OPTIMIZELY STUDY

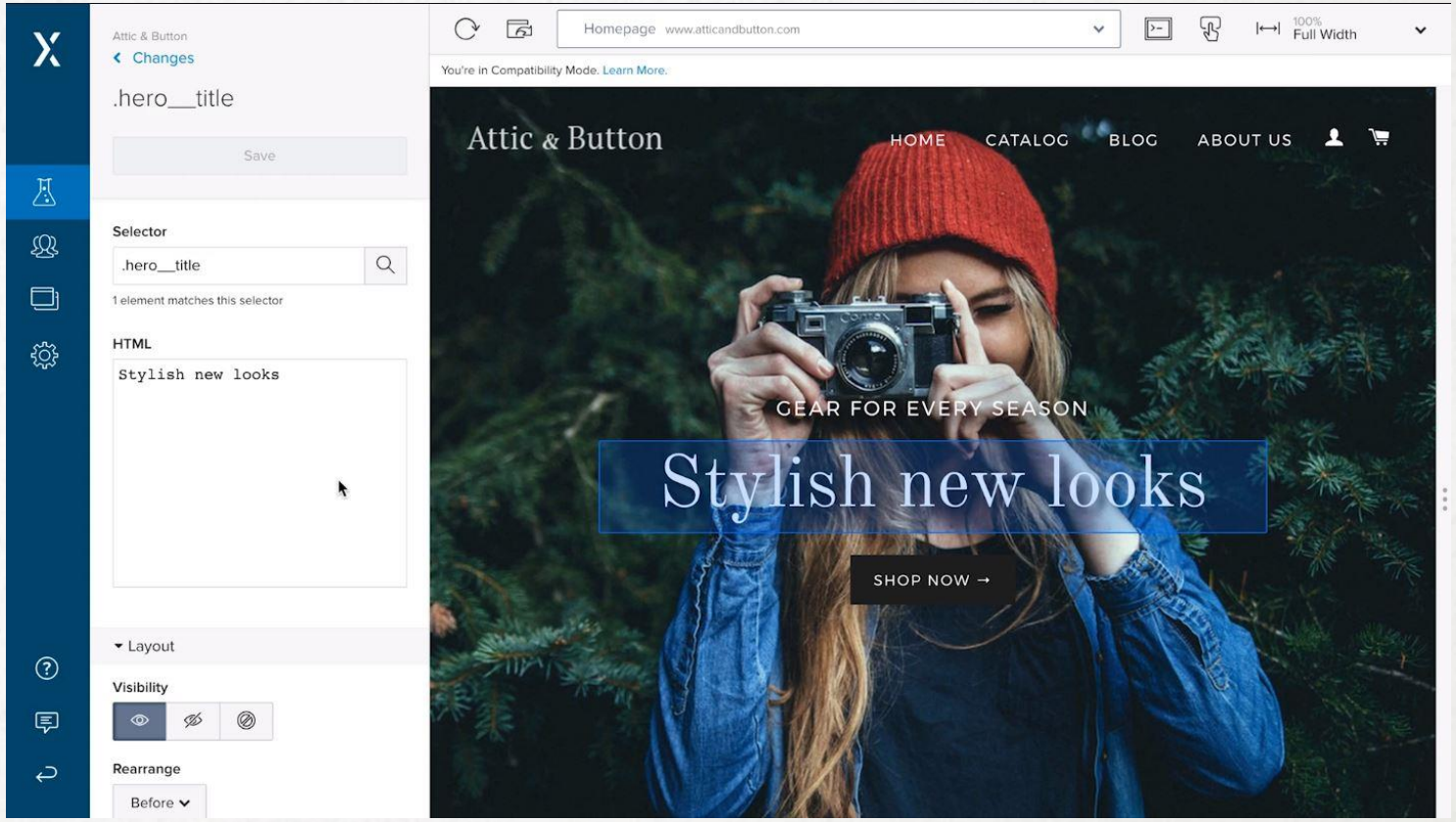
FEI WU

核心产品：OPTIMIZELY X

- 定制网页外观

Optimizely X可以帮助用户定制网页外观。

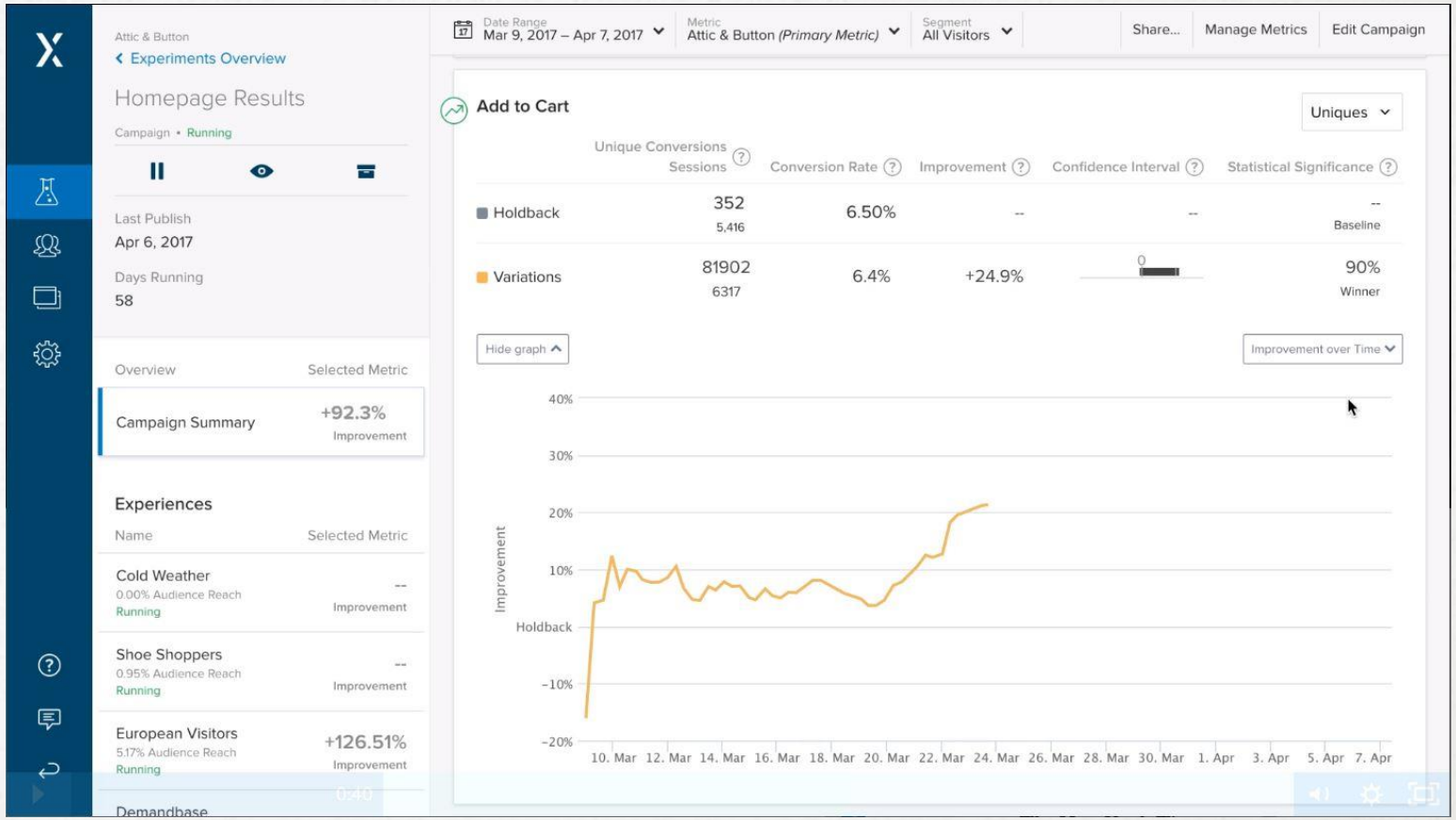
图中一切模型都是可以更改的，还可以加入新模型。



核心产品：OPTIMIZELY X

- A/B testing

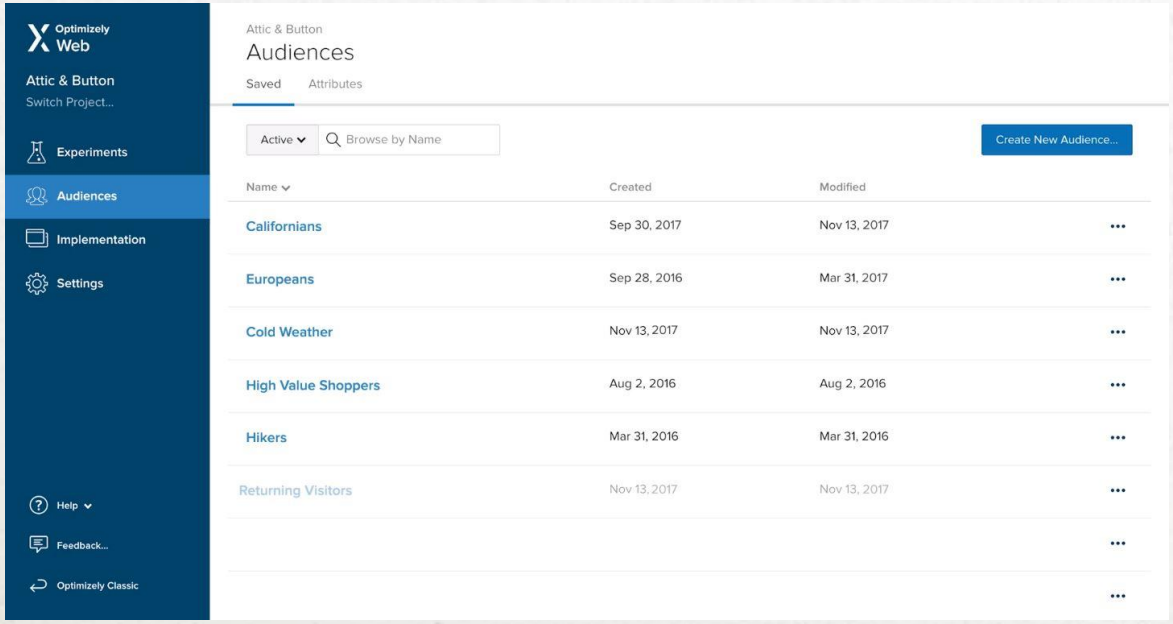
Optimizely X 提供基本的A/B testing功能。

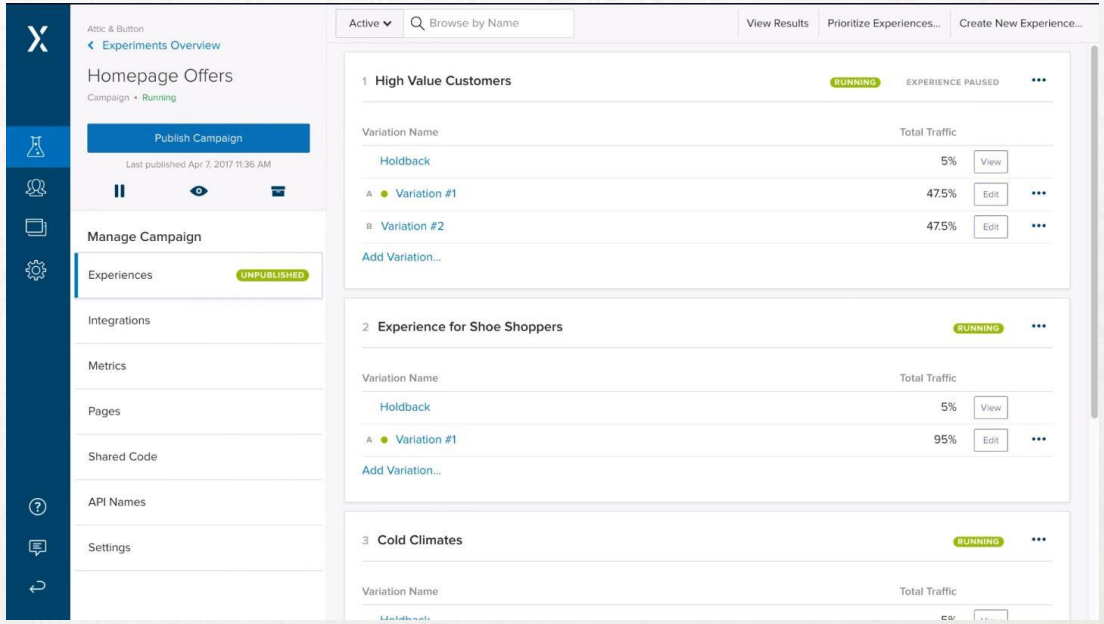


核心产品：OPTIMIZELY X

- 个性化

Optimizely X 可以为不同类型的用户提供不同的服务，可将用户类型进行分类，每种不同的用户提供不同的服务/测试。当用户在浏览期间对某件商品表示了兴趣，再当他们回到商店主页时， 网页会更实时更新。



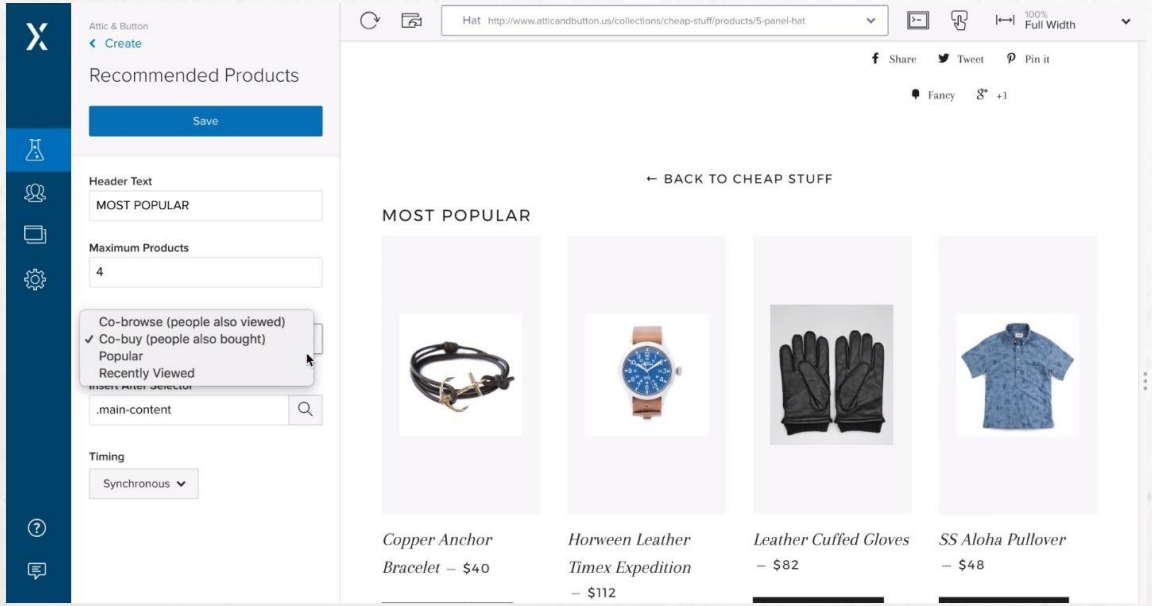


核心产品：OPTIMIZELY X

- 个性化推荐名单

根据不同算法（人工算法）来进行个性化的推荐名单设计。

这些算法可以有用户自己参与设计。（自己写代码）

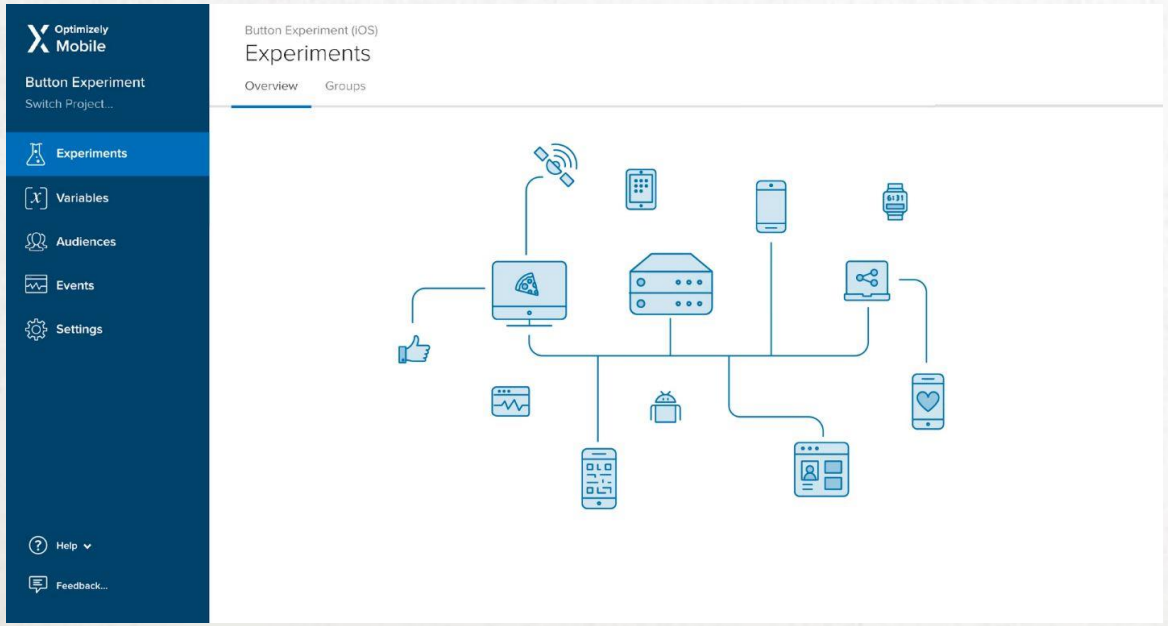


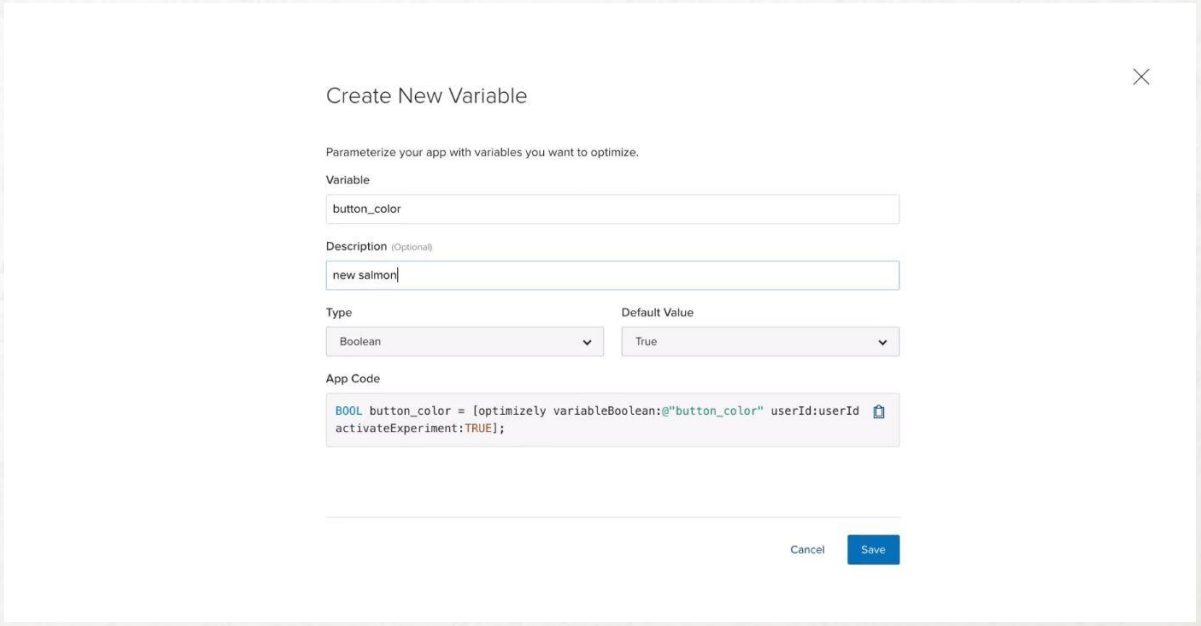

```java
import com.optimizely.ab.Optimizely;

Optimizely optimizely = Optimizely.builder(datafile).build();

// Activate an experiment
Variation variation = optimizely.activate("my_experiment", "user_123");

if (variation != null) {
  if (variation.is("variation_a")) {
    // Execute code for variation A
  } else if (variation.is("variation_b")) {
    // Execute code for variation B
  }
} else {
  // Execute default code
}

// Track an event
optimizely.track("purchase_completed", "user_123");
```

核心产品：OPTIMIZELY X

- 支持多种平台

可将在网页端的的测试功能直接用于Mobile apps， tv apps





核心技术： STATS ENGINE[1]

- 用来替代传统的统计方法
- 将type I 错误控制 用false discovery rate(FDR) 控制替代
- 实用新型的sequential testing 来替代传统的hypothesis testing
- 测试前无需知道需要达到统计显著性的样本大小

Traditional, fixed-horizon statistics

- $\hat{p} = p(\hat{\theta}_n, \theta')$, traditional p-value for evidence against the null hypothesis, $H_0 : \theta = \theta'$
- $C(\hat{\theta}_n, \alpha) = \{\theta \mid p(\hat{\theta}_n, \theta) \geq \alpha\}$, traditional confidence interval with $1 - \alpha$ coverage level

Stats Engine statistics

- $\Lambda(\hat{\theta}_n)$, average likelihood ratio; inverse of new p*-value
- $q^*(\hat{\theta}_n) = BHQ^*(\frac{1}{\Lambda(\hat{\theta}_n)})$, FDR-adjusted p*-value
- $C^*(\hat{\theta}_n, \alpha) = \{\theta \mid \Lambda(\hat{\theta}_n) < 1/\alpha\}$, new confidence interval with $1 - \alpha$ coverage
- $Q^*(\hat{\theta}_n, \alpha) = C^*(\hat{\theta}_n, FCR(\alpha))$, FCR-adjusted coverage interval

Shown on Optimizely dashboard

- $q^*(\hat{\theta}_n)$, as "Statistical Significance"
- $Q^*(\hat{\theta}_n, \alpha)$, as numerical and graphical coverage interval
- α, threshold for declaring winners ($\hat{\theta}_n > 0$) and losers ($\hat{\theta}_n < 0$), by $q(\hat{\theta}_n) < \alpha$, set in account level settings

1. Leo Pekelis, David Walsh, and Ramesh Johari, *"The New Stats Engine"*

其他产品：PROGRAM MANAGEMENT

- Scale experimentation across all your teams and increase your velocity by up to 5X with new tools for ideation, collaboration, and program reporting.
- Teams enable different groups across your company to collaborate more effectively with an integrated hub for capturing ideas, prioritizing projects, and managing experiments.