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E – Pass System Class Diagram (Pre-System – Development)
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Application

+ startApplication() :: void

uses

Initiates

FileHandler

+ readFile(String filepath) :: String
+ writeFile(String filepath, String content) :: void

UserAuthentication

- String database URL
- String databaseUsername
- String databasePassword

+ connectDatabase() :: boolean
+ authenticateUser(String username, String password) :: boolean

Throws

uses

Initiates

ApplicationException

- String message

+ handleException() :: void

interface
IGUI

- displayForm() :: void

LoginGUI

- TextField usernameField
- PasswordField passwordField
- Button loginButton
- Label loginStatusLabel

+ displayLoginForm() :: void
+ submitLoginDetails() :: boolean

Transitions

EPassForm

- TextField studentIDField
- TextField personalInfoField
- ComboBox campusComboBox
- DatePicker travelDate

+ displayEPassForm() :: void
+ SubmitEPassDetails() :: EPass

Transitions

PaymentDetailsForm

- TextField expiryDateField
- TextField cardNumberField
- TextField cvvField
- ComboBox paymentMethodComboBox

+ displayPaymentForm() :: void
+ submitPaymentDetails() :: PaymentConfirmation

Generates

RenderedEPass

+ String ePassID
+ String studentID
+ Date travelDate
+ String barcodeImageURL

+ generateEPass() :: EPass

uses

ReceiptInfo

+ String transactionID
+ String paymentDetails
+ Date paymentDate

+ generateReceipt() :: Receipt