



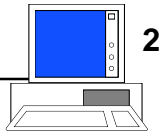
1

Factom Hackathon

Chicago Block Hawks



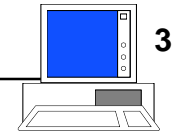
September 29 – 30, 2018



The Chicago Block Hawks Team

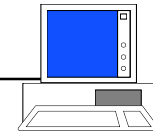
- **William Favre Slater, III**
- **Sravani Shatdarsanam**
- **Muthu Selvam**
- **Parth Vaghasiya**





Data Center Commissioning Application





The Business Problem and the Blockchain Solution

- **Business Problem:** The process of transitioning a Data Center from Development to Operations is known as “commissioning. However, this often doesn’t go smoothly because of the myriad of components and details associated with a Data Center, and because it is largely a manual process that uses spreadsheets and reports.
- **Blockchain Solution:** Develop a Blockchain and Blockchain App to Track the Data Center components and their status to completion using a Blockchain solution. As the status is continually tracked, a Smart Contract will execute and produce a transition report to show that the Data Center is ready for successful commissioning when the status of all components is shown as “Complete”.

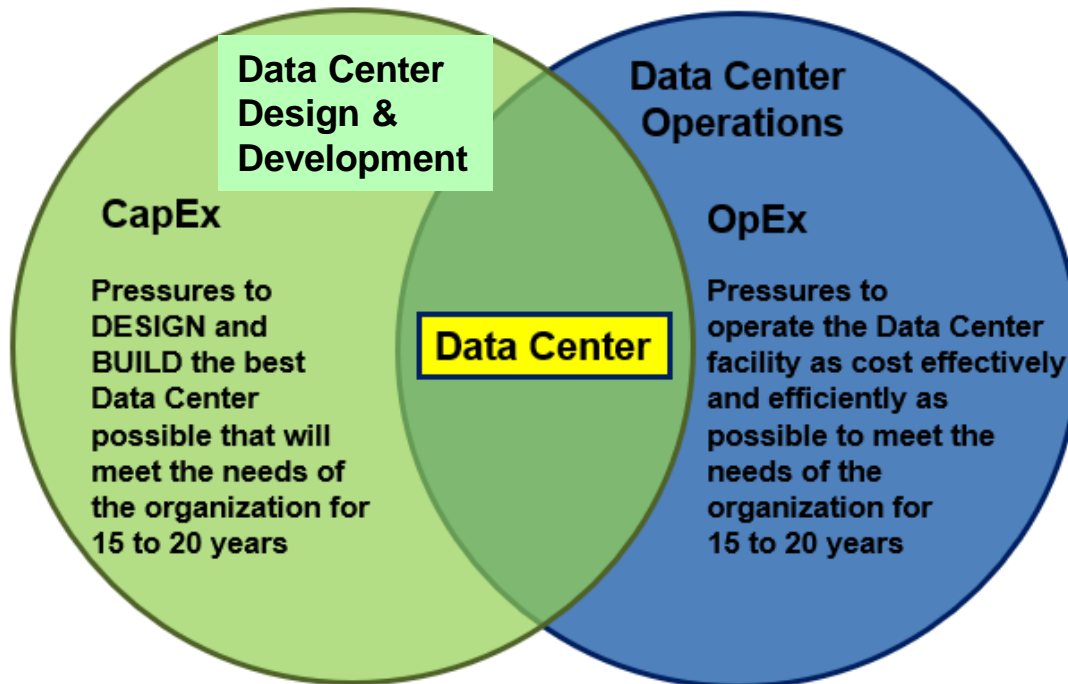


Commissioning Process

Data Center Design and Development

VS.

Data Center Operations





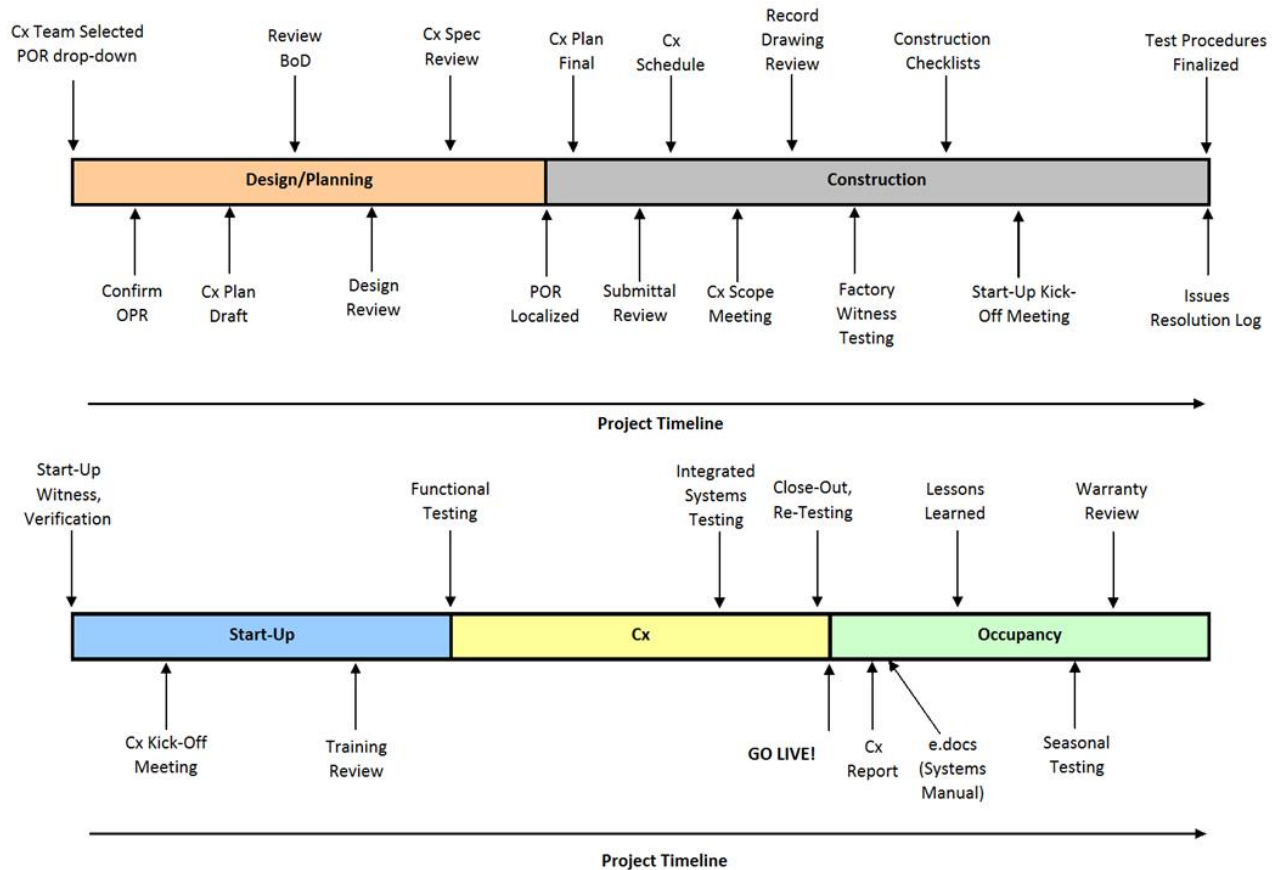
Commissioning Phases

- **Design & Planning**
- **Construction**
- **Startup & Commissioning**
- **Occupancy**

Commissioning Process Overall Timeline

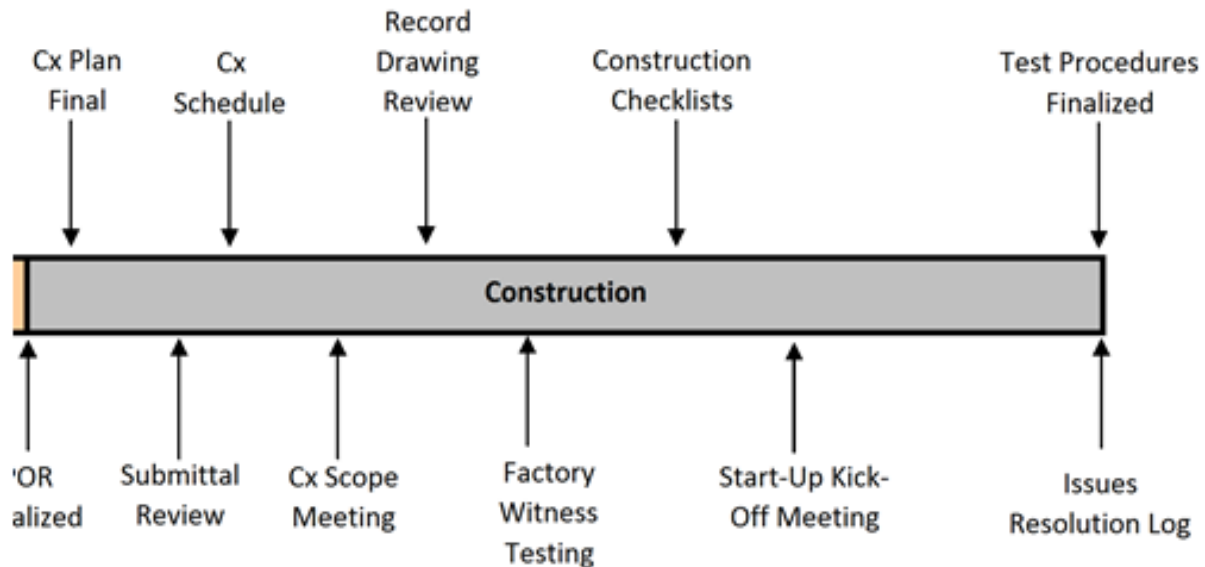
6 Commissioning Process

6.1 Commissioning Process Timeline



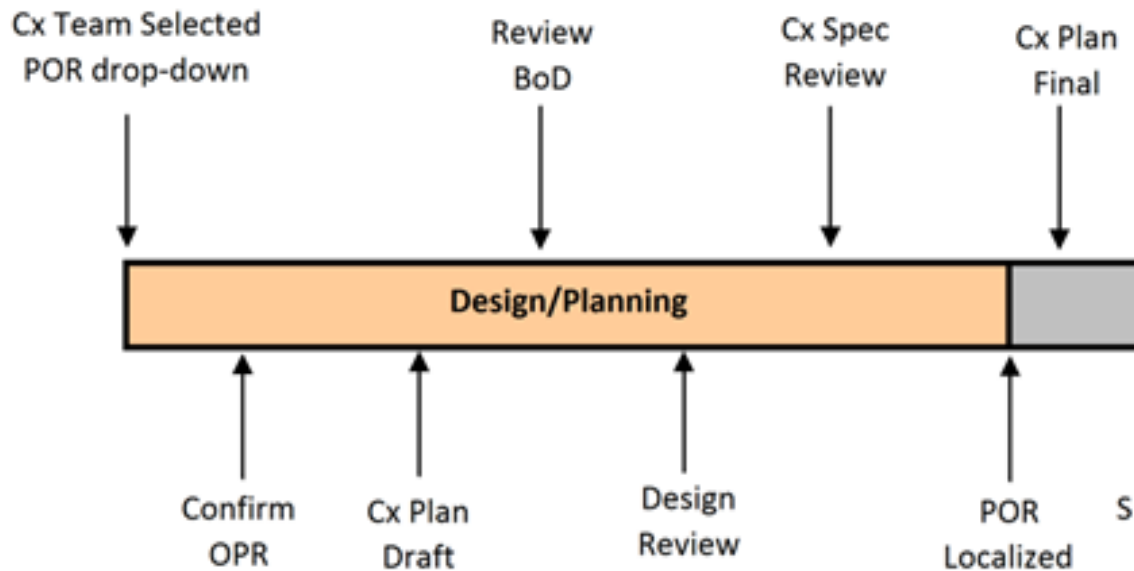
Commissioning Phase – Construction

Construction Phase



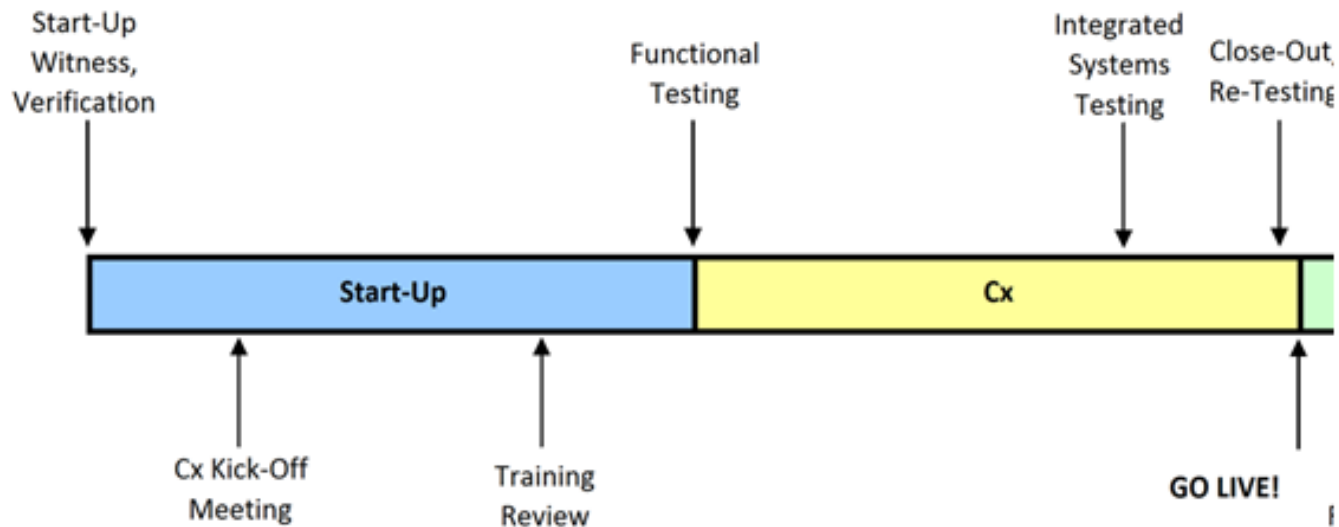
Commissioning Phase – Design & Planning

Design/Planning Phase



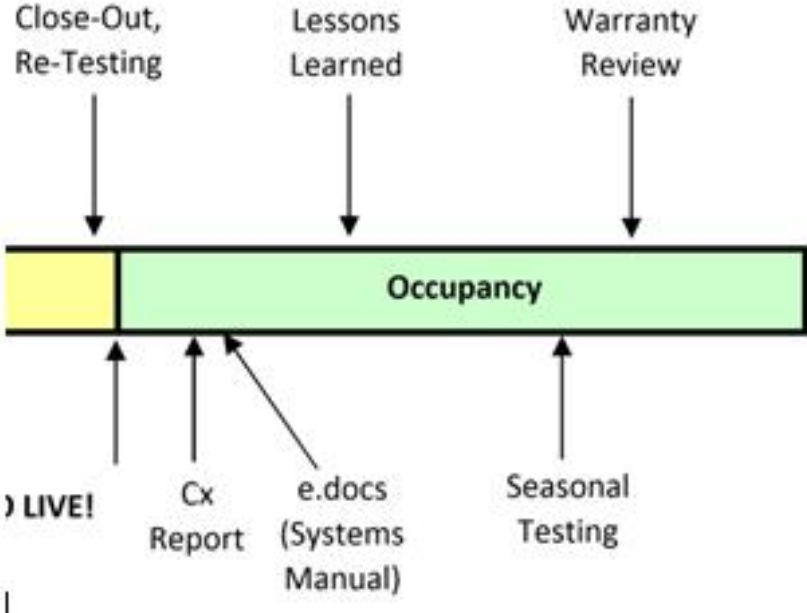
Commissioning Phase – Startup & Commissioning

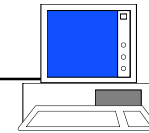
Start-Up and Commissioning Phase



Commissioning Phase - Occupancy

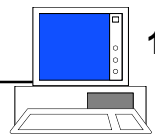
Occupancy Phase





UI Design





Start

Logon

Menu

Enter

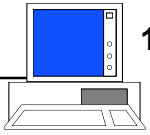
Query

Reports

Exit

Slater Technologies





Data Center Commissioning Application

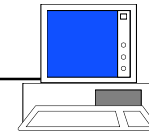
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Password

Submit

Exit





Data Center Commissioning Application

Main Menu

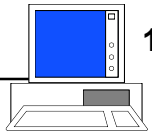
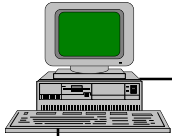
Enter Data

Query Data

Reports

Exit





Data Center Commissioning Application

Enter Data

Event

Category

Component

Component ID

Location

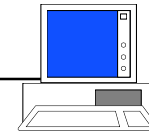
Status

Submit

Menu

Exit





Data Center Commissioning Application

Query Data

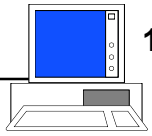
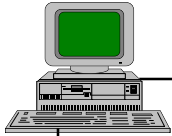
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		A	D
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Category	<input type="text"/>	<input type="radio"/>	<input type="radio"/>
Component	<input type="text"/>	<input type="radio"/>	<input type="radio"/>
Component ID	<input type="text"/>	<input type="radio"/>	<input type="radio"/>
Location	<input type="text"/>	<input type="radio"/>	<input type="radio"/>
Status	<input type="text"/>	<input type="radio"/>	<input type="radio"/>

Submit

Menu

Exit





Data Center Commissioning Application

Reports

Sort Order

A D

Event

Category

Component

Component ID

Location

Status

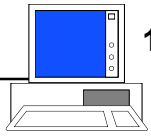
Report All

Submit

Menu

Exit





Commissioning Reports

5.7.1 Issue Resolution Log (IRL)

- > Issues discovered throughout the commissioning process will be documented and tracked on the Issues Resolution Log (IRL).
- > New issues will be documented immediately to reduce schedule delays. The log will at minimum include the following information:
 - Issue Number (Sequentially from 1, 2, 3...)
 - Test Number (Document where issue can be found)
 - Component/ System Identifier (e.g. CH-1)
 - Initiated Date (Date issue was found)
 - Source (Who found the issue)
 - Issue Type (e.g. Installation, Equipment, Design, etc.)
 - Responsibility (e.g. Mechanical, Controls, etc.)
 - Status (Unresolved, Resolved, Awaiting Reply, etc.)
 - Expected Resolution Date
 - Actual Resolution Date
- > The IRL will be reviewed at the commissioning meetings (or part of integrated GC meeting), which will occur throughout the project increasing in frequency to the functional and integrated testing period when the meetings will be held daily.
- > Resolved issues will be noted as resolved with the resolution description and date included. These resolved items may be hidden during log review, but will remain on the log for tracking purposes.
- > The OR shall have final approval on issue resolution. The OR can designate a representative to accept issue resolution in their place. Normally this is the Owner's Facility Operator (OFO) or the CxA.
- > For conditions where an issue cannot be resolved, the issue will be documented as such and left in the archive for future resolution.

***NOTE:** Any issues affecting system performance must be resolved prior to functional testing of that system.

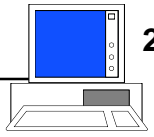




Commissioning Reports

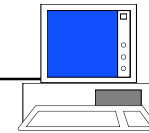
Commissioning Progress Reports

- > Monthly Reports: The CxA will provide monthly progress reports starting in June 2008 which will include an outline of the proceeding month's activities, issues, field reports, QA/QC reports, and testing reports. Additionally, the report will include an overall progress of the commissioning effort. The CxA will supplement these reports with other reports as required by the needs of the project. A sample monthly report has been included in [Appendix G](#).
- > Daily Reports: When the functional testing phase begins, a Daily Commissioning Report (DCR) will be provided detailing the tests performed, issues noted during the testing that require documentation on the IRL and resolution as well as conditions at the time of the test. A sample DCR has been included in [Appendix H](#).



UI Implementation





Logon

Data Center Commissioning

Username

Password

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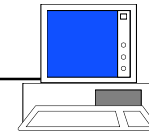
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Main Menu

Data Center Commissioning Menu

[Enter Data](#)

[Query Data](#)

[Reports](#)

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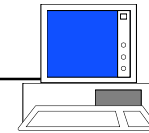
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Entry

Data Center Commissioning

Enter Data

Event

Category

Component

Component ID

Location

Status

[Menu](#)

[Exit](#)

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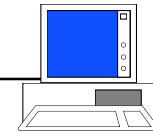
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Queries

Data Center Commissioning

Query Data

Event
Category
Component
Component ID
Location
Status

[Menu](#)

[Exit](#)

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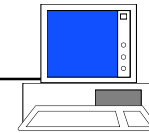
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Reports

Data Center Commissioning

Reports

Event

Category

Component

Component ID

Location

Status

Report All

Submit Reset

[Menu](#)

[Exit](#)

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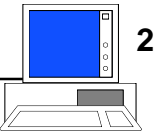
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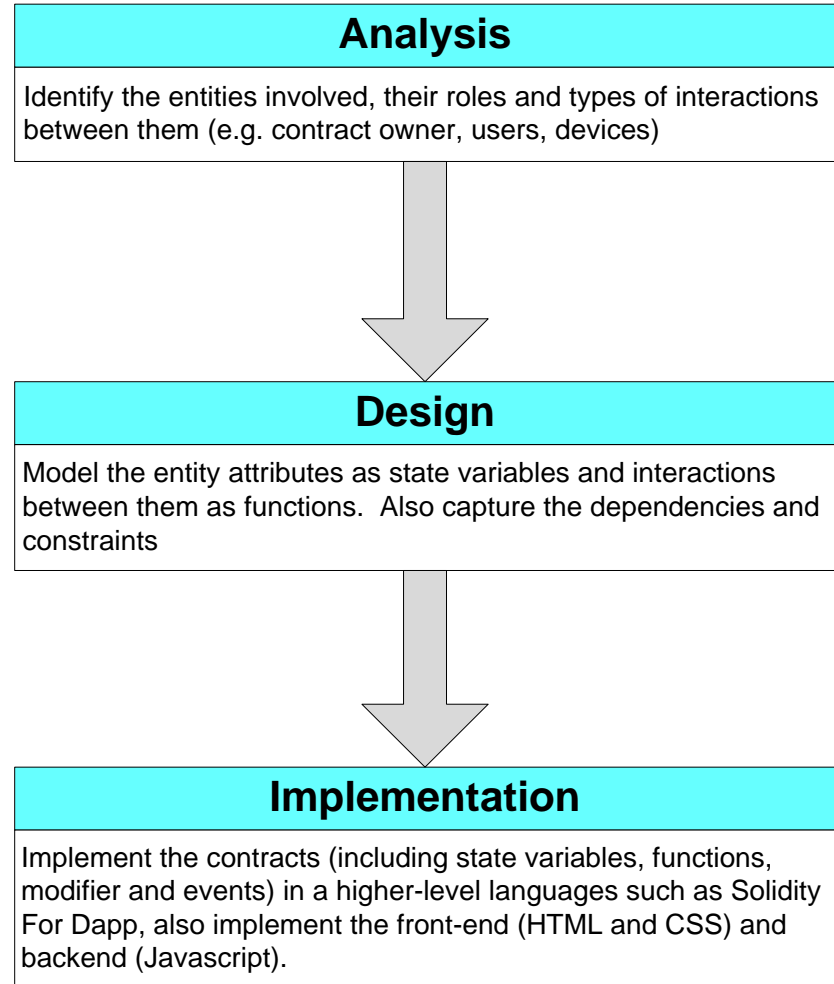
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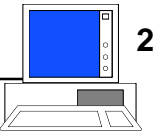




Blockchain App Development Steps

- **Analysis**
- **Design**
- **Implementation**





Questions?

