Actual Behavior:**  
Header elements are not displayed properly - Attached screenshots



## Analiza de risc

PCT.	SEVERITATE RISC	PROBABILITATE SA SE INTAMPLE	IMPACTUL PE CARE IL ARE
1	ACCEPTABIL R4 / P3	IMPROBABIL R1 / R3 / P2 / R5	REDUS R4 / P3
2	TOLERABIL R4 / P3	POSIBIL R2 / R4 / P3	MEDIU R5
3	INDEZIRABIL R2 / R3 / P2 / R5	PROBABIL P1	MARE R2 / R3 / P2
4	INTOLERABIL R1 / P1	FOARTE PROBABIL	EXTREM R1 / P1

### Riscuri de Proiect (R)

Comunicarea cu furnizorii internationali – R1:  $4+1+4=9$  pct

Riscul de a nu avea suficienți angajați calificați – R2:  $3+2+3=8$  pct

Riscul de a nu avea suficienți clienți pentru vânzarea produselor auto – R3:  $3+1+3=7$  pct

Inflația, creșterea prețului produselor de la distribuitori – R4:  $2+2+1=5$  pct

Probleme cu firmele de curierat – R5:  $3+1+2=6$  pct

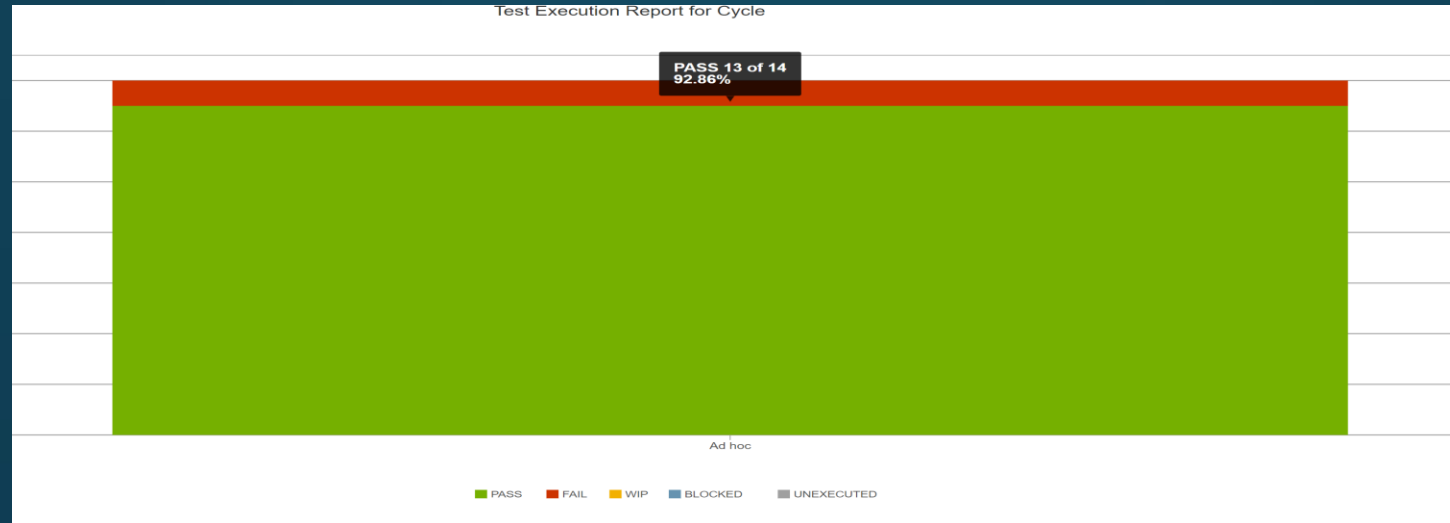
### Riscuri de Produs (P)

Disfuncționalitate server / baza de date / magazin online – P1:  $4+3+4=11$  pct

Riscuri de Securitate – P2:  $3+1+3=7$  PCT

Buguri în aplicație – P3:  $2+2+1=5$  PCT

## Test execution chart (Raport de executie din Jira)



Din acest raport reiese faptul ca din 14 teste valide, 1 a fost esuat.

### Concluzii generale in urma testarii website-ului [www.Autokarma.ro](http://www.Autokarma.ro)

Toate cele 13 test case-uri planificate pentru executie au fost verificate in urma testarii.

Din cele 13 teste au fost gasite un numar de 6 bug-uri, iar prioritatea lor:

- 2 de prioritate mare;
- 2 de prioritate medie;
- 2 de prioritate mica.

Avand in fata website-ul unei companii aflata de 27 de ani pe piata magazinelor auto din Romania, nu am detectat erori grave care sa pericliteze functionarea site-ului sau sa impiedice utilizatorul sa comande piese auto. Dupa cum bine stim, nu exista un produs software perfect. Site-ul poate fi imbunatatit, erorile gasite de mine pot fi corectate, eu voi contacta webmasterul magazinului si ii voi trimite feedback-ul meu.

# Va multumesc!

<https://github.com/AdrianSandu92/Manual-Testing-Project>