CSCC01 Deliverable 4

Team Sierra

Venkat Korapaty
Amine Benaicha
Gisho Pushaparajah
Muneeb Khan
Harshil Patel

Contents

Product Backlog

John

1) I John, a researcher, want the program to extract information about exoplanets and their systems from the other catalogues (NASA and exoplant.eu) and convert them into the structure of the OEC so they can be added to the OEC.
   Priority: High, Cost: 8

2) I john, a researcher, want the program to determine if an exoplanet/system is new and needs to be added or already exists and can be updated/merged in the OEC.
   Priority: High, Cost: 22

3) I John, a researcher, want to be able to manually update the catalogue by running the program through the command line, by calling a command on a terminal to initiate the updating/merging process.
   Priority: High, Cost: 6

4) I John, a researcher, want to be shown all new additions and changes made to pre-existing entries in the OEC when manually merging with other catalogues. The planets/systems that were added should be listed, as well as the old and new values for any field/value of a pre-existing planet/system that was updated.
   Priority: High Medium, Cost: 14

5) I John, a researcher, want to be able to resolve individual conflicts when merging, by being shown the two versions and being prompted (in the terminal) to choose which version of the conflict to merge into the OEC.
   Priority: Medium, Cost: 17

6) I John, a researcher, want to be able to configure how often (in days) the program runs automatically to attempt to merge/update the OEC.
   Priority: Medium, Cost: 12

7) I John, a researcher, want to be notified by email of conflicts when an automatic merge occurs, so I can manually go in and choose which conflicts to merge.
   Priority: Low Medium, Cost: 12

8) I John, a researcher, want to get a report by email after an automatic merge, containing the changes and additions made to the OEC. It should list all the planets and their systems that were added and updated. It should also list what was changed for planets/systems that were updated.
Priority: Low, Cost: 8

9) I John, a researcher, want the git repository to be updated with a successful merged catalogue, by pushing the updated catalogue onto the repo, so that I have a log of all merges/changes made to the OEC.
Priority: Low, Cost:10

10) I John, a researcher, want the new changes when merging to match the units and format of the OEC.
Priority: Low, Cost: 14

Alice

1) I Alice, a professor, want the application to regularly run automatically so that the catalogue can stay up to date.
Priority: Low, Cost: 5

2) I Alice, a professor, want the merge to automatically solve any conflicts and apply the changes without my input by either choosing my conflict or their conflict for every conflict.
Priority: Low, Cost: 5

Release Plan

Each sprint will be 1 week, from Monday to Sunday.

- Sprint 1 (Oct 17th – Oct 23rd): John user stories 1, 3
- Sprint 2 (Oct 24th – Oct 30th): John user stories 2, 5
- Sprint 3 (Oct 31st – Nov 06th): John user stories 2, 10
- Sprint 4 (Nov 7th – Nov 13th): John user stories 2, 10
- Sprint 5 (Nov 14th – Nov 20th): John user stories 10, 4, 7, 9
- Sprint 6 (Nov 21st – Nov 27th): John: 8, 6 AND Alice user stories 1, 2

Deliverable 4 Overview/ Sprints

During the course of this deliverable, we completed 3 sprints, each 1-week long. The first sprint (sprint 2) progressed smoothly and we were able to better estimate how much work we can complete in a sprint. For sprint 3, we hit a road block in terms or design and had to rethink and redesign our project. This lead to some tasks being removed and others being unfinished because of the re-planning. In sprint 4 we were able to get back on track and complete a sizable portion of the work.

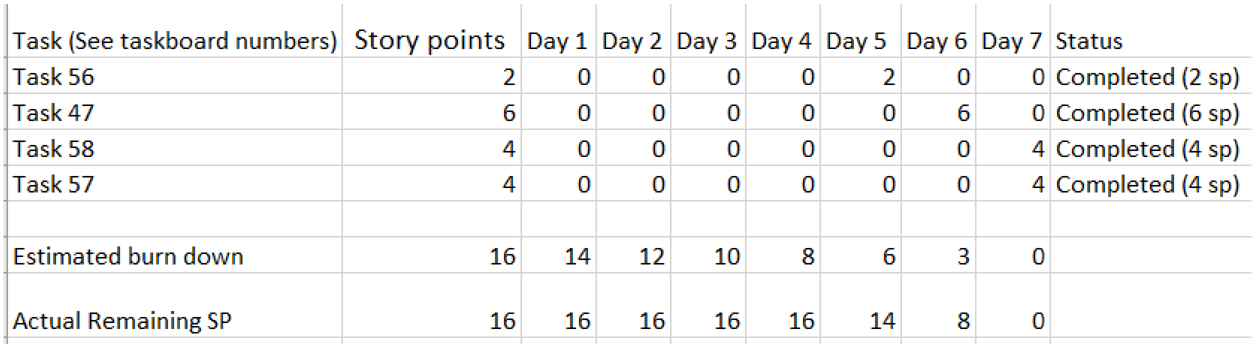
Sprint 2

Sprint Backlog

I john, a researcher, want the program to determine if an exoplanet/system is new and needs to be added or already exists and can be updated/merged in the OEC.
Priority: High, Cost: 22

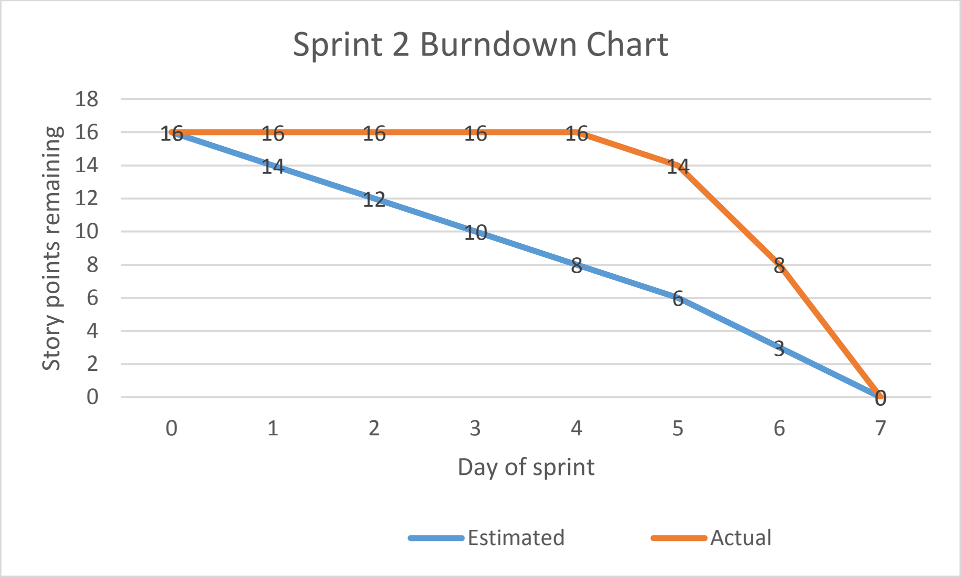
I John, a researcher, want to be able to resolve individual conflicts when merging, by being shown the two versions and being prompted (in the terminal) to choose which version of the conflict to merge into the OEC.
Priority: Medium, Cost: 17

Iteration plan



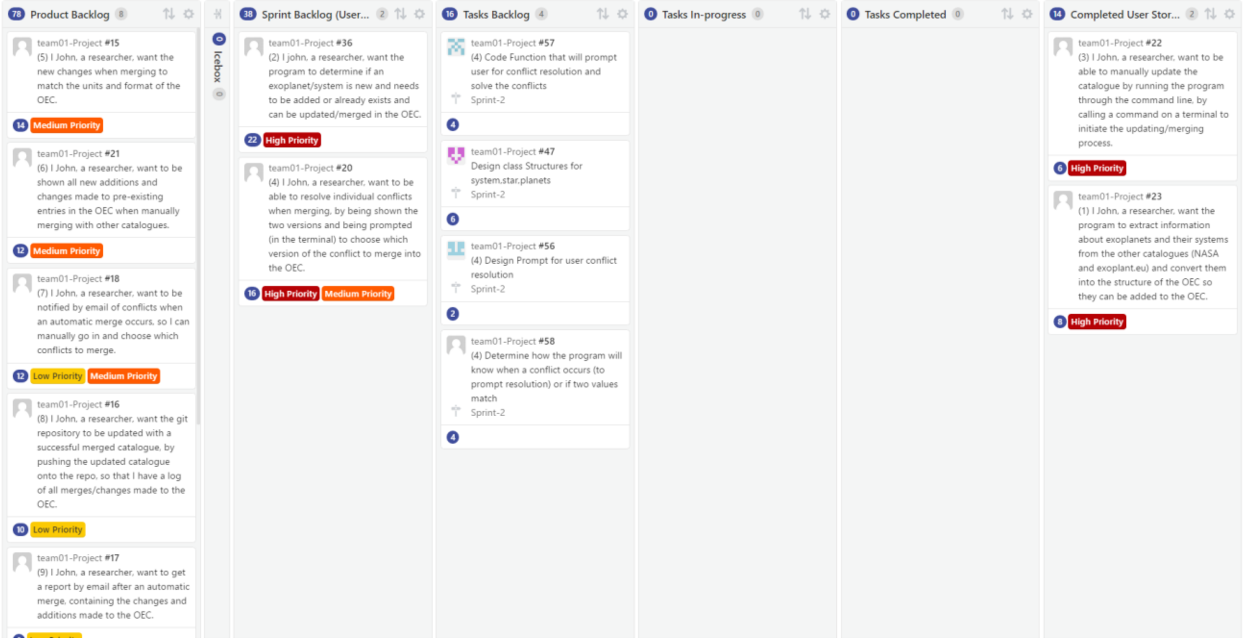
Task (See taskboard numbers)	Story points	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Status
Task 56	2	0	0	0	0	2	0	0	Completed (2 sp)
Task 47	6	0	0	0	0	0	6	0	Completed (6 sp)
Task 58	4	0	0	0	0	0	0	4	Completed (4 sp)
Task 57	4	0	0	0	0	0	0	4	Completed (4 sp)
Estimated burn down	16	14	12	10	8	6	3	0	
Actual Remaining SP	16	16	16	16	16	14	8	0	

Burndown Chart



Task Board

Start:



78 Product Backlog 8

team01-Project #15
(5) I John, a researcher, want the new changes when merging to match the units and format of the OEC.
14 Medium Priority

team01-Project #21
(6) I John, a researcher, want to be shown all new additions and changes made to pre-existing entries in the OEC when manually merging with other catalogues.
12 Medium Priority

team01-Project #18
(7) I John, a researcher, want to be notified by email of conflicts when an automatic merge occurs, so I can manually go in and choose which conflicts to merge.
12 Low Priority Medium Priority

team01-Project #16
(8) I John, a researcher, want the git repository to be updated with a successful merged catalogue, by pushing the updated catalogue onto the repo, so that I have a log of all merges/changes made to the OEC.
10 Low Priority

team01-Project #17
(9) I John, a researcher, want to get a report by email after an automatic merge, containing the changes and additions made to the OEC.

0 Icebox 0

38 Sprint Backlog (User... 2

team01-Project #36
(2) I john, a researcher, want the program to determine if an exoplanet/system is new and needs to be added or already exists and can be updated/merged in the OEC.
22 High Priority

team01-Project #20
(4) I John, a researcher, want to be able to resolve individual conflicts when merging, by being shown the two versions and being prompted (in the terminal) to choose which version of the conflict to merge into the OEC.
16 High Priority Medium Priority

16 Tasks Backlog 4

team01-Project #57
(4) Code Function that will prompt user for conflict resolution and solve the conflicts
Sprint-2
4

team01-Project #47
Design class Structures for system,star,planets
Sprint-2
6

team01-Project #56
(4) Design Prompt for user conflict resolution
Sprint-2
2

team01-Project #58
(4) Determine how the program will know when a conflict occurs (to prompt resolution) or if two values match
Sprint-2
4

0 Tasks In-progress 0

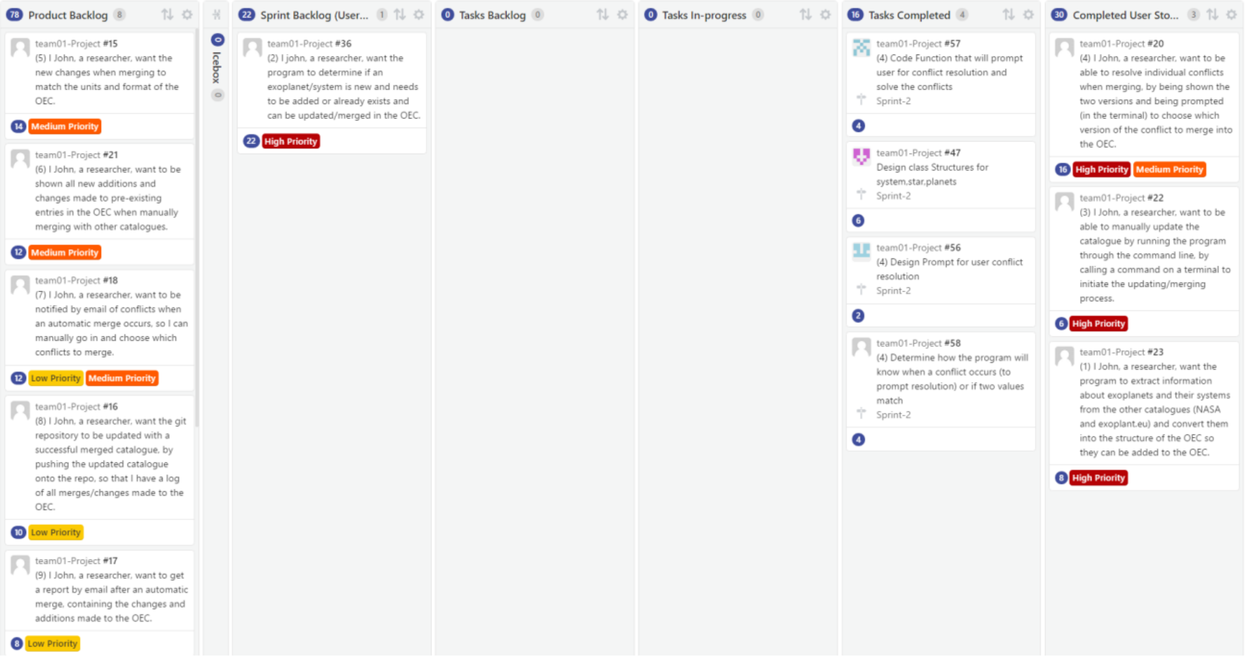
0 Tasks Completed 0

14 Completed User Stor... 2

team01-Project #22
(3) I John, a researcher, want to be able to manually update the catalogue by running the program through the command line, by calling a command on a terminal to initiate the updating/merging process.
6 High Priority

team01-Project #23
(1) I John, a researcher, want the program to extract information about exoplanets and their systems from the other catalogues (NASA and exoplant.eu) and convert them into the structure of the OEC so they can be added to the OEC.
8 High Priority

End:



78 Product Backlog 8

team01-Project #15
(5) I John, a researcher, want the new changes when merging to match the units and format of the OEC.
14 Medium Priority

team01-Project #21
(6) I John, a researcher, want to be shown all new additions and changes made to pre-existing entries in the OEC when manually merging with other catalogues.
12 Medium Priority

team01-Project #18
(7) I John, a researcher, want to be notified by email of conflicts when an automatic merge occurs, so I can manually go in and choose which conflicts to merge.
12 Low Priority Medium Priority

team01-Project #16
(8) I John, a researcher, want the git repository to be updated with a successful merged catalogue, by pushing the updated catalogue onto the repo, so that I have a log of all merges/changes made to the OEC.
10 Low Priority

team01-Project #17
(9) I John, a researcher, want to get a report by email after an automatic merge, containing the changes and additions made to the OEC.
8 Low Priority

0 Icebox 0

22 Sprint Backlog (User... 1

team01-Project #36
(2) I john, a researcher, want the program to determine if an exoplanet/system is new and needs to be added or already exists and can be updated/merged in the OEC.
22 High Priority

0 Tasks Backlog 0

0 Tasks In-progress 0

16 Tasks Completed 4

team01-Project #57
(4) Code Function that will prompt user for conflict resolution and solve the conflicts
Sprint-2
4

team01-Project #47
Design class Structures for system,star,planets
Sprint-2
6

team01-Project #56
(4) Design Prompt for user conflict resolution
Sprint-2
2

team01-Project #58
(4) Determine how the program will know when a conflict occurs (to prompt resolution) or if two values match
Sprint-2
4

30 Completed User Sto... 3

team01-Project #20
(4) I John, a researcher, want to be able to resolve individual conflicts when merging, by being shown the two versions and being prompted (in the terminal) to choose which version of the conflict to merge into the OEC.
16 High Priority Medium Priority

team01-Project #22
(3) I John, a researcher, want to be able to manually update the catalogue by running the program through the command line, by calling a command on a terminal to initiate the updating/merging process.
6 High Priority

team01-Project #23
(1) I John, a researcher, want the program to extract information about exoplanets and their systems from the other catalogues (NASA and exoplant.eu) and convert them into the structure of the OEC so they can be added to the OEC.
8 High Priority

Sprint 3

Sprint Backlog

I john, a researcher, want the program to determine if an exoplanet/system is new and needs to be added or already exists and can be updated/merged in the OEC.

Priority: High, Cost: 22

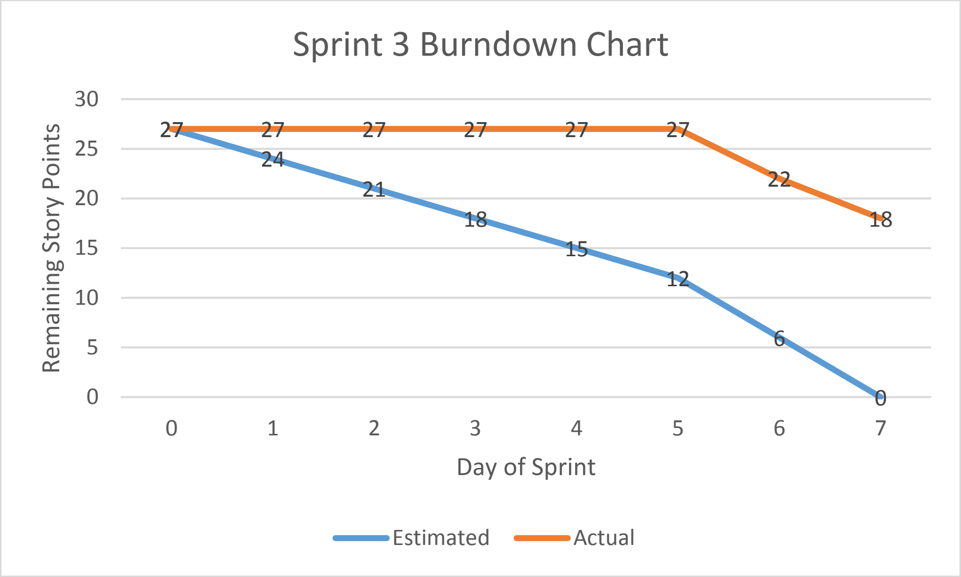
I John, a researcher, want the new changes when merging to match the units and format of the OEC.

Priority: Low, Cost: 14

Iteration plan

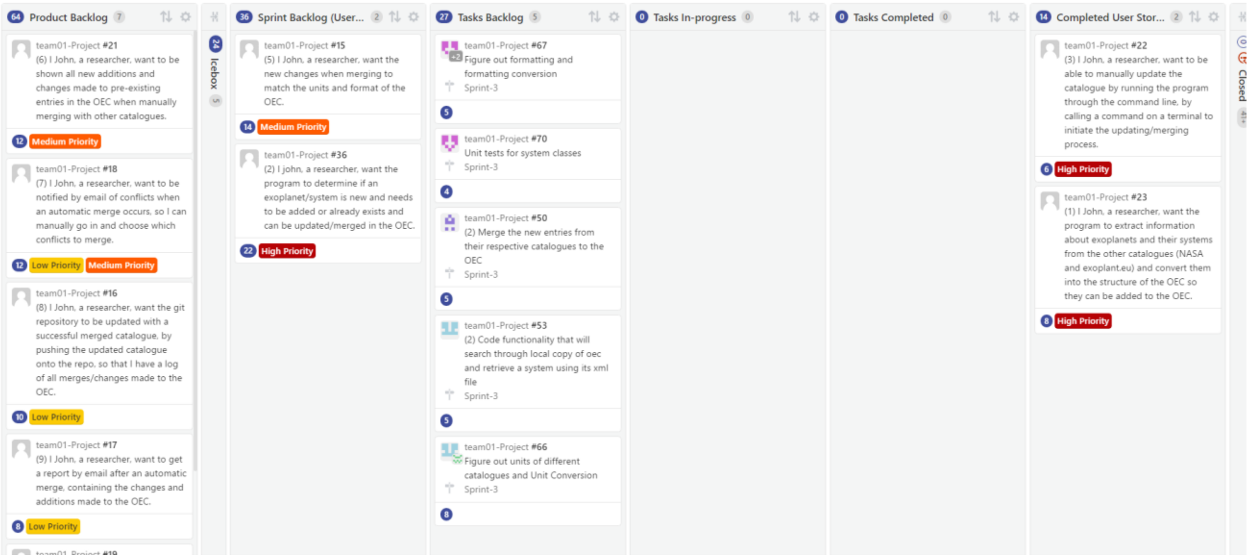
Sprint 3									
Task (See taskboard numbers)	Story points	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Status
Task 67	5	0	0	0	0	0	0	0	Moved to next sprint
Task 70	4	0	0	0	0	0	0	4	Completed (4 sp)
Task 50	5	0	0	0	0	0	5	0	Task Removed after replanning
Task 53	5	0	0	0	0	0	0	0	Moved to next sprint
Task 66	8	0	0	0	0	0	0	0	Moved to next sprint
Estimated burn down	27	24	21	18	15	12	6	0	
Actual Remaining SP	27	27	27	27	27	27	22	18	

Burndown Chart



Task Board

Start:



team01-Project #21
(6) I John, a researcher, want to be shown all new additions and changes made to pre-existing entries in the OEC when manually merging with other catalogues.
12 Medium Priority

team01-Project #18
(7) I John, a researcher, want to be notified by email of conflicts when an automatic merge occurs, so I can manually go in and choose which conflicts to merge.
12 Low Priority Medium Priority

team01-Project #16
(8) I John, a researcher, want the git repository to be updated with a successful merged catalogue, by pushing the updated catalogue onto the repo, so that I have a log of all merges/changes made to the OEC.
10 Low Priority

team01-Project #17
(9) I John, a researcher, want to get a report by email after an automatic merge, containing the changes and additions made to the OEC.
8 Low Priority

team01-Project #19

team01-Project #15
(5) I John, a researcher, want the new changes when merging to match the units and format of the OEC.
14 Medium Priority

team01-Project #36
(2) I john, a researcher, want the program to determine if an exoplanet/system is new and needs to be added or already exists and can be updated/merged in the OEC.
22 High Priority

team01-Project #67
Figure out formatting and formatting conversion
Sprint-3
5

team01-Project #70
Unit tests for system classes
Sprint-3
4

team01-Project #50
(2) Merge the new entries from their respective catalogues to the OEC
Sprint-3
5

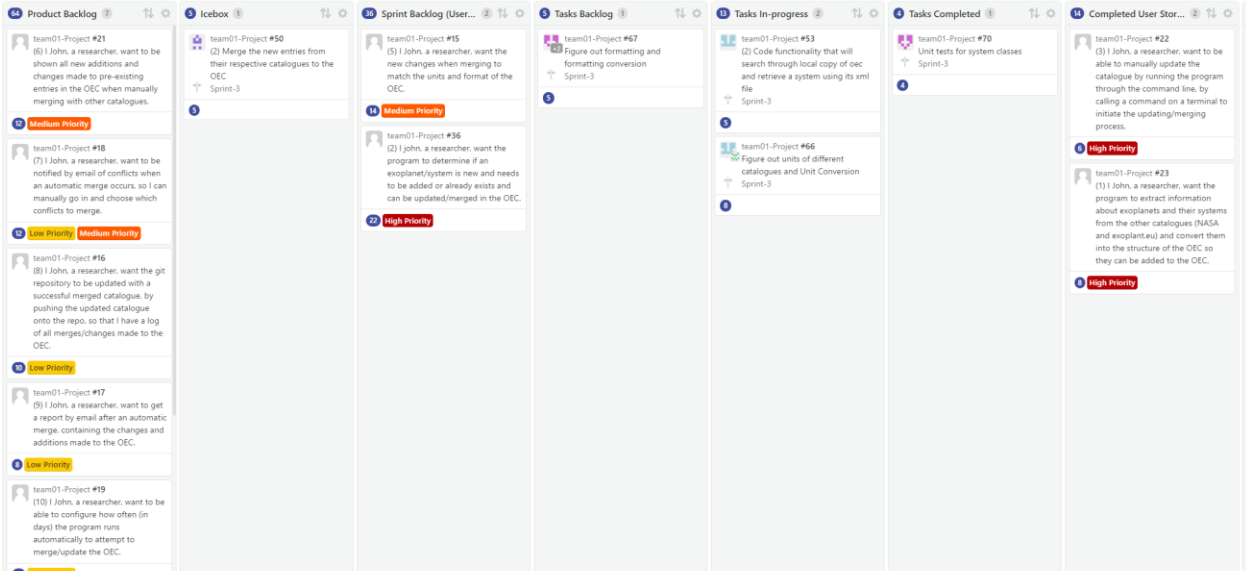
team01-Project #53
(2) Code functionality that will search through local copy of oec and retrieve a system using its xml file
Sprint-3
5

team01-Project #66
Figure out units of different catalogues and Unit Conversion
Sprint-3
8

team01-Project #22
(3) I John, a researcher, want to be able to manually update the catalogue by running the program through the command line, by calling a command on a terminal to initiate the updating/merging process.
6 High Priority

team01-Project #23
(1) I John, a researcher, want the program to extract information about exoplanets and their systems from the other catalogues (NASA and exoplant.eu) and convert them into the structure of the OEC so they can be added to the OEC.
8 High Priority

End:



64 Product Backlog 7

team01-Project **#21**
(6) I John, a researcher, want to be shown all new additions and changes made to pre-existing entries in the OEC when manually merging with other catalogues.
12 Medium Priority

team01-Project **#18**
(7) I John, a researcher, want to be notified by email of conflicts when an automatic merge occurs, so I can manually go in and choose which conflicts to merge.
12 Low Priority Medium Priority

team01-Project **#16**
(8) I John, a researcher, want the git repository to be updated with a successful merged catalogue, by pushing the updated catalogue onto the repo, so that I have a log of all merges/changes made to the OEC.
10 Low Priority

team01-Project **#17**
(9) I John, a researcher, want to get a report by email after an automatic merge, containing the changes and additions made to the OEC.
8 Low Priority

team01-Project **#19**
(10) I John, a researcher, want to be able to configure how often (in days) the program runs automatically to attempt to merge/update the OEC.

5 Icebox 1

team01-Project **#50**
(2) Merge the new entries from their respective catalogues to the OEC
Sprint-3
5

36 Sprint Backlog (User... 2

team01-Project **#15**
(5) I John, a researcher, want the new changes when merging to match the units and format of the OEC.
14 Medium Priority

team01-Project **#36**
(2) I john, a researcher, want the program to determine if an exoplanet/system is new and needs to be added or already exists and can be updated/merged in the OEC.
22 High Priority

5 Tasks Backlog 1

team01-Project **#67**
Figure out formatting and formatting conversion
Sprint-3
5

13 Tasks In-progress 2

team01-Project **#53**
(2) Code functionality that will search through local copy of oec and retrieve a system using its xml file
Sprint-3
5

team01-Project **#66**
Figure out units of different catalogues and Unit Conversion
Sprint-3
8

4 Tasks Completed 1

team01-Project **#70**
Unit tests for system classes
Sprint-3
4

14 Completed User Stor... 2

team01-Project **#22**
(3) I John, a researcher, want to be able to manually update the catalogue by running the program through the command line, by calling a command on a terminal to initiate the updating/merging process.
6 High Priority

team01-Project **#23**
(1) I John, a researcher, want the program to extract information about exoplanets and their systems from the other catalogues (NASA and exoplant.eu) and convert them into the structure of the OEC so they can be added to the OEC.
8 High Priority

Sprint 4

Sprint Backlog

I john, a researcher, want the program to determine if an exoplanet/system is new and needs to be added or already exists and can be updated/merged in the OEC.

Priority: High, Cost: 22

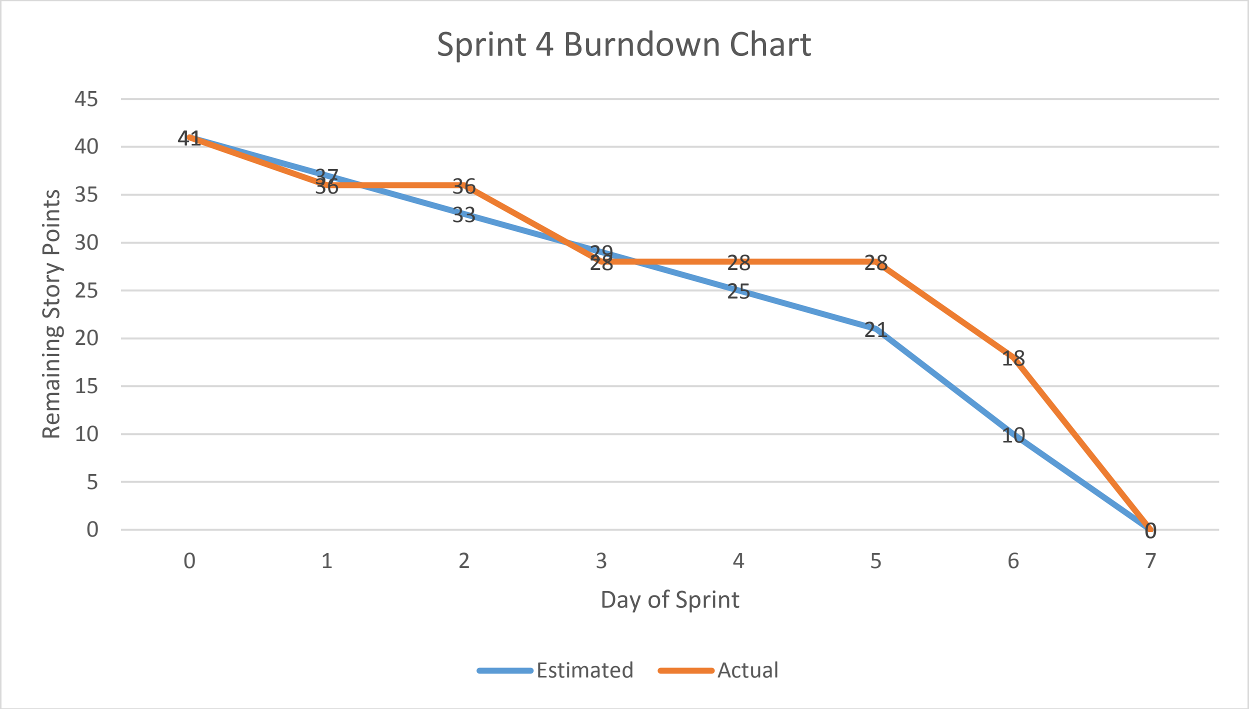
I John, a researcher, want the new changes when merging to match the units and format of the OEC.

Priority: Low, Cost: 14

Iteration plan

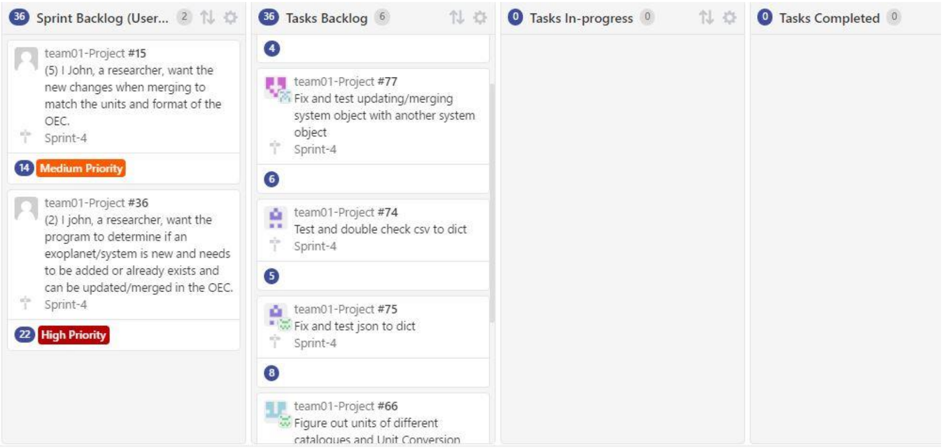
Sprint 4									
Task (See taskboard numbers)	Story points	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Status
Task 67	5	0	0	0	0	0	5	0	Completed(5 sp)
Task 74	5	0	0	0	0	0	5	0	Completed (5 sp)
Task 76	4	0	0	0	0	0	0	4	Completed(4 sp)
Task 77	6	0	0	0	0	0	0	6	Completed(6 sp)
Task 75	8	0	0	0	0	0	0	8	Completed(8 sp)
Task 53	5	5	0	0	0	0	0	0	Completed(5 sp)
Task 66	8	0	0	8	0	0	0	0	Completed(8 sp)
Estimated burn down	41	37	33	29	25	21	10	0	
Actual Remaining SP	41	36	36	28	28	28	18	0	

Burndown Chart



Task Board

Start:



team01-Project #15
(5) I John, a researcher, want the new changes when merging to match the units and format of the OEC.
Sprint-4

14 Medium Priority

team01-Project #36
(2) I john, a researcher, want the program to determine if an exoplanet/system is new and needs to be added or already exists and can be updated/merged in the OEC.
Sprint-4

22 High Priority

4

team01-Project #77
Fix and test updating/merging system object with another system object
Sprint-4

6

team01-Project #74
Test and double check csv to dict
Sprint-4

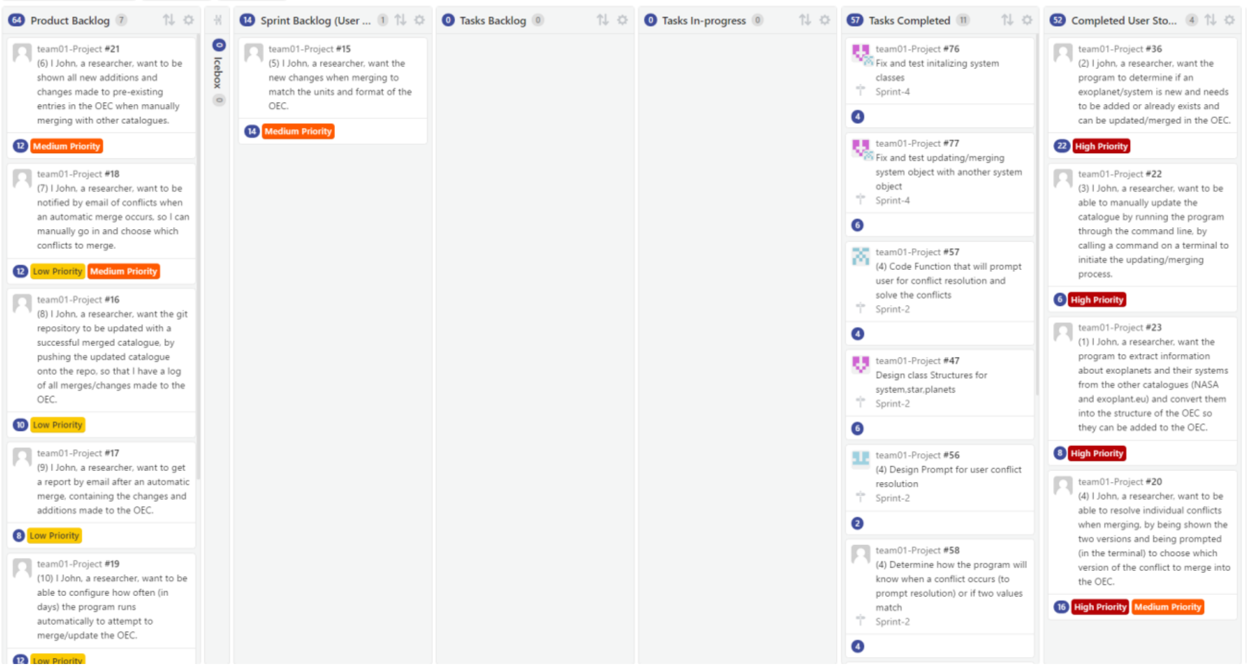
5

team01-Project #75
Fix and test json to dict
Sprint-4

8

team01-Project #66
Figure out units of different catalogues and Unit Conversion

End:



64 Product Backlog 7

team01-Project #21
(6) I John, a researcher, want to be shown all new additions and changes made to pre-existing entries in the OEC when manually merging with other catalogues.
12 Medium Priority

team01-Project #18
(7) I John, a researcher, want to be notified by email of conflicts when an automatic merge occurs, so I can manually go in and choose which conflicts to merge.
12 Low Priority Medium Priority

team01-Project #16
(8) I John, a researcher, want the git repository to be updated with a successful merged catalogue, by pushing the updated catalogue onto the repo, so that I have a log of all merges/changes made to the OEC.
10 Low Priority

team01-Project #17
(9) I John, a researcher, want to get a report by email after an automatic merge, containing the changes and additions made to the OEC.
8 Low Priority

team01-Project #19
(10) I John, a researcher, want to be able to configure how often (in days) the program runs automatically to attempt to merge/update the OEC.
12 Low Priority

0 Icebox 0

14 Sprint Backlog (User ... 1

team01-Project #15
(5) I John, a researcher, want the new changes when merging to match the units and format of the OEC.
14 Medium Priority

0 Tasks Backlog 0

0 Tasks In-progress 0

57 Tasks Completed 11

team01-Project #76
Fix and test initalizing system classes
Sprint-4
4

team01-Project #77
Fix and test updating/merging system object with another system object
Sprint-4
6

team01-Project #57
(4) Code Function that will prompt user for conflict resolution and solve the conflicts
Sprint-2
4

team01-Project #47
Design class Structures for system,star,planets
Sprint-2
6

team01-Project #56
(4) Design Prompt for user conflict resolution
Sprint-2
2

team01-Project #58
(4) Determine how the program will know when a conflict occurs (to prompt resolution) or if two values match
Sprint-2
4

52 Completed User Sto... 4

team01-Project #36
(2) I john, a researcher, want the program to determine if an exoplanet/system is new and needs to be added or already exists and can be updated/merged in the OEC.
22 High Priority

team01-Project #22
(3) I John, a researcher, want to be able to manually update the catalogue by running the program through the command line, by calling a command on a terminal to initiate the updating/merging process.
6 High Priority

team01-Project #23
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8 High Priority

team01-Project #20
(4) I John, a researcher, want to be able to resolve individual conflicts when merging, by being shown the two versions and being prompted (in the terminal) to choose which version of the conflict to merge into the OEC.
16 High Priority Medium Priority

Change in system components

We had to make quite bit of changes on our system components. One of the biggest changes made was the way we used our System/Star/Planet classes. We didn’t want any statically declared variables for these classes, so we just used the dictionary that json and xml libraries gave us. We changed it so that the update function would loop through the keys in the dictionary, and we dealt with the conflicts by calling the resolve function in the Conflict class. We still kept the functionality of which properties in a system were updated by returned it as a list.

Code Inspection Summary

Harshil

Reviewer:	**Harshil**
Code:	**Conflict.py**
Date of review:	**11/11/2016**
Author:	**Amine**

- **Bugs:**
  No bugs as of yet
- **Poor Code Logic:**
  Code logic is perfectly fine
- **Missing Documentation:**
  Missing documents on functions
  Missing comments for code where needed, especially for large chunks of code
  Suggestions:
  Add some documentation and code where needed
- **Unreadable Code:**
  Line 8: If statement is on the same line as a variable assignment, it makes it harder to read the if,
  Suggestions:
  Make the if statement on a new line with indentation
- **Vulnerabilities in code:**
  None found
- **Poor Test:**
  Testing was done but requires more thorough testing.

Gisho

Reviewer: Gisho (Girrshotan)
Code: NASAReader.py
Date of review: 11/11/2016
Author: Muneeb

- **Bugs:**

Planets under the same star/system were being stored in different systems. This should be refactored to store all planets with the same star under one system

A list of systems is required to be returned, but a dictionary of systems is being returned, refactor this.

- **Poor Code Logic:**
  The variable a is being used for storing the json data, rename it to something more meaningful like data
- **Missing Documentation:**
  There is no documentation at all.
  Add documents for each method and some comments in the actual code explaining what each chunk is doing
- **Unreadable Code:**
  Line 16 & 17: This is very hard to read since the code goes way to far to the right. You should probably use line breaks and format it like an xml (indent and line break wise) so it's easier to read
- **Vulnerabilities in code:**
  None found
- **Poor Test:**
  There was no testing done. Once you have it working, you should add some tests covering the edge cases like multiple planets for a system, ensuring no null values, and some others.

Muneeb

Reviewer:	**Muneeb**
Code:	**exoplanetEUreader.py**
Date of review:	**11/11/2016**
Author:	**Gisho**

- **Bugs:**
  No bugs. Everything works well and gives the desired output

- **Poor Code Logic:**
  Code logic is good. No useless global variables and repetitive code.
- **Poor Coding Style:**
  Some python guidelines are not met such as missing whitespaces, lines are too long and no newline at the end of the code
  Suggestions:
  Use PEP-8 to fix this
- **Missing documentation**
  The functions in the code do not have any docstrings explaining the function itself. It is absolutely necessary to add that. Otherwise, the code is nicely documented.
- **Unreadable Code:**
  Code is perfectly readable with clean breaks. Variables are named well and no unnecessary code commented out
- **Vulnerabilities in code:**
  None found
- **Poor Testing:**
  Absolutely no testing was done. Should add some cases where there are multiple planets in a system or not, if there are empty attributes and others.

Amine

Reviewer:	**Amine**
Code:	**System.py, Star.py, Planet.py**
Date of review:	**11/11/2016**
Author:	**Venkat**

- **Bugs:**
  When creating or updating an object, if an attribute is missing the program will throw an error because it will try to access it. We can’t assume we will have all attributes since as the exoplanets are discovered, the information about them wont necessarily be complete. To fix this you should have checks to see if an attribute exists for a system/star/planet before accessing or updating it
- **Poor Code Style:**
  For the system/star/planet classes, having methods such as getName, toDict will allow for more encapsulated and cleaner code. Suggestion: you should implement common class methods to create more modular and reusable objects.

- **Documentation:**
  Docstrings for python should be inside the function/method. Please move the docstrings for the methods in the classes to the inside
- **Poor Test:**
  Please create more test cases, and thoroughly test the system, star, planet classes, since they are core functionality of the program. Bugs in them will create problems for the rest of the code.

Venkat

Reviewer:	**Venkat**
Code:	**OECreader.py**
Date of review:	**11/11/2016**
Author:	**Harshil**

- **Bugs:**
  In the findSystem method, it does not take into account what happens if 2 paths with the same name are found. It should say that it returns the first occurrence of the path found.
- **Poor Code Logic:**
  The for loop in the code was a poor choice, if the path desired is found, it will unnecessarily keep looping through the rest of the list. It should either be a while loop, so it stops looping when we find what we want, or it should return in the middle of the loop.
- **Poor Code Style:**
  In the same function, it has a return statement with the value in brackets. It should just be “return path” not “return(path)”.
- **Documentation:**
  There are no docstrings for any of the methods in this class.
- **Poor Testing:**
  There are no tests for any of the functions in this class, we need at least a few unit tests to ensure they are functioning properly.