*incrementally*

refine requirements

Iterative

*software provide*

service?

analyse

document

check

capture

***R***equirement ***E***ngineering

* functional
* non-functional

requirement

*results 🡪 program state*

erroneous

normal

user interactions

*(entities)*

*relationship name*

*entity name*

<attributes>

data

functions

Statement

Functional requirements

retrieve

*title*d documents

collection

query

keywords

contain

document collection

remote web site

local folder

retrieve

web documents

URL

*search*

*display*

*obtain document*

KEngine *normal* functional requirements

~~System errors~~

User errors

System return*empty*

result

user enter

non-existent word

System inform error

user enter

non-keyword

*search*

System inform error

wrong

empty-target

duplicate

user enter

URL

*obtain*

KEngine *errorneous*  functional requirements

query result 🡪 matches

keywords

*Query*

non-keywords

body

title

uniform resource locater

Document

URL

KEngine data requirements

* performance
* modifiability
* reusability
* delivery schedule

NFR

range of response time is 1-5 secs

should be quantified

lead to

other functional

requirements

emergent

properties

functions

constraint

*non-functional requirements*

*Requirement capturing* 🡪 capture detailed requirements

* interview
* document captering
* use case
* prototyping

technique: UCD ( Use Case Description)

*Use Case*: 1/ more related user interaction 🡪 system 🡸 (by) perform its funtions

capture detail 🡨 each function

linked

* normal
* extended: alternative + erroneous interactions

|  |  |  |
| --- | --- | --- |
|  | UCD |  |
| *Actor* | interacted users’ names | user |
| *Description* | short (UC) | user enter  keyword query system    request  execute |
| *Data* | data requirements | keyword query |
| *Stimulus* | user action 🡪 system *perform* this function | request  user command system  execute  query |
| *Response* | description of function | each document: aggregate frequencies …..  return  collection  *query keywords* |
| *Pre-conditions* | REQUIRES | determine *keywords* & *non-keywords* |
| *Post-conditions* | EFFECTS | query result |
| *Extension* | error | **Extended:** Additional scenarios  erroneous interactions  non-keyword  non-existent word  user enter  user enter  user enter  System inform error  return empty result |