Scripts

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Introduction

Is a structure that describes a stereotyped sequence of events in a particular context.

It is similar to a thought sequence or a chain of situations which could be anticipated.

Use a frame-like structure to represent the commonly occurring experience like going to the College, eating in a restaurant, shopping in a supermarket, or visiting Doctor.

Thus, a script is a structure that prescribes a set of circumstances that could be expected to follow on from one another.

Components of a Script

Entry condition: These are basic condition which must be fulfilled before events in the script can occur.

Results: Condition that will be true after events in script occurred.

Props: Slots representing objects involved in events

Roles: These are the actions that the individual participants perform.

Track: Variations on the script. Different tracks may share components of the same scripts.

Scenes: The sequence of events that occur.

Script Actions

Describing a script, special symbols of actions are used.

Symbol	Meaning	Example
ATRANS	transfer a relationship	give
PTRANS	transfer physical location of an object	go
PROPEL	apply physical force to an object	Push

Symbol	Meaning	Example
MOVE	move body part by owner	kick
GRASP	grab an object by an actor	hold
INGEST	taking an object by an animal eat	drink

Symbol	Meaning	Example
EXPEL	expel from animal's body	cry
MTRANS	transfer mental information	tell
MBUILD	mentally make new information	decide

Symbol	Meaning	Example
CONC	conceptualize or think about an idea	Think
SPEAK	produce sound	say
ATTEND	focus sense organ	listen

Example #1:- Withdraw money

Script for going to the bank to withdraw money.

SCRIPT: Withdraw money

TRACK: Bank

PROPS: Money

Counter

Form

Token

Roles:

P= Customer
E = Employee
C=Cashier

Entry conditions:

P has no or less money.
The bank is open.

Results:

P has more money.

Detailed Script

Scene 1: Entering

P PTRANS P into the Bank
P ATTEND eyes to E
P MOVE P to E

Scene 2: Filling form

P MTRANS signal to E
E ATRANS form to P
P PROPEL form for writing
PATRANS form to P
E ATRANS form to P

Scene 3: Withdrawing money
PATTEND eyes to counter
P PTRANS P to queue at the counter
P PTRANS token to C
CATRANS money to P

Scene 4: Exiting the bank
P PTRANS P to out of bank

Example #2:- Robbing a Bank

SCRIPT: Robbing a Bank

TRACK: Bank

PROPS: L- Loot
G- Gun
B- Bag
C- Get away Car

Roles: R Robber
M = Cashier
O Bank Manager
P Policeman

This might involve:
Getting a gun.
Hold up a bank.
Escape with the money

Entry conditions: R is poor.
R is destitute

Results: R has more money.
O is angry.
M is in a state of shock.
P is shot.

Scenes

Scene1: Getting a Gun
R PTRANS Rinto Gun Shop
R MBUILD R choice of G
RMTRANS choice
R ATRANS buys G

Scene 2: Holding up the Bank
R PTRANS R into bank
R ATTEND eyes M, O and P
R MOVE R to M position
R GRASP G
R MOVE G to point to M
RMTRANS "Give me the money or ELSE" to M
PMTRANS "Hold it Hands Up" to R
R PROPEL shoot G
PINGEST bullet from G
M ATRANS L to R
RMTRANS L puts in bag, B
R PTRANS exit
O ATRANS raise the alarm
(goto scene 3)

Scene 3: The getaway
R PTRANS C

Example #3: Restaurant Visit

Objects: tables, menu, food, money, …

Roles: customer, waiter, cook, cashier, owner, …

Entry conditions: customer hungry, customer has money

Results: customer not hungry, customer has less money, owner more money, …

Scenes

-Scene 1: Entering

Customer enters restaurant
Customers looks at tables
Customer decides where to sit
Moves towards the table
Customer sits

-Scene 2: Ordering

* waiter brings menu
*...

Script Restaurant

Props
- Tables
- Menu
- F = Food
- Check
- Money

Roles
- P = Customer
- O = Waiter
- V = Cook
- K = Cashier
- S = Owner

Entry conditions
- P is hungry
- P has money

Results
- P has less money
- P is not hungry
- P is pleased (optional)
- S has more money

Scene 1: Entering

P PTRANS P into restaurant
P ATTEND eyes to tables
P MBUILD where to sit
P PTRANS P to table
P MOVE P to sitting position

Scene 2: Ordering

(Menu on table)
O brings menu)
P PTRANS menu to P

(S asks for menu)
S MTRANS signal to O
O PTRANS O to table
P MTRANS "need menu" to O
O PTRANS O to menu

O PTRANS O to table
O ATRANS menu to P

P MTRANS food list to P
* P MBUILD choice of F
P MTRANS signal to O
O PTRANS O to table
P MTRANS 'I want F' to O

O PTRANS O to V
O MTRANS (ATRANS F) to V

V MTRANS 'no F' to O
O PTRANS O to P
O MTRANS 'no F' to P
(go back to *) or
(go to Scene 4 at no pay path)

V DO (prepare F script)
to Scene 3

Scene 3: Eating

V ATRANS F to O
O ATRANS F to P
P INGEST F

Option: Return to Scene 2 to order more; otherwise, go to Scene 4

Scene 4: Exiting

P MTRANS to O
(O ATRANS check to P)

O MOVE write check
O PTRANS O to P
O ATRANS check to P
P ATRANS tip to O
P PTRANS P to K
P ATRANS money to K
P PTRANS P to out of restaurant

No pay path

Schank un Abelson, 1977

Benefits

Ability to predict events. Events tend to occur in known runs or patterns.

A casual relationship between events exist. A single coherent interpretation maybe builds up from a collection of observations.

An entry condition exists which allows an event to take place.

Prerequisites exist upon events taking place. E.g. when a student progresses through a degree scheme or when a purchaser buys a house.

Limitations

Less general than frames.

May not be suitable to represent all kinds of knowledge

Thank you