# SolutionRequirementsforShopEZ

**ProjectName:**shopez-one-stop-shop-for-online-purchases

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# FunctionalRequirements

Thesedescribewhatthesystemshoulddo:

## User Management

* + Usersshouldbeabletoregisterandlog in.
  + JWT-basedauthenticationandsessionmanagement.
  + Separaterolesfor**Admin**and**Customer**.

## Product Management

* + Userscanviewallproductsbycategory.
  + Searchandfilterfunctionalitybyname,brand,andprice.
  + Admincanadd,edit,anddelete products.

## Cart and Checkout

* + Userscanadditemstothecartandupdate quantities.
  + Viewcartsummarywithtotalamount.
  + Checkoutpagetoplace orders.

## Order Management

* + Ordersarestoredwithuserdetails,items,totalprice,anddate.
  + Userscanvieworderhistoryandtrackstatus.
  + Admincanviewallordersandupdatedeliverystatus.

# Non-FunctionalRequirements

Thesedefinethequalityandperformancestandards:

## Security

* + Userpasswordsencryptedwith bcrypt.
  + JWTusedforsecure authentication.
  + Routeprotectionfor bothadminand users.

## Performance

* + APIresponsesoptimizedforminimallatency.
  + Lazyloadingon thefrontend toimproveperformance.

## Scalability

* + Modulararchitectureforeasyexpansion(e.g.,coupons,payment gateways).
  + Canscalehorizontallywithadditionalservicesifrequired.

## User Interface

* + Clean,modernUIusingReactandBootstrap.
  + Mobile-responsivedesignforaccessibilityondifferent devices.

## Database Requirements

* + MongoDBtostoreuser,product,order,andcartdata.
  + Well-structuredschemarelationshipsusingMongoose.

# System Requirements

## Frontend:

* + React.js(withHooksandfunctional components)
  + Bootstrap/CSSforstyling

## Backend:

* + Node.jswithExpress.js framework
  + JWT& bcryptfor auth&security

## Database:

* + MongoDB(hostedviaMongoDBAtlasor locally)

## Tools:

* + Postman(forAPI testing)
  + VS Code(development)
  + Git& GitHub(version control)