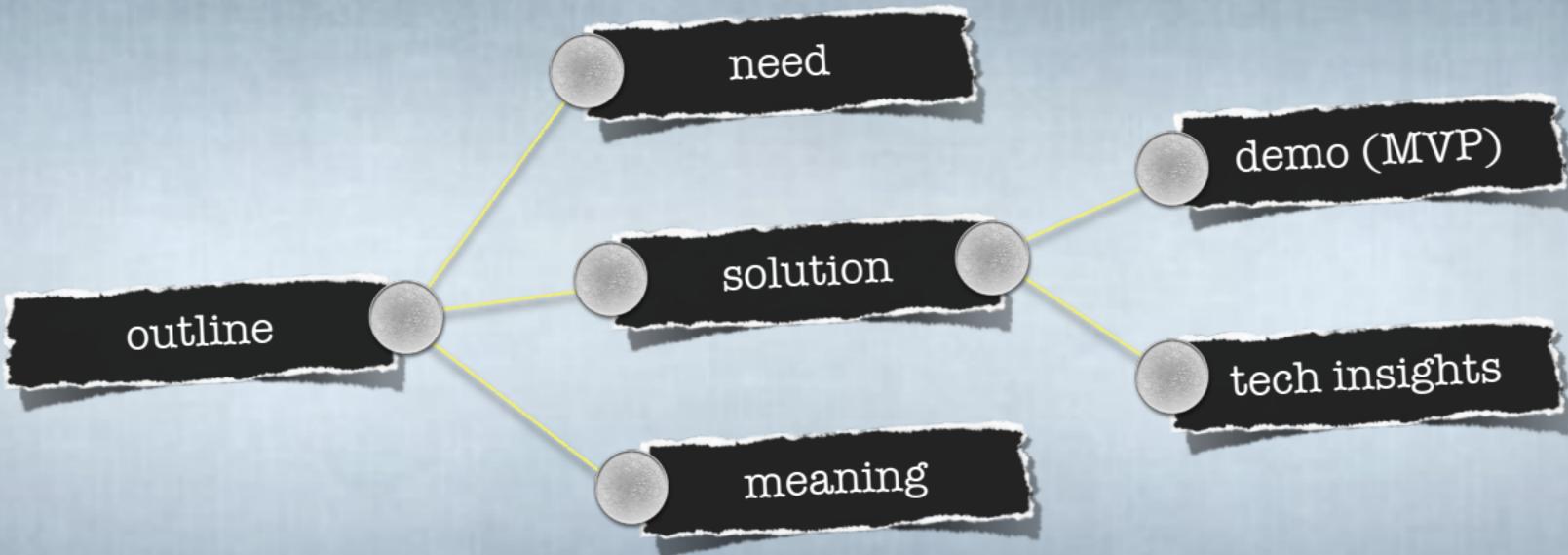


Building tools to help kids Win with ADHD

Alan Whitaker | @digiduke

additkids.org







Henry

Executive Function helps you:

- organize, track, remember mundane information
- predict time and timing
- recognize future consequences
- synthesize prior experience into learning

Hey, time to grab your three things and go, or you'll be late again.



ADHD kids

On average, they're
intellectually equal to
their non-ADHD peers

(and as many of these
kids are "gifted" as
their non-ADHD
counterparts)

Significant family
stress and conflict
with parents

(parents report...
kids are not so aware)

When Untreated:

- higher rates drop out
- unemployment
- substance abuse
- oppositional defiance
- teen pregnancy
- co-morbid psychiatric issues (anxiety, depression)

KEY STATS

5 million+

kids in U.S. with disorders
affecting executive function

90%

significant struggles
in school

32%

drop out of
high school

\$52B/yr

cost of illness
unemployment, public support,
education services, medication, etc.

Great kids!
Need a little extra help

Help!

Medication:

- * reduces hyperactivity, impulsivity
- * sustains attention (while it lasts)
- * 70% positive response
- * little impact on organization, time management and planning functions
- * uneven results:
 - * some don't respond
 - * parents resist
 - * some practitioners lack knowledge

Behavioral approaches

- * strong evidence of effectiveness
- * but difficulties:
 - * not leading to lasting change
 - * students lose interest in repetitive (need novel value to sustain)

Everything works
for about a week.

- Dr. Jodi Groot

we're going to need more hammocks

functional programming

versus

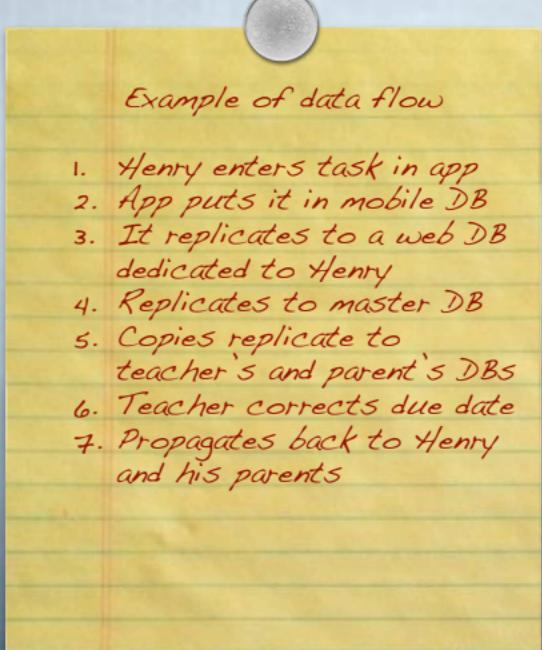
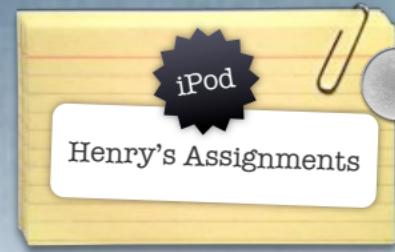
executive dysfunction

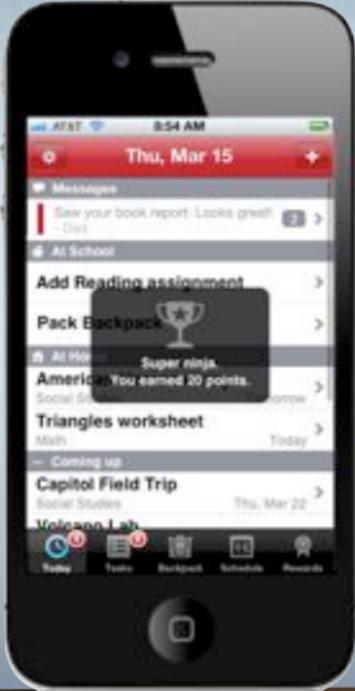
Social Mentoring Network

- students
- teachers
- parents

mobile & cloud-based technology







Add.it Assignments Students

Teacher's Master **Bob Student**

Assignment	Triangles handout	Assignment	Triangles handout
Subject	Math	Subject	Math
Due	Wed, Mar 14	Due	Wed, Mar 14
Supplies			
Notes	Read section 2 for instructions		

Sally Student

Assignment	Triangles handout
Subject	Math
Due	Wed, Mar 14
Supplies	
Notes	Read section 2 for instructions

demo
minimum viable product

Javascript

HTML

CSS

Bootstrap

Clojure

Enlive

Compojure

Ring

Clutch

Tech Stack

Objective-C

iOS SDK

Mobile Couchbase

CouchDB

```
(defroutes routes
  (context "/tasks" [:as {db :db user-ctx :user-ctx}])
    (GET "/" [] (layout-main user-ctx (index (map model/to-web (model/all db)))))
    (GET "/new" [] (layout-main user-ctx (new-form)))
    (GET("/:id" [id] (layout-main user-ctx (show (model/to-web (model/read db id)))))
    (GET("/:id/edit" [id] (layout-main user-ctx (edit-form (model/to-web (model/read db id)))))
    (POST "/" [& {:as doc}] (post db (assoc doc :user_id (user-ctx "name"))))
    (PUT("/:id/:rev" [id rev & {:as doc}] (post db (assoc doc :user_id (user-ctx "name")) :_id id :_rev rev)))
    (DELETE("/:id/:rev" [id rev] (destroy db {:_id id :_rev rev}))))
```

REST

route

html action

model access

```
(defn all
  [db]
  (map (comp from-db :value)
        (clutch/get-view db "usr" "tasks")))
```

```
(defn create
  [db doc]
  (clutch/put-document db (to-db doc)))
```

```
(defn read
  [db id]
  (from-db (clutch/get-document db id)))
```

```
(def update create)
```

```
(defn delete
  [db doc]
  (clutch/delete-document db doc))
```

CRUD MODEL

```
POST /replicator HTTP/1.1  
Content-Type: application/json  
Accept: application/json  
Host: db.mycouch.com
```

```
{  
    "_id": "usr-henry-up",  
    "source": "usr-henry",  
    "target": "usr",  
    "continuous": true  
}  
  
{  
    "_id": "usr-henry-down",  
    "source": "usr",  
    "target": "usr-henry",  
    "filter": "usr/user_filter",  
    "query_params": {"user_id": "henry"},  
    "continuous": true  
}
```

```
{  
    "_id": "_design/usr",  
    "filters": {  
        "user_filter":  
            "function(doc, req) {  
                return(doc.user_id &&  
                    (doc.user_id == req.query.user_id)) }"  
    }  
}
```

CouchDB automates replication, using filter functions to move documents only where they belong





Add.it innovators

- practitioners
- researchers
- business leaders
- technologists

working hard to make
an impact

LIFE IS SHORT

- * work with great people
- * on things you care about
- * using your abilities for good

What good can we do?

@digiduke

digiduke [at] me [dot] com

I'd love to hear your story

Thanks!