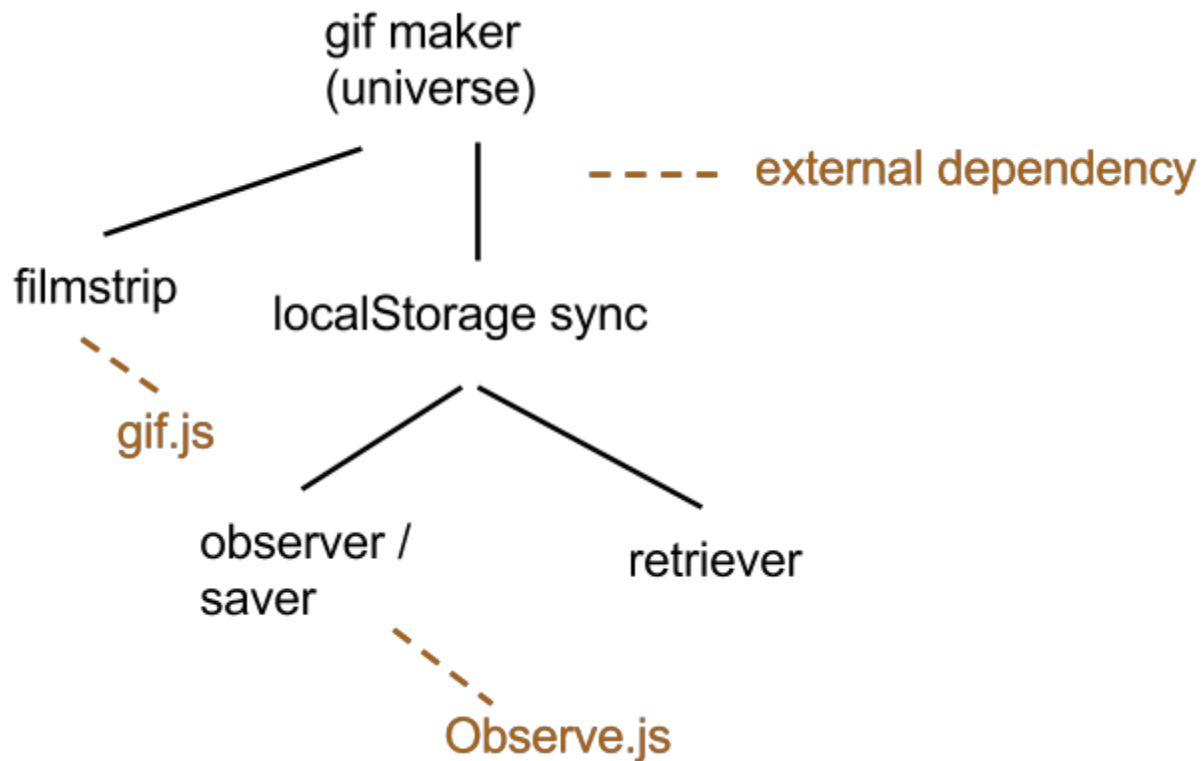


# Incremental and Regression Testing

## Team 1

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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

<b>Module</b>	Gif Maker Component
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<b>Incremental Testing</b>
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Defect #	Description	Severity	How To Correct
1	Application should not crash when no image is inputted	3	Check if an image has been loaded or not.
2	Images of different sizes should be resized when the gif is made.	2	Use the first image's dimension as reference for all the other images.
3	Default speed outputted gif should not be too fast to view	1	Set a decent average frame duration

<b>Regression Testing</b>
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Defect #	Description	Severity	How To Correct
1	Default values for the universe object in getUniverse() were not set properly, and were causing unexpected bugs.	1	All default values for the universe object in getUniverse() set to 0
2	When gif is created, all images disappear from the filmstrip	2	Make sure images only disappear when the user refreshes the page

<b>Module</b>	LocalStorage Sync Component
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<b>Incremental Testing</b>
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Defect #	Description	Severity	How To Correct
1	Synchronization blocks UI	2	Run synchronization asynchronously in the background.
2	Synchronization fails to execute automatically	1	Use Object.observe to observe universe.
3	Synchronization fails on browsers other than Chrome	1	Use dirty checking on browsers other than Chrome

<b>Regression Testing</b>
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Defect #	Description	Severity	How To Correct
1	Using dirty checking causes unexpected behavior	2	Use observe.js library.
2	Using ArrayObserver in Observe.js causes failure	1	Use ObjectObserver instead.

<b>Module</b>	Observer/Saver Component
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<b>Incremental Testing</b>
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Defect #	Description	Severity	How To Correct
1	Saving failed	1	Solve logic bug in stateStore.js:22
2	Changes did not trigger save	1	Solve initialization bug in stateStore.js:24
3	No way to know if save was successful	2	Add callback function in observeAndSave()

<b>Regression Testing</b>
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Defect #	Description	Severity	How To Correct
1	Fixing logic bug for save failure causes unpredictable behavior on multiple calls to observeAndSave()	1	Apply singleton logic and don't execute function logic if multiple calls are made.
2	Fixing trigger causes multiple triggers to function.	1	Apply async logic. Use anonymous function as callback properly.
3	Fixing multi-call problem causes function to not execute at all	1	Correct counter in stateStore.js:13

<b>Module</b>	Retriever Component
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<b>Incremental Testing</b>
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Defect #	Description	Severity	How To Correct
1	Retrieve failed	1	Solve logic bug in stateStore.js:45
2	Retrieve crashes on first time load	1	Account for null universe when nothing has been created

<b>Regression Testing</b>
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Defect #	Description	Severity	How To Correct
1	Fixing first-retrieve failure causes function to return null unexpectedly some times.	2	Use strong comparison operator === instead of == in stateStore.js:46

<b>Module</b>	Filmstrip Component
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<b>Incremental Testing</b>
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Defect #	Description	Severity	How To Correct
1	When picture of different size is added to the universe, the pictures are not resized in the film strip.	3	Edit picture size before displaying it on the film strip to match to size of the first picture
2	When new pictures are added to the filmstrip, they are placed in front of the existing pictures on the fimstrip.	2	Add new image(s) to the right side of the previously uploaded image(s) on the filmstrip.

<b>Regression Testing</b>
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Defect #	Description	Severity	How To Correct
1	When moving a filmstrip items, an accidental double-click should not modify an image that is being animated under the cursor.	3	Ignore user input while the filmstrip is animating to the resulting order.