MSRI HOP Redevelopment

Jan 4, 2021

MIT Haystack

https://github.mit.edu/barrettj/hops-git

Project manager	
Project dates	Oct 1, 2019 - Jun 8, 2023
Completion	18%
Tasks	51
Resources	4

Tasks

Name	Begin date	End date
Documentation	10/1/19	5/31/23
Requirements list	10/1/19	12/1/20
External review of requirements list	12/2/20	12/9/20
Specification document	9/7/20	2/1/21
External review of specification	2/2/21	2/2/21
Help documentation - man pages	10/28/21	5/31/23
Developer guide	10/28/21	5/31/23
User guide	10/28/21	5/31/23
Code Developement	6/1/20	6/7/23
Create build system	6/1/20	12/31/20
Create and evaluate automake build system	6/1/20	12/31/20
Create and evaluate cmake build system	6/1/20	12/30/20
Import legacy software	7/30/20	1/1/21
Import old libraries (e.g. mk4utils)	7/31/20	11/20/20
Import and build old executables (fourfit, etc.)	7/30/20	11/20/20
Import tests for legacy libraries/execuatables (e.g. fourfit)	11/23/20	1/1/21
Develop new data container classes (DCC)	6/1/20	6/3/21
Create data container class definitions	6/1/20	12/11/20
Disk I/O library for DCC	12/14/20	2/26/21
mk4 to new DCC conversion library	12/14/20	4/28/21
mk4 to DCC conversion executable	4/29/21	6/3/21
DiFX to DCC conversion executable	12/14/20	3/1/21
Develop VLBI data analysis library and executables	6/4/21	5/1/23
Demonstrate simple single-band-delay search	6/4/21	6/23/21
Implement data flagging (time, freq, ad-hoc)	6/4/21	8/3/21
Implement per-AP/per-channel phase/delay correction/calib.	6/4/21	8/4/21
Implement per-AP/sub-channel phase/delay correction/cal.	6/4/21	1/13/22
Implement per-AP/ad-hoc phase/delay correction/calib.	6/4/21	1/14/22

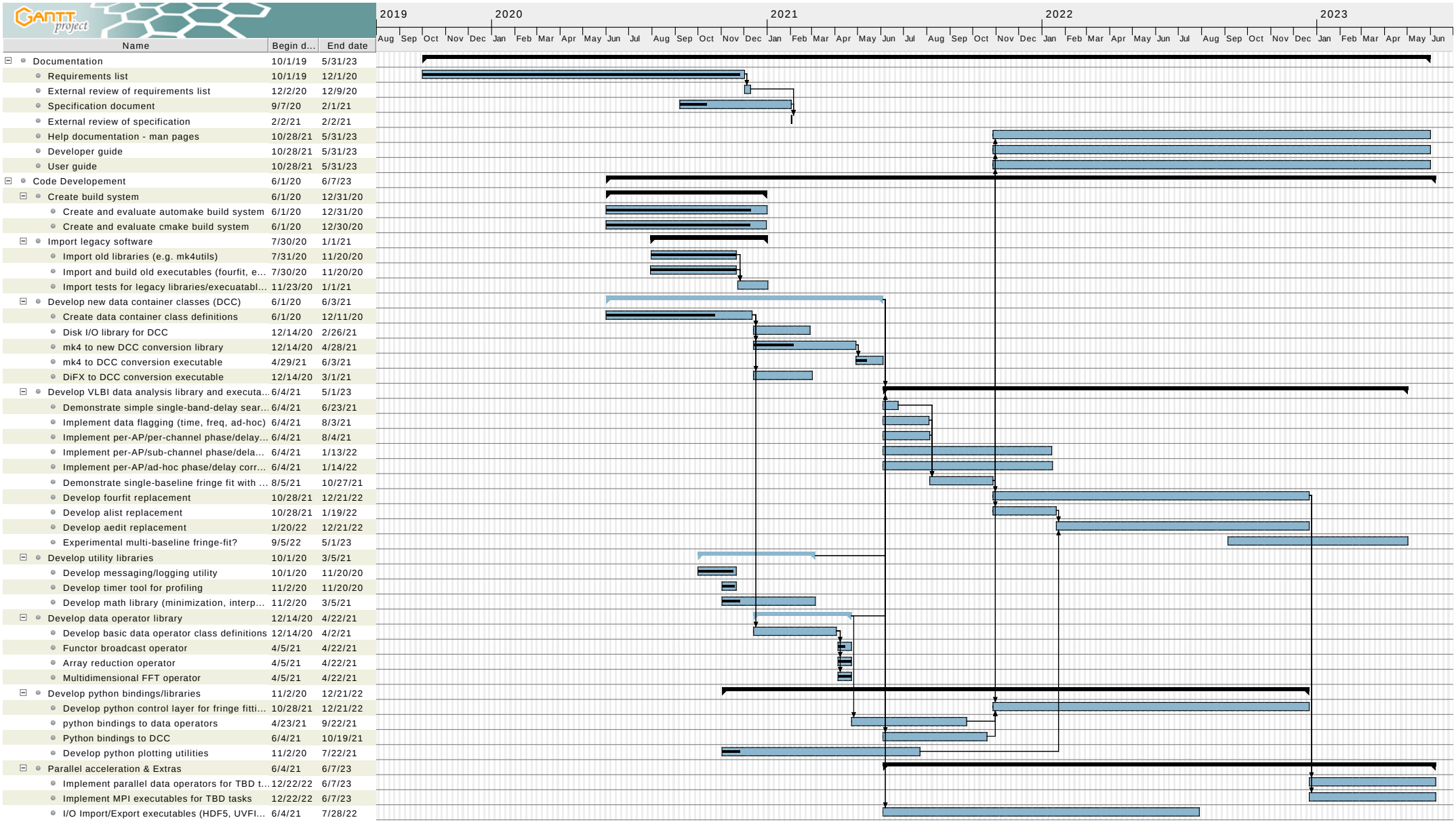
Tasks

Name	Begin date	End date
Demonstrate single-baseline fringe fit with new data containters/operators	8/5/21	10/27/21
Develop fourfit replacement	10/28/21	12/21/22
Develop alist replacement	10/28/21	1/19/22
Develop aedit replacement	1/20/22	12/21/22
Experimental multi-baseline fringe-fit?	9/5/22	5/1/23
Develop utility libraries	10/1/20	3/5/21
Develop messaging/logging utility	10/1/20	11/20/20
Develop timer tool for profiling	11/2/20	11/20/20
Develop math library (minimization, interpol., mx solve, etc.)	11/2/20	3/5/21
Develop data operator library	12/14/20	4/22/21
Develop basic data operator class definitions	12/14/20	4/2/21
Functor broadcast operator	4/5/21	4/22/21
Array reduction operator	4/5/21	4/22/21
Multidimensional FFT operator	4/5/21	4/22/21
Develop python bindings/libraries	11/2/20	12/21/22
Develop python control layer for fringe fitting control	10/28/21	12/21/22
python bindings to data operators	4/23/21	9/22/21
Python bindings to DCC	6/4/21	10/19/21
Develop python plotting utilities	11/2/20	7/22/21
Parallel acceleration & Extras	6/4/21	6/7/23
Implement parallel data operators for TBD tasks	12/22/22	6/7/23
Implement MPI executables for TBD tasks	12/22/22	6/7/23
I/O Import/Export executables (HDF5, UVFITS, etc.)	6/4/21	7/28/22

Resources

Name	Default role
John Barrett	developer
Geoff Crew	developer
Violet Pfeiffer	developer
Dan Hoak	developer

Gantt Chart



Name	Begin d...	End date
Documentation	10/1/19	5/31/23
Requirements list	10/1/19	12/1/20
External review of requirements list	12/2/20	12/9/20
Specification document	9/7/20	2/1/21
External review of specification	2/2/21	2/2/21
Help documentation - man pages	10/28/21	5/31/23
Developer guide	10/28/21	5/31/23
User guide	10/28/21	5/31/23
Code Developement	6/1/20	6/7/23
Create build system	6/1/20	12/31/20
Create and evaluate automake build system	6/1/20	12/31/20
Create and evaluate cmake build system	6/1/20	12/30/20
Import legacy software	7/30/20	1/1/21
Import old libraries (e.g. mk4utils)	7/31/20	11/20/20
Import and build old executables (fourfit, e...	7/30/20	11/20/20
Import tests for legacy libraries/execuatabl...	11/23/20	1/1/21
Develop new data container classes (DCC)	6/1/20	6/3/21
Create data container class definitions	6/1/20	12/11/20
Disk I/O library for DCC	12/14/20	2/26/21
mk4 to new DCC conversion library	12/14/20	4/28/21
mk4 to DCC conversion executable	4/29/21	6/3/21
DiFX to DCC conversion executable	12/14/20	3/1/21
Develop VLBI data analysis library and executa...	6/4/21	5/1/23
Demonstrate simple single-band-delay sear...	6/4/21	6/23/21
Implement data flagging (time, freq, ad-hoc)	6/4/21	8/3/21
Implement per-AP/per-channel phase/delay...	6/4/21	8/4/21
Implement per-AP/sub-channel phase/dela...	6/4/21	1/13/22
Implement per-AP/ad-hoc phase/delay corr...	6/4/21	1/14/22
Demonstrate single-baseline fringe fit with ...	8/5/21	10/27/21
Develop fourfit replacement	10/28/21	12/21/22
Develop alist replacement	10/28/21	1/19/22
Develop aedit replacement	1/20/22	12/21/22
Experimental multi-baseline fringe-fit?	9/5/22	5/1/23
Develop utility libraries	10/1/20	3/5/21
Develop messaging/logging utility	10/1/20	11/20/20
Develop timer tool for profiling	11/2/20	11/20/20
Develop math library (minimization, interp...	11/2/20	3/5/21
Develop data operator library	12/14/20	4/22/21
Develop basic data operator class definitions	12/14/20	4/2/21
Functor broadcast operator	4/5/21	4/22/21
Array reduction operator	4/5/21	4/22/21
Multidimensional FFT operator	4/5/21	4/22/21
Develop python bindings/libraries	11/2/20	12/21/22
Develop python control layer for fringe fitti...	10/28/21	12/21/22
python bindings to data operators	4/23/21	9/22/21
Python bindings to DCC	6/4/21	10/19/21
Develop python plotting utilities	11/2/20	7/22/21
Parallel acceleration & Extras	6/4/21	6/7/23
Implement parallel data operators for TBD t...	12/22/22	6/7/23
Implement MPI executables for TBD tasks	12/22/22	6/7/23
I/O Import/Export executables (HDF5, UVFI...	6/4/21	7/28/22

Resources Chart