React Patterns

Hand in Hand With the Basic Framework

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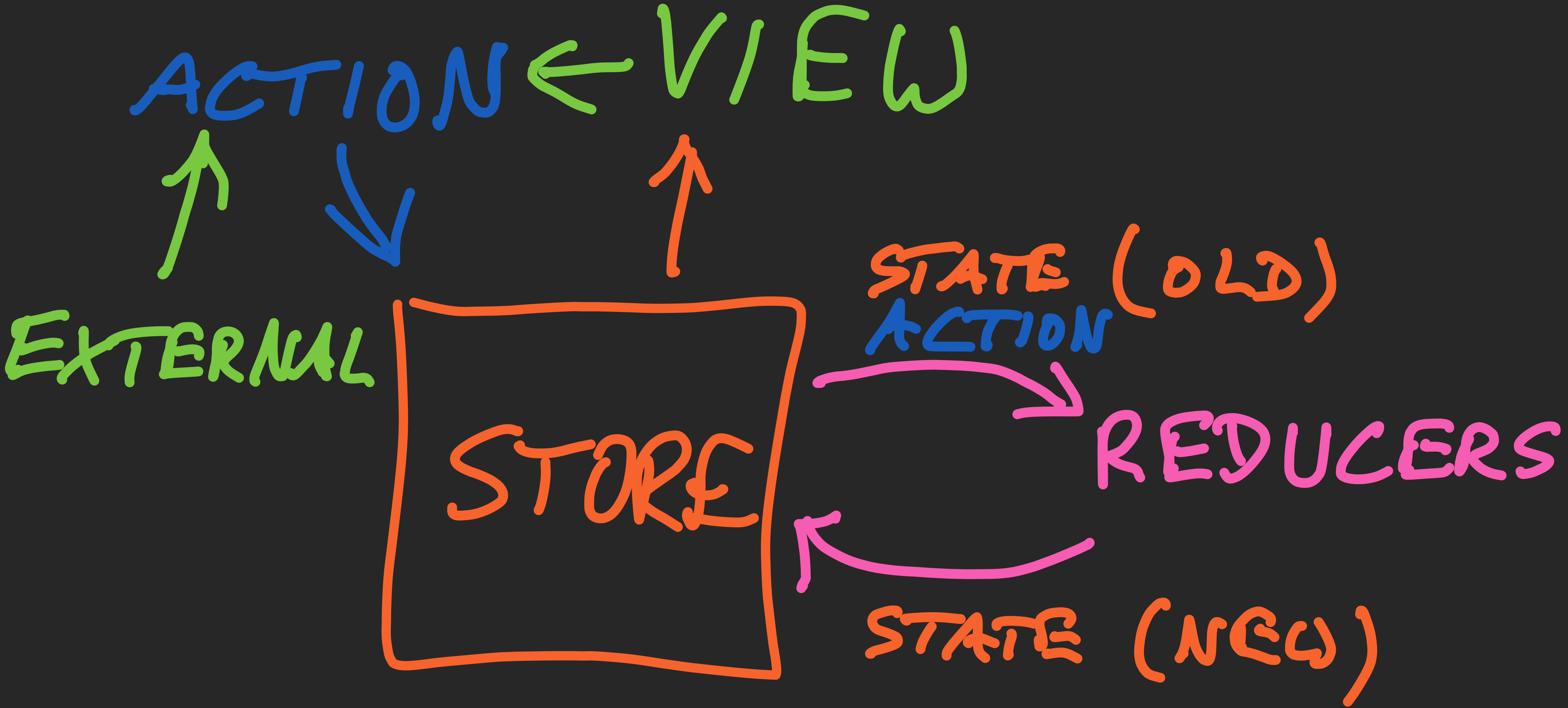
Agenda

- Common Libraries Not Covered By This Talk
- Redux
- Routing
- Handling Side Effects

Common Libraries Not Covered By This Talk

- UI: Material-UI, reactstrap and many other free and commercial offerings
- Dealing with styles: styled-components or CSS Modules
- Framework: Relay, Apollo Client for GraphQL, Gatsby for complete apps
- Utility: Lodash, Ramda, axios
- Outdated: recompose

Redux


ACTION
VIEW
EXTERNAL
STORE
STATE (OLD)
ACTION
REDUCERS
STATE (NEW)

I Like Redux

- The pattern has turned out to be *extremely powerful*
- Promotes *good structure*
  - ... which results in *maintainability*
- People complain about boilerplate
  - They're doing it wrong
- People complain about the learning curve
  - Oh well... it's really not that bad. Agreed: being a good programmer has a learning curve.
- Ideas are being *adopted elsewhere*, e.g. React Hooks (useReducer), reactn (global state management)

Routing

- You know - how to map URLs to parts of your app
    - `/user/:id`
- The Big Ugly: React Router
    - Very powerful and flexible
    - Component based
- Alternative: *Routing as an aspect of State*
    - My favorite: Rudy, successor to redux-first-router

Handling Side Effects

- React *render functions* are expected to be *functionally pure*
- React has *built-in mechanisms* to deal with *side effects*
  - Class-based lifecycle methods (`componentDidMount` etc)
  - Hooks (useEffect, `useLayoutEffect`)
  - Logic of side-effects is bound to individual components
- For application-wide logic, *I recommend Sagas!*

Sagas Can Handle Any Complexity

```
function* composeSendHandler() {
  const jobId = makeJobId();
  yield put(startJob(jobId, 'Sending email'));

  const composeData = yield select(getComposeData);
  const account = yield select(getAccount);

  // ...

  const sendStatus = yield call(sendMail, message);
  if (sendStatus) {
    yield put(sendError(sendStatus));
  }
  yield put(completeJob(jobId));
}
```

Sources

- This presentation:
  - https://oliversturm.github.io/react-patterns
  - PDF download: https://oliversturm.github.io/react-patterns/slides.pdf
- Demo code:
  - https://github.com/oliversturm/react-patterns

Thank You

Please feel free to contact me about the content anytime.

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