1. AUTHORS

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2. VERSION HISTORY

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<th>Version Completion Date</th>
<th>Version Number</th>
<th>Work Completed</th>
<th>Author or Revisor</th>
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<td></td>
<td>0.1</td>
<td>Initial draft</td>
<td>Angela Scott, Paul Coen, Winston Smith</td>
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3. APPROVALS

<table>
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<tr>
<th>Approval Date</th>
<th>Version Approved</th>
<th>Name and Title of Approver</th>
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<tr>
<td></td>
<td>1.0</td>
<td>Bardh Hoxha</td>
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5. **INTRODUCTION**

The purpose of this document is to give an estimate on the effort and work required for the project and to adequately distribute goals amongst members. The goal of this document is to get feedback on the project from our customer, and to make sure that their needs are satisfied and our goals focused throughout the project phases.

6. **STATEMENT OF WORK**

UxAS currently processes three process algebra operators. The AFRL would like to add three new operators, which will collectively be able to indicate deadlines and startlines both in relation to time and other tasks. Our task is to modify UxAS to be able to do this.

7. **WORK REQUIREMENTS**

Kickoff:
- Improve our knowledge of the UxAS’s structure
- Review the source code for all modules
- Learn the call structure of messages
- Prepare this document
- Verify that this document specifies what the AFRL wants

Design Phase:
- Design program “blocks” and decide what will generally need to be done for this project
  - This includes deciding whether we will write new modules, modify existing modules, or a combination of the two
- Verify that this design outlines what the AFRL wants

Build Phase:
- Create more detail on the design, including major functions and their arguments
- Verify that this design will do what the AFRL wants

Implementation Phase:
- Code the project
- Bugfix code
- Verify that this code follows AFRL specifications

Verification Phase:
- Verify code line-by-line in accordance with DO-178c class A
- There may not be time for this phase, so it may be necessary to hand it off to the AFRL

Handoff/Closure:
- Deliver final working project to the AFRL
- Verify acceptance of final working project by AFRL

8. **SCHEDULE/MILESTONES**

[UxAS Implementation Timeline](#)

9. **ACCEPTANCE CRITERIA**

- Implement and outline the four operators
  - Add a ~ operator to UxAS. For the string "p ~ e", p will begin before e does
  - Add a dot operator to UxAS. For the string “p . e”, p will finish running before e begins
  - Add an operator _[n1 .. n2]. For the string “p ~ e _[1 .. 3]”, e will start anywhere from 1 to 3 seconds after the start of p
  - Add the operator -[t1 .. t2]. For the string "p -[1300 .. 1400]", p will start between the times of 1300 and 1400
- Appears to be bug-free
- Possible verification according to DO-178c class A
- If time permits?
- In accordance with style defined in the UxAS documentation
- Signoff of every major step by Dr. Hoxha and/or Derek Kingston

10. **Resource Requirements**
   - Ubuntu, v.17.10
   - Netbeans, v.8.2
   - Branch of OpenUxAS
     - Git, or another private code repository

11. **Risks**
   - Miscommunication - in regards to what needs done and the structure of the project
   - This will be a large amount of work, and we could potentially get behind if we do not strictly schedule and monitor our time
   - Un-tested side-effects of our module
   - There are strict code and environment requirements

12. **Roles and Responsibilities**
   - Team Manager - Angela
     - Organizes and directs the team on what modules need completed
   - Website - Paul
     - Updates the website with documentation and other information relating to progress on the project
   - Style Verification - Winston
     - Verify that the code from other team members follows the stylistic guidelines of UxAS
   - Code and Code Verification - Reserved Words
     - We will all be coding the whole project. Individual modules will be worked on by individual members.