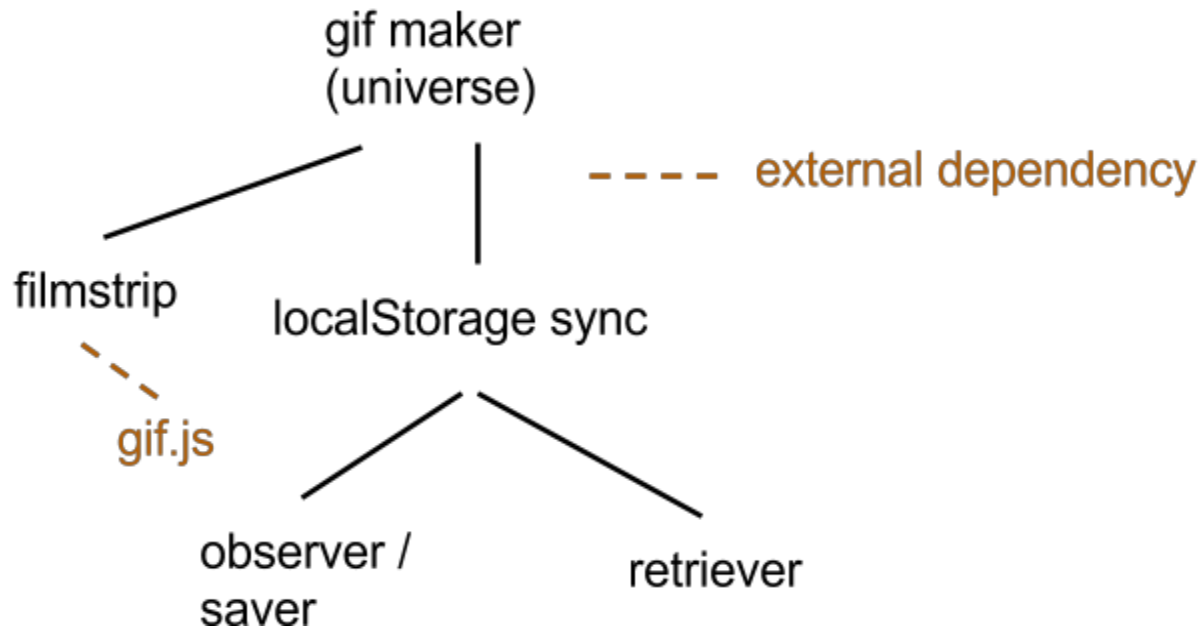# Incremental and Regression Testing
Sprint 2
Team 1

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gif maker
(universe)

- - - - external dependency

filmstrip

localStorage sync

gif.js

observer /
saver

retriever

Gif Maker: the app as a whole. Universe is the complete representation of the application at any given time.
>   Input: User interaction, image files
>   Output: GIF

LocalStorage sync: saves the universe is continuously to localStorage
>   Input: universe from localStorage, universe object
>   Output: universe from localStorage, universe object

Observer / saver: uses observer patterns to loo
>   Input: universe object
>   Output: universe from localStorage

Retriever: retrieves the current state of the universe from localstorage, can be used to reload a saved instance.
>   Input: universe from localStorage

Output: universe object

Filmstrip: The set of images that are to be made into a gif, presented in the FIlmstrip View
Input: User input, universe's frames
Output: Universe's frames in modified order

Top-down form of incremental testing is used for our test cases
- Major flaws are found at the top of the program
- Representation of test cases is easier once I/O functions are added
- Many subcomponents rely on the Universe

Module	Gif Maker Component

Incremental Testing

Defect #	Description	Severity	How To Correct
1	Application only works in Chrome	1	Change Polymer code to Angular directives for better Firefox compatibility
2	Web pages do not appear dynamic and interactive in nature	2	Use Angular.js to extend HTML capabilities

Regression Testing

Defect #	Description	Severity	How To Correct
1	Application crashing with new Angular.js extensions	1	Import proper dependencies
2	3rd party library code was missing from some git branches, causing application to not work	2	Allow Bower to easily interact and manage all 3rd party libraries and external dependencies

Module	LocalStorage Sync Component

Incremental Testing

Defect #	Description	Severity	How To Correct
1	Universe is not loaded from localStorage on first load	2	Call retriever function in stateStore.js
2	Frame changes are not being detected	2	Use CompoundObserver

Regression Testing

Defect #	Description	Severity	How To Correct
1	Calling retriever function in stateStore causes circular dependency	1	Call retriever code in universe.js
2	Universe returning undefined on first load	2	Check for nullity and return new universe for first load

Module	Observer/Saver Component

Incremental Testing

Defect #	Description	Severity	How To Correct
1	Function call counter is scoped incorrectly	3	Add anonymous function to localize call counter scope
2	CompoundObserver does not perform deep-tree checking	2	Write custom deep-tree observer to perform dirty checking

Regression Testing

Defect #	Description	Severity	How To Correct
1	Custom observer does not work for adding frames	2	Use a fixed-interval-overwrite strategy
2	Custom observer does not work for output crop dimensions	2	Use a fixed-interval-overwrite strategy
3	Custom observer does not work for data within each frame	2	Use a fixed-interval-overwrite strategy

Module	Filmstrip Component

Incremental Testing

Defect #	Description	Severity	How To Correct
1	Filmstrip not visible on Firefox	1	Refactor Polymer code to Angular directives
2	Default height/width of final gif not set, preventing the generate button from working	2	Set height and width values to the dimensions of the first uploaded image

Regression Testing

Defect #	Description	Severity	How To Correct
1	Images on the filmstrip do not have a width/height value set and causes unexpected behavior	2	Put placeholder values for width/height