SYSTEM FOR GENERATING SCENARIOS AND ASSESSMENT OF NUCLEAR EMERGENCY DRILLS

A new challenge for nuclear emergency training

THE BRAZILIAN NUCLEAR PROTECTION SYSTEM - SIPRON ANNUAL PLANNIG

- In response to the Fukushima Nuclear Accident the Brazilian Nuclear Protection System – Sipron decided to improve the nuclear emergency analysis methodology:

- In doing so, it was decided to develop a computerized system for:

  - generation of nuclear emergency scenarios, and

  - improvement of the evaluation of nuclear emergency exercises

MOTIVATIONS

Present situation

- The emergency scenarios are known months in advance; Cenário de emergência.docx

- There are no opportunities for decision making training;

- Emergency Exercises Assessments are subjective;

- The costs are high.

Future Situation

- The scenarios will be unknown and may be amended;

- There will be opportunity to decision-making training;

- The evaluations of emergency drills will be objective;

- The costs will be lower.

BASIC PROJECT

- The software to be developed will have 4 main modules:

- Administration Module

- Drafting and Dditing Scenarios Module

- Visualization Module - including 3D views

- Evaluation of Nuclear Emergency Drills Module

- For each module have been described:

  - Functional Requirements

  - Non-functional Requirements

BASIC PROJECT- ADMINISTRATION MODULE: 28 FUNCTIONAL REQUIREMENTS

1. Include Institution
2. Delete Institution
3. Exclude Institution
4. Change Institution
5. Include Agents
6. Change Agents
7. Include Officers
8. Delete Officers
9. Include User
10. Change User
11. Delete User
12. Include Profile
13. Change Profile
14. Delete Profile
15. Link Profile the user
16. Changes Password
17. Block user
18. Authenticate User
19. Authenticate User-Token
20. Send E-mail
21. Consult Institution Listing
22. Consult Institution Details
23. Consult Responsible Agent Listing
24. Consult Scenario – Listing
25. Consult Scenario – Details
26. Consult User Details
27. Consult User Listing
28. Consult Profile - Details

BASIC PROJECT-MODULE OF SCENARIOS: FUNCTIONAL REQUIREMENTS 48

1. Include Scenarios
2. Change Scenarios
3. Delete Scenarios
4. Start Simulation Scenario
5. Respond Simulation Scenario
6. End Simulation Scenario
7. Include Emergency Stage
8. Change Emergency Stage
9. Delete Emergency Stage
10. Register Emergency Stage
11. Include Nuclear Emergency Control
12. Change Control Nuclear Emergency
13. Delete Nuclear Emergency Control
14. Include Center in Exercise
15. Include tracking center in Exercise
16. Include Exercise Accident
17. Change Exercise Accident
18. Include event for Scenario
19. Change event to Scenario
20. Delete event to Scenario
21. Include Parameter
22. Change Parameter
23. Delete Parameter
24. Bind the Parameter of Event Scenario
25. Bind the Scenario event Scenario
26. Include Resource
27. Change Feature
28. Delete Resource
29. Link Appeal exercise
30. Include Event exercise
31. Configure Inactivity
32. See Alert – List
33. See Alert – Detail
34. See Nuclear Emergency Control – List
35. See Nuclear Emergency Control- Detail
36. Consult Center – Composition – Detail
37. Query event to Scenario – list
38. Query event to Scenario – Detail
39. Query Parameter-List
40. Query Parameter- Detail
41. See Feature-List
42. See Resource-Detail
43. Local Query – List
44. See Location-Detail
45. Query Performance environment-List
46. Query Performance environment-Detail
47. Notify Simulation Scenario
48. Notify emergency Stage

BASIC PROJECT-VISUALIZATION MODULE:
13 FUNCTIONAL REQUIREMENTS

1. Include Site
2. Change Location
3. Delete Site
4. Include practice Environment
5. Changing practice Environment
6. Delete practice Environment
7. Show Scenario
8. Track Exercise
9. Insert 3 D Preview
10. Delete Preview 3 D
11. Link to preview the Scenario
12. Delete scenario Visualization
13. Modify Preview

BASIC PROJECT – EVALUATION MODULE
13 FUNCTIONAL REQUIREMENTS

1. Include Evaluation Parameters
2. Exclude Evaluation Parameters
3. Modify Evaluation Parameters
4. Statistics reports 1-10

BASIC PROJECT-NON-FUNCTIONAL REQUIREMENTS

We have identified and described with the help of GSI Information Technology Area 28 non-functional requirements of the system:

Requisitos Não Funcionais.docx

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BASIC PROJECT – REQUIREMENTS DESCRIBED

- Functional requirements – 102
- Non-functional requirements-28

SYSTEM VIEW

Visio-Interfaces_Sistema.pdf

COSTS AND SCHEDULE

1. Estimated cost of the system: R$ 590.000,00

2. We estimate that the system will be ready by December 2013

NEXT STEPS

- Establishment of a Technical Monitoring

- Development of Test Scenarios

    - Technical Scenario

    - Civil Defense Scenario

    - Environmental Scenario

    - Health Scenario

Thank you for your attention

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