Report: Predix – The GE Machine

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Value Proposition

- A survey of 3 major Predix components (Core, Experience, and Data Lake) to connect the technology that makes up Predix to the GE services strategy

- Explains:
    - How technology stacks add value to a business
    - How GE leverages open source software to gain competitive advantage

Impact

- Deep understanding of the choices made when putting together the Predix technology stack

- Potential to apply innovations such as machine learning to existing GE software

- Final Report: Educational material can be posted in the GE collaborative space (colab.ge.com) to be used by GE employees to learn more about Predix

Technologies

A. Predix Core :
- Java
- Python
- Maven Server
- Node.js
- Grunt
- Bower
- Core Components

http://predix.sw.ge.com/content/predix-core-0

- Kernel
  - Security Services
  - Business Framework
  - Application Services
  - Administrative Services
  - Kernel Services
- System Management & Monitoring
  - Cluster Management
  - Node Management
  - Service Management
  - Log Viewer

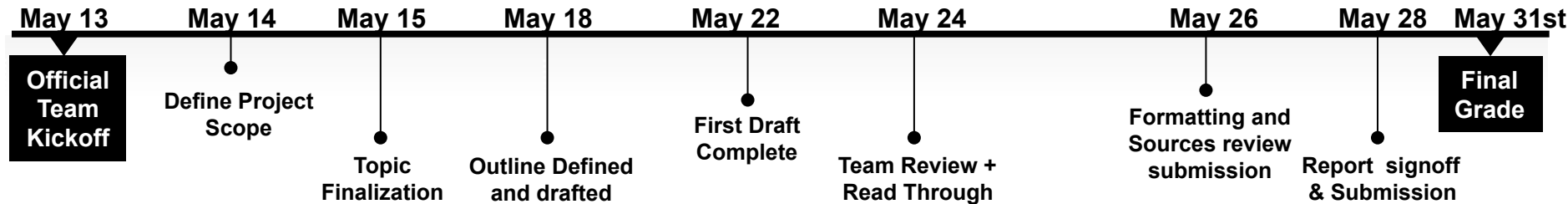**B. Predix Experience**
- Design Extensions
  - IIDx
  - CDx
  - HDx
  - iOSx
- Components
  - Bootstrap
  - Datagrids
  - Highcharts
  - Google Maps
  - Icons
- Predix Go
  - Cards
- iOS & Android
  - User Experience

C. Industrial Data Lake – Pivotal Hadoop -

http://pivotal.io/big-data/pivotal-big-data-suite

- Data Processing
  - Spring XD
  - Spark
  - Pivotal HD
- Advanced Analytics
  - Pivotal Greenplum DB
  - Pivotal HAWQ
- Apps at Scale
  - Pivotal GemFire
  - Redis
  - RabbitMQ
  - Pivotal Cloud Foundry - most used, Predix 2.0 uses

Project Plan

May 13	May 14	May 15	May 18	May 22	May 24	May 26	May 28	May 31st
Official Team Kickoff	Define Project Scope	Topic Finalization	Outline Defined and drafted	First Draft Complete	Team Review + Read Through	Formatting and Sources review submission	Report signoff & Submission	**Final Grade**

Area	Observation	Next steps	Status	By
Consolidate Projects	• Team restructured to include other businesses	• Redefine project scope + goals	✓	May 13
Topic Formation	• Initial topic was too broad to cover thoroughly in 20 pages.	• Narrowed scope from Machine Learning, Watson, + Predix to just Predix	✓	May 15
Outline Finalized	• 3 major components: Predix Core, Experience, and Data Lake	• Analyze and Connect the major Predix compenents	✓	May 18
Segregation of Duty	• Team to tackle the major compenents	• Consolidate and review each others work to create a consistent voice	✓	May 18
Consolidation and review	• Team meeting to review consolidated compents	• Verify & confirm content with external reviewer	→	May 24
Formatting + Submission	• Ensure that report meets GE confidentiality and IU standards	• Submit confirmed report • Screen shot submission	O	May 26-28