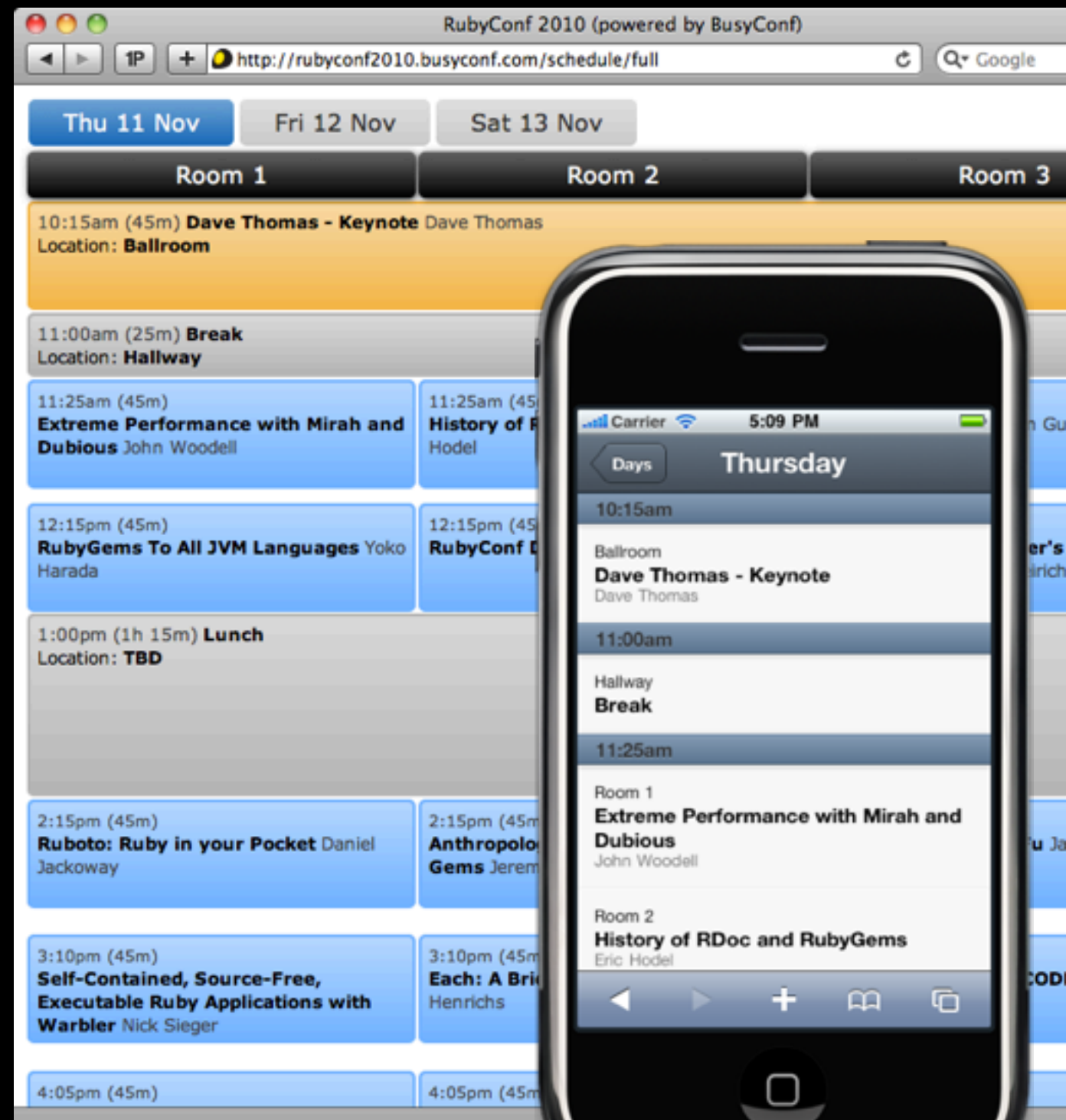




*Making great
conferences even better*

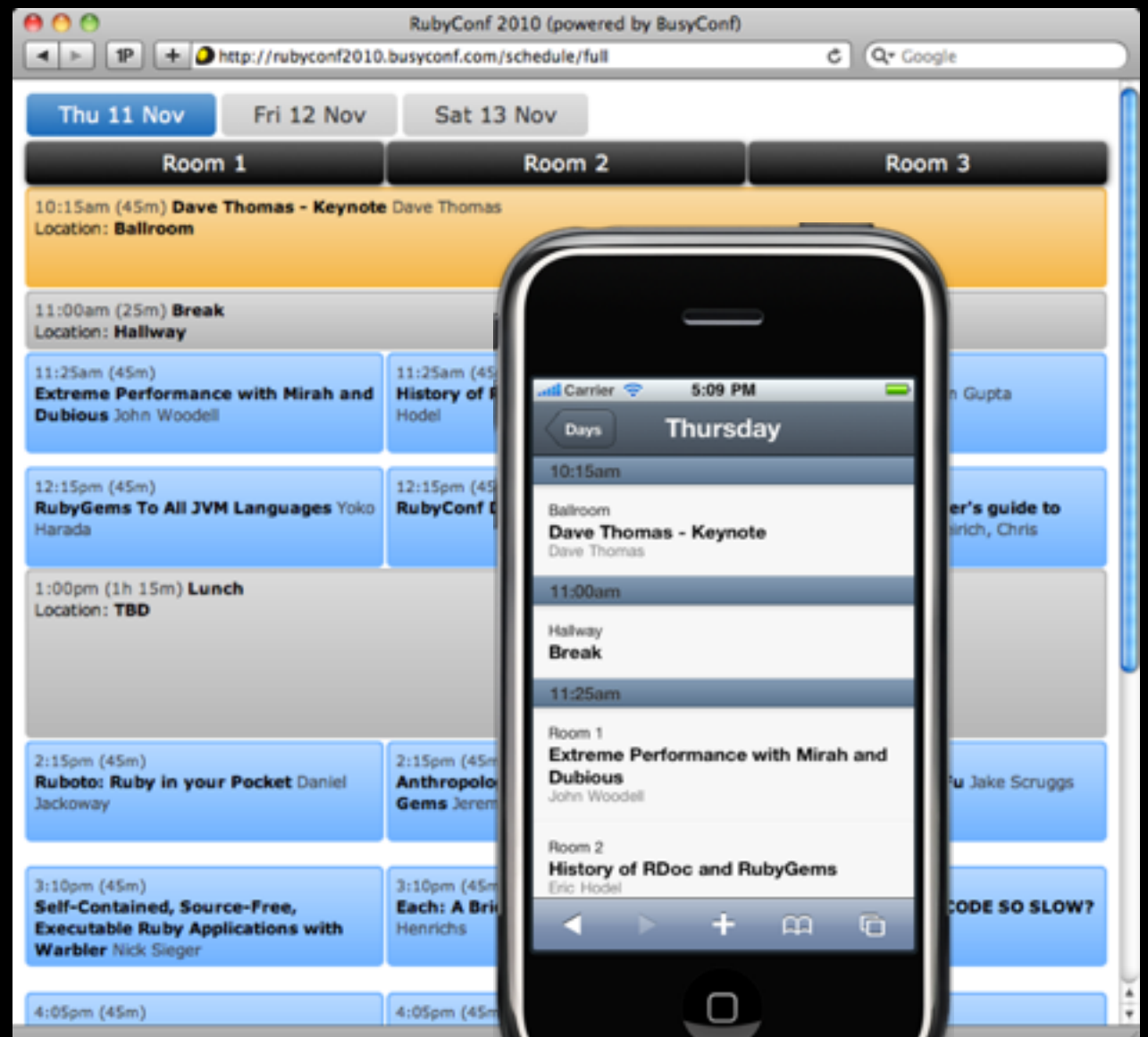
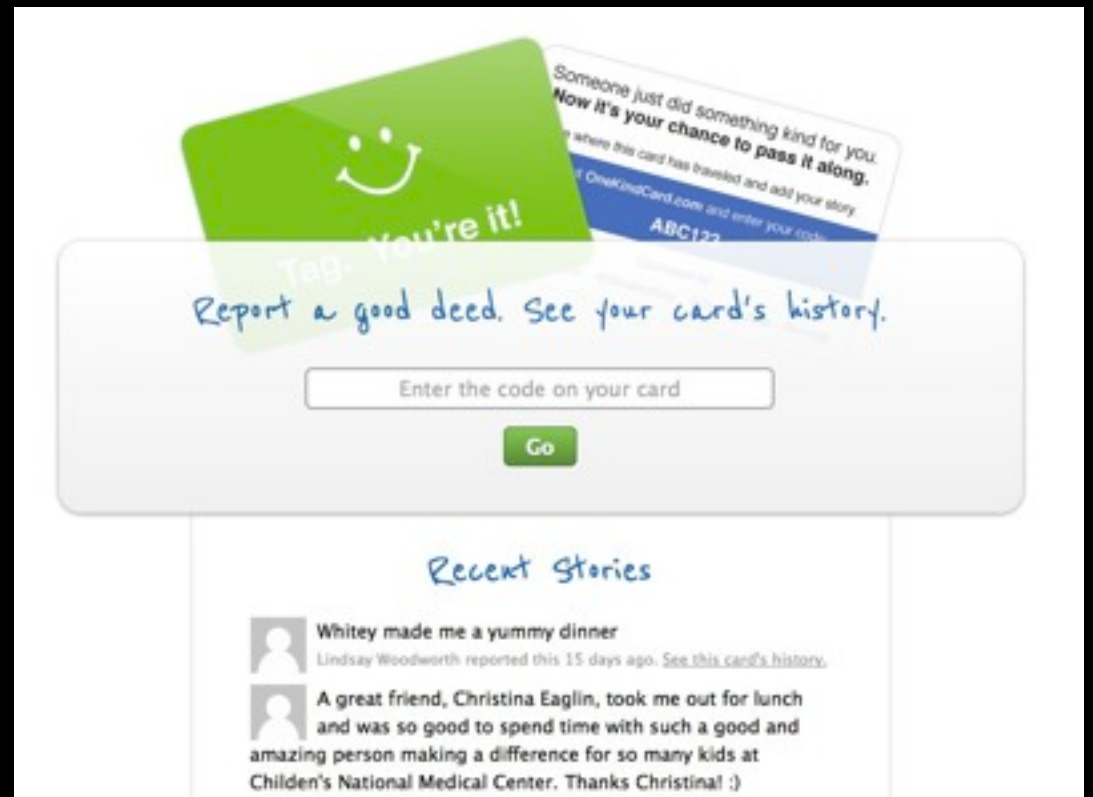
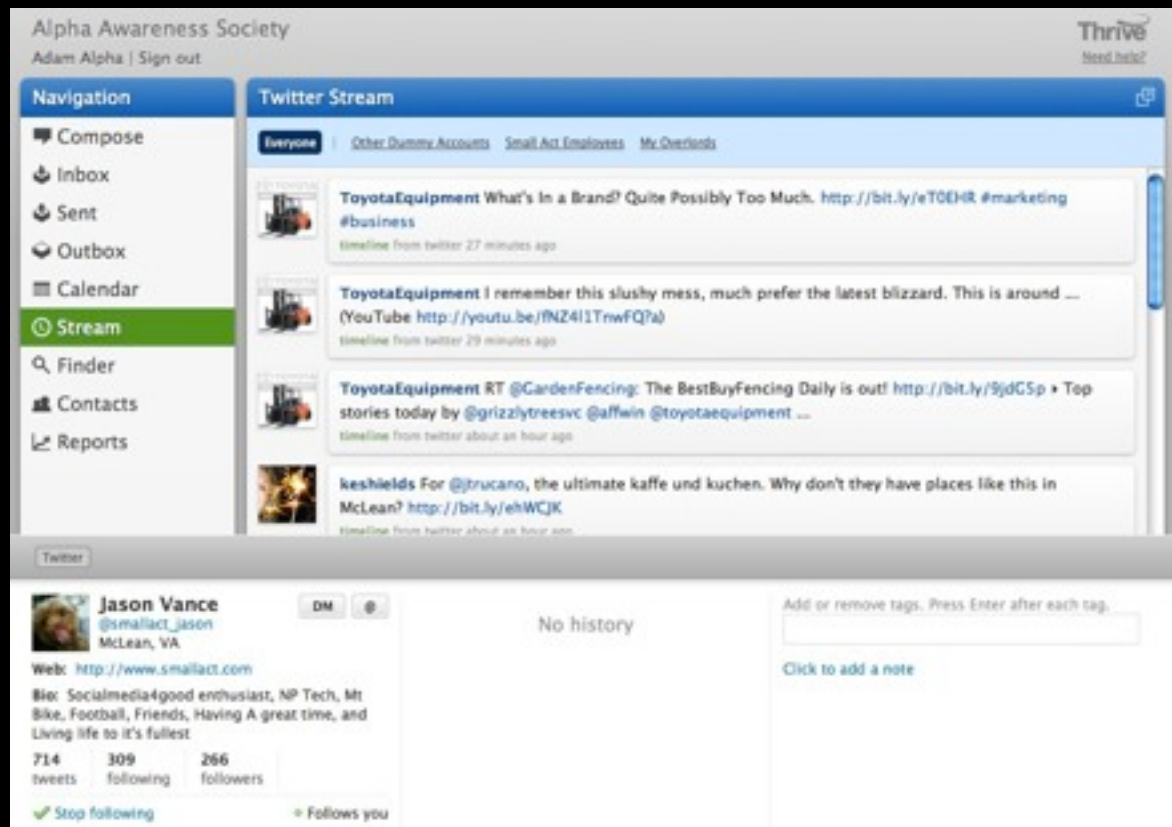
busyconf.com

*Ryan McGeary
Jim Garvin*



1

1. We attend conferences, and as attendees, the schedule at the conference is often terrible -- poorly organized, lacks info, requires Internet access. It makes it hard as an attendee to choose talks to go to.
2. BusyConf is an attempt to solve that problem while also making it easier for Conference organizers to run a conference.
3. We handle the calls for proposal. We allow organizers to rate proposals. We give them an interface to drag-n-drop activities onto a schedule. And we publish that schedule in many formats.
4. iPhone, Android, iPad, Desktop -- all offline enabled using Application Caching
5. MongoDB was a huge win for us while designing our application, and we're here to give you some insight into how we built BusyConf using it.

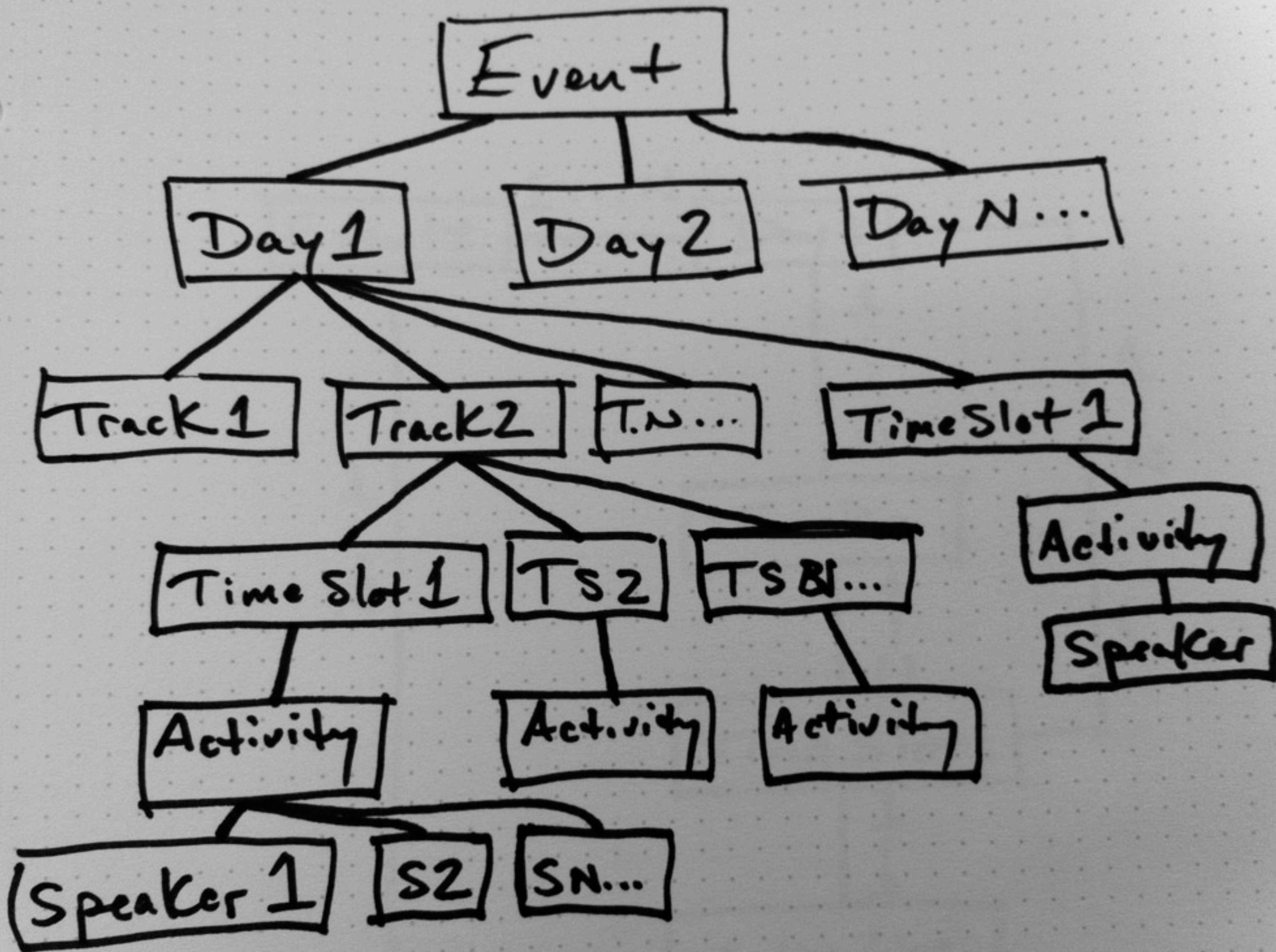


2

- 1) SMX – bridges MongoDB with MySQL. Started as a MySQL application, but we ran into a problem that made sense for Mongo. We now manage contacts for each person in Mongo, and hold everything else in MySQL. Since then, we continually find areas where we wish the rest of the application was sitting on MongoDB
2. One Kind Card – This is a really simple application. Honestly, It's hard to argue that it was an ideal fit for MongoDB, but it was an application on a shoestring budget, and MongoDB made that possible without having to worry about a schema. We literally only have one collection for this application.
3. Profile Builder for Small Act – In an effort to build a massive collection (100s of millions) of contacts for non-profits, we chose MongoDB for the storage, and we use MongoDB as a caching layer to our external APIs (of which charge for every query).
4. BusyConf – This is the focus of our talk. We're going to discuss how we designed our data layer, what decisions we made, and what the alternatives might have been if we went with something else.

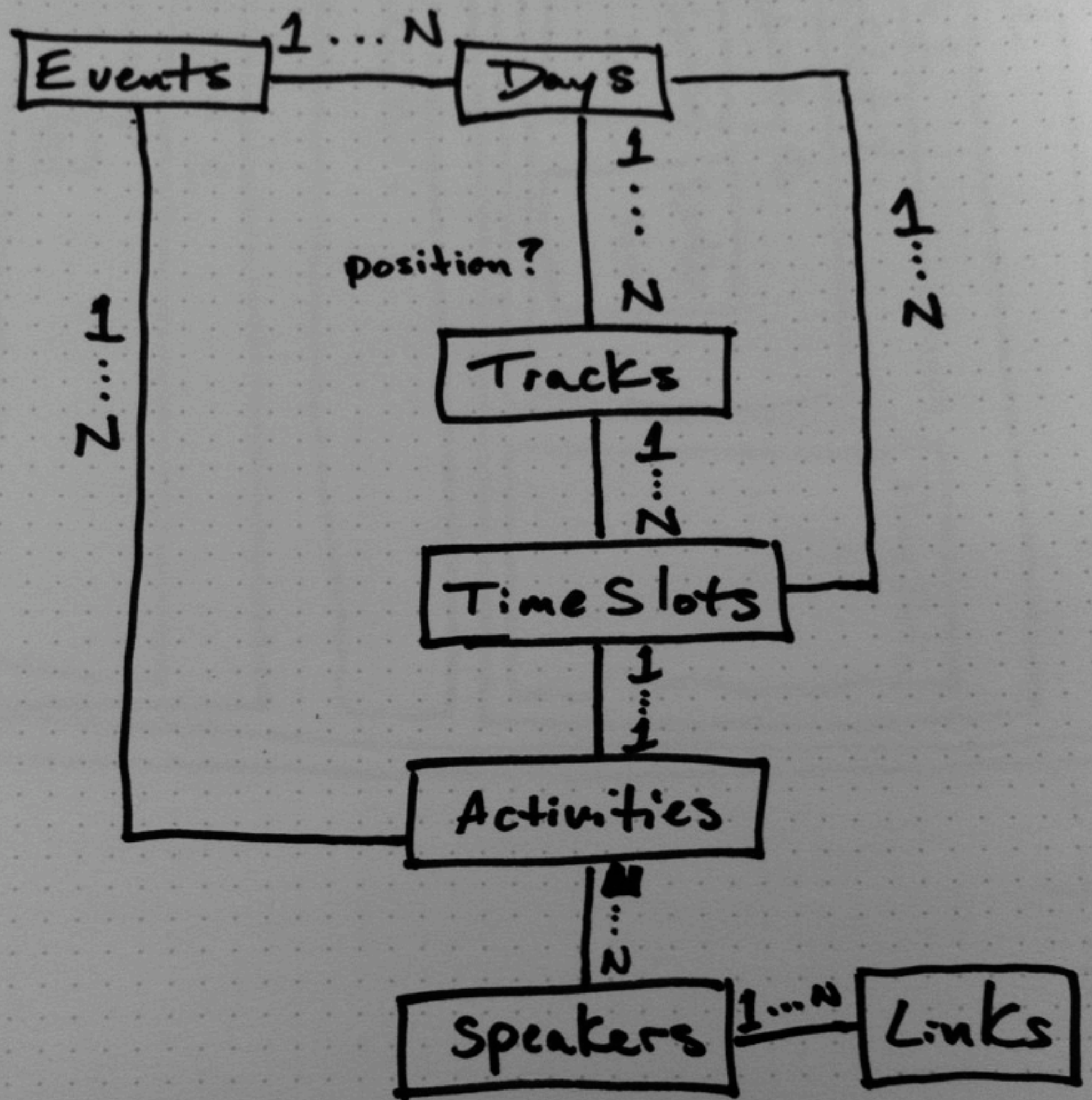
Why we use MongoDB

- 1) Myth: NoSQL design is easy because its schema-less
- 2) Up front cost of more thoughtful design, but for a long term gain in easier development.
- 3) Speed and scalability are wins, but for us, it's not as important as the win we get from rapid development.
- 4) Rapid development comes from the ability to represent richer data models that more closely match the business problems and the patterns of access.
- 5) Some people say: "You could use relational for that, why use document/MongoDB?" – MongoDB is our default for greenfield dev, we make ourselves justify the use of relational.



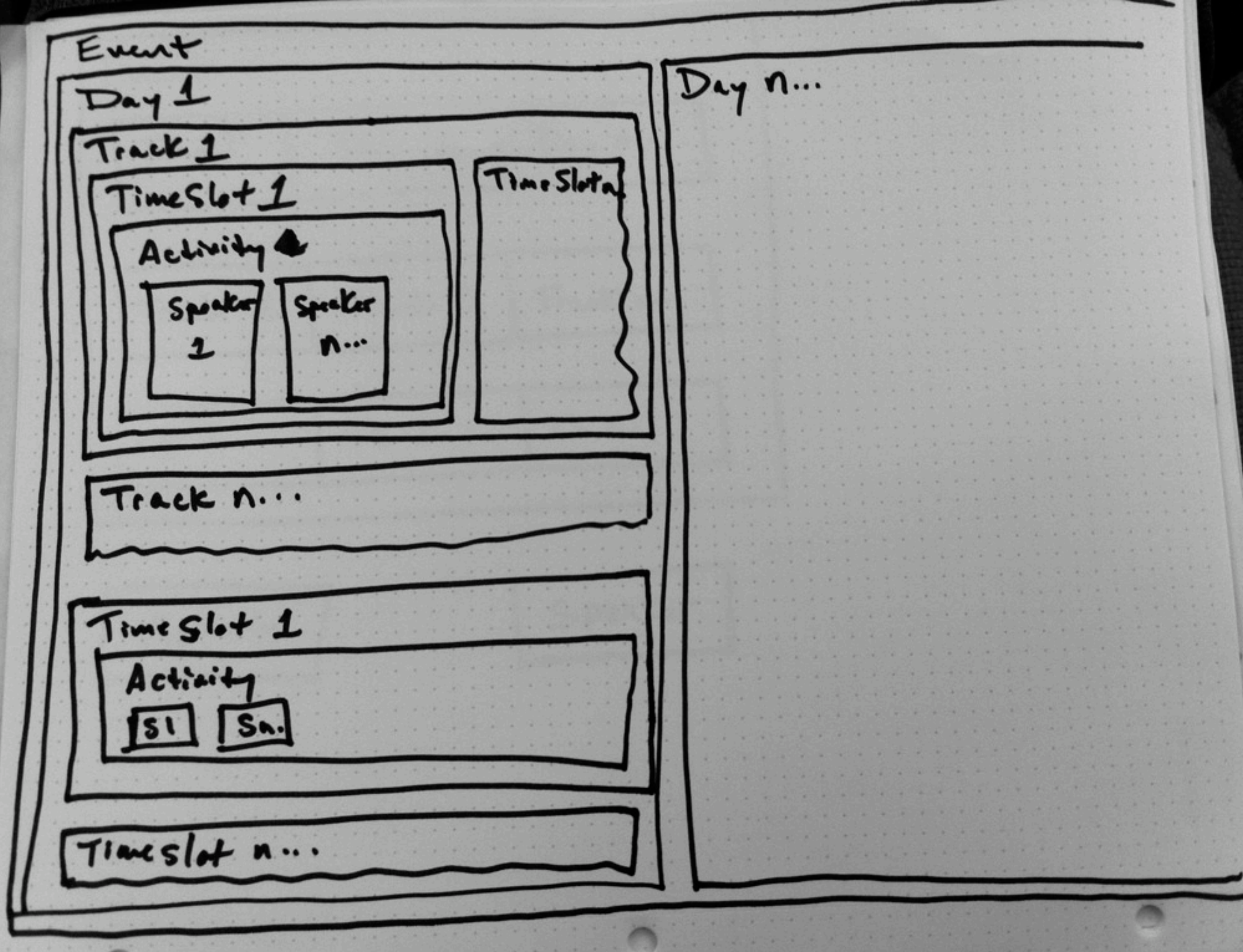
The Logical Model

- 1) Our data model is a tree -- very nested... Events have days, days has ...
- 2) When we access our data for rendering a schedule, we need to pull all of this at once, because we want a seamless, cached experience for the conference attendee.



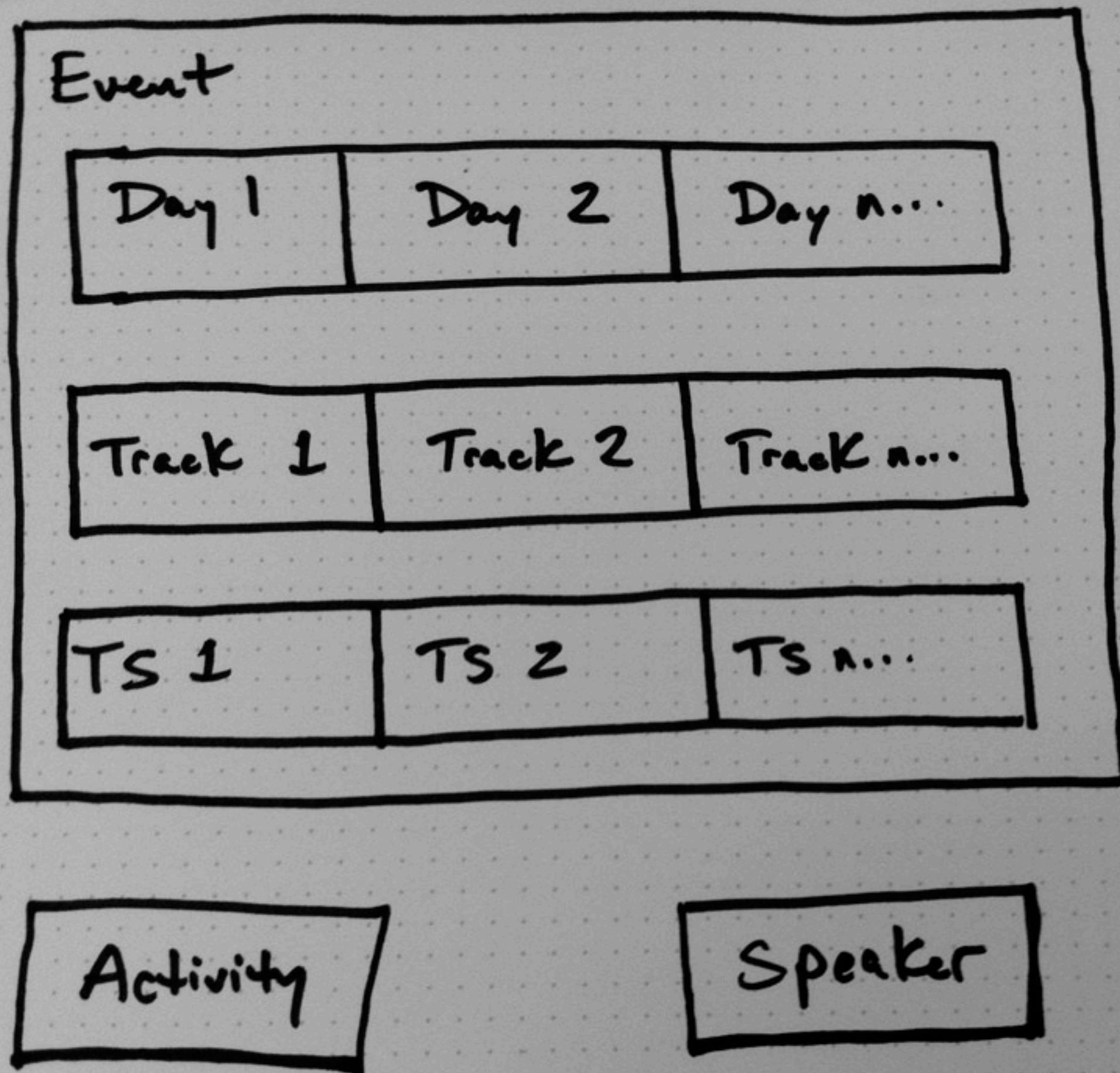
The Relational Option

- 1) The nice thing about a relational model is that they are pretty straight forward to design for.
- 2) This is how we might have modeled our data given a relational database.
- 3) It looks pretty straight forward until you address our need to access everything at once. Either one big nasty join, or lots of individual queries.
- 4) To add to problem, little things like the position of tracks and speakers are not easily represented. Neither is the potential explosion of meta data that could come from each object.



Option 1 with MongoDB

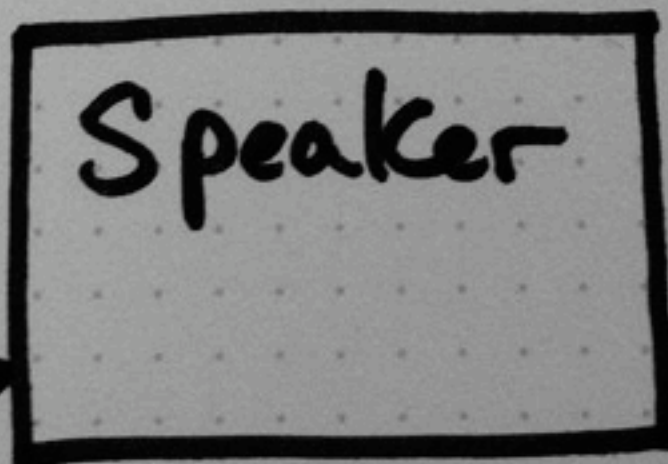
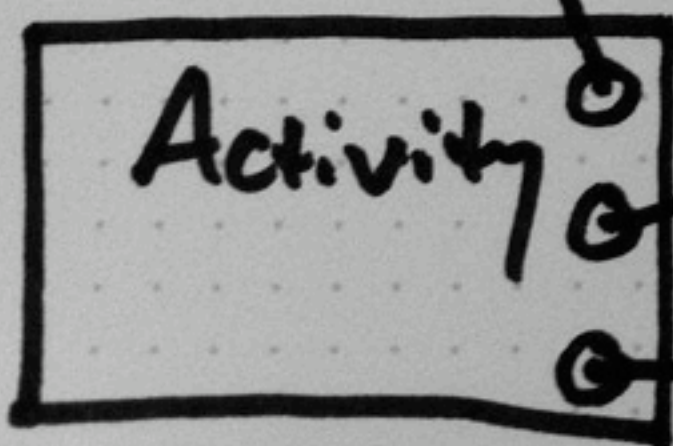
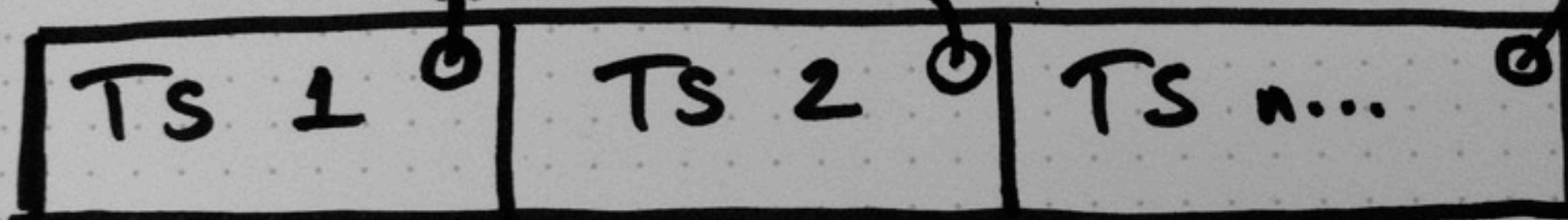
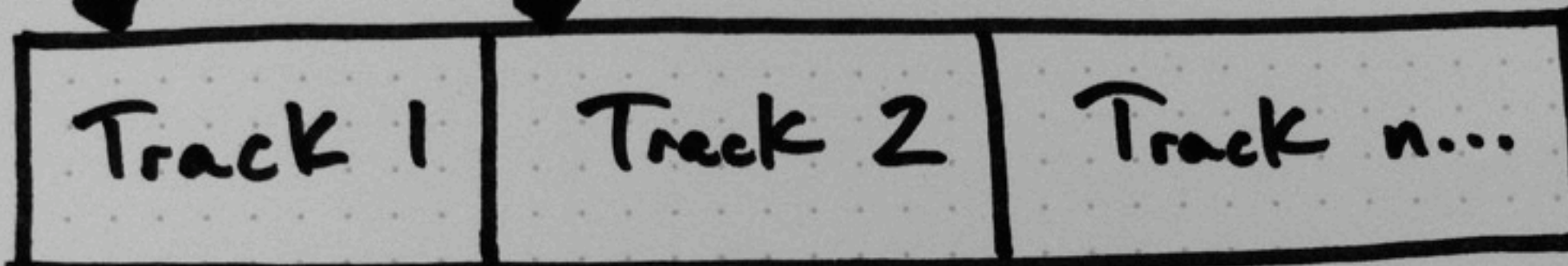
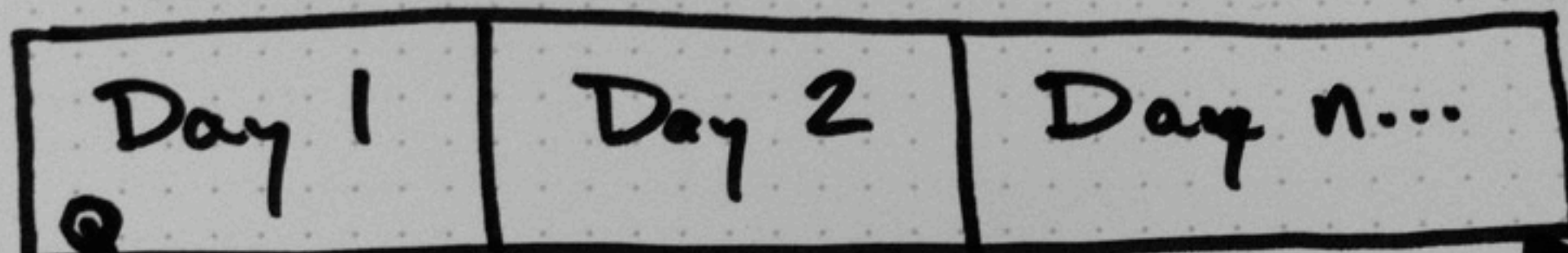
- 1) Representing our logical model directly with Mongo was our first instinct, BUT...
- 2) Putting this in practice actually led us down a road of unnecessary complexities.
- 3) While we solved the problem of quickly accessing the entire event, we no longer have an easy way of accessing an individual activity or speaker.



How we designed BusyConf using MongoDB

- 1) We took a slightly different approach
- 2) Instead of one collection, we broke out Activities and Speakers. This matched our access patterns better.
- 3) Instead of nesting every object, we chose to simply embed arrays of days, tracks, and timeslots.
- 4) Each object has a unique ID. Everything is addressable. We don't see our logical model until we actually piece it together on the client side.
- 5) NEXT SLIDE

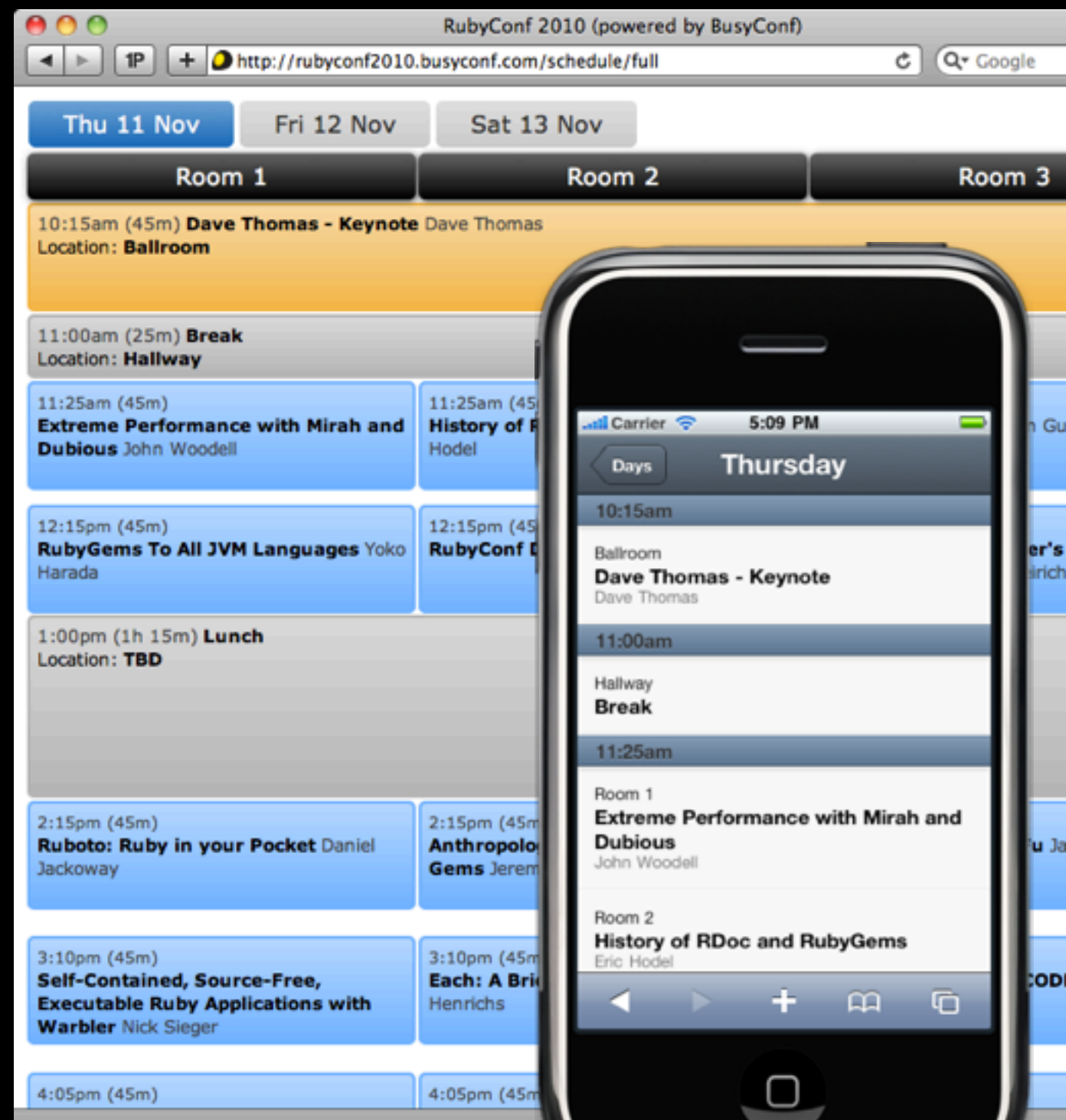
Event





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THREE THIRTIES

