**ThoughtWorks - DEV BootCamp - ADR (Architecture Decision Record)**

As a part of DEV Bootcamp, held from 8th Nov 2016 to 17th Nov 2016, a team consisting of 10 members developed a project which was aimed at allowing ThoughtWorkers to sell and buy old products.

As a part of this product, several architectural decisions were taken and this is a summary of all the decisions.

**Programming Language Choice**

Java, since most of the team was comfortable with JAVA

**Technical Stack**

Spring Stack was chosen to implement the platform. This stack involved - Spring Boot, Spring Data JPA, Spring Security and Spring Testing with ReactJS for development of UI.

Spring Boot allows development of application with minimum configuration. Also, since no view was involved, Spring Boot appeared to be a natural choice.

No View means that server would accept input and respond with the data as a part of response body.

Spring Data JPA for chosen for implementing persistence layer. Choice was determined from the type of database used for persisting data.

Spring Security for handling user session and authorization. (In the interest of time, Stateful application was being built)

Spring Testing for handling testing for REST Controllers.

ReactJS was used for development of UI since it is most widely used in ThoughtWorks and does not have a steep learning curve.

**Choice of Tools**

1. **Continuous Integration**

Team members evaluated various tools including Travis CI, GO and Jenkins. The project needed a hosted solution and the team chose Travis CI as continuous integration tool.

1. **Database**

Since, the domain involved various products, each with varying attributes, there were discussions around MongoDB and PostGres database. MongoDB is a NoSQL database and PostGres is a relational database but provides support for JSON based structure with JSONB, JSON and ARRAY data types.

On reading further, team decided to restrict the scope of the application with products having same attributes.

Also, various forums, blogs and articles suggested that PostGres is faster than MongoDB in read and write operations.

Hence, PostGres (V9.6) was taken as the choice for persisting data.

1. **Testing Framework**

Team evaluated Spring Testing and REST Assured and found that REST Assured provided BDD style of testing application.

But, since the application involved Spring Stack, team decided to chose Spring Testing because of its seamless integration with boot and richer documentation.