Usability & Accessibility

•customer-centric design

- ISO 9241-11 defines usability as the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use.

- Accessibility is usability extended to broader audiences including the segments of society not originally perceived as the intended target user demographics e.g. all age groups and physical abilities etc.

- Usability (Nielsen's usability model)
- efficiency, satisfaction, learnability, memorability and errors as the five key attributes of usability.
- Efficiency is a measure of resources expended to help user achieve goals with accuracy and completeness;
- Satisfaction is freedom from discomfort and positive attitudes towards the use of the product;
- Learnability is ease with which a user can rapidly start getting work done with the system;
- Memorability Is the ease with which a casual user is able to return to the system (after having not used it at all for a while) and use it without having to learn everything all over again
- Errors imply that the system should have a low error rate to begin with but in case the errors occur the users shall easily recover from them.
- Usability (ISO 9241-11, 1998 on the other hand defines usability as possessing three key attributes namely effectiveness, efficiency and satisfaction. While efficiency and satisfaction mean the same as in Nielson's usability model, the new attribute effectiveness means the accuracy and completeness with which a user achieves specified goal.

Usability Metrics

- time taken to complete a task,
- ratio of task successes to failures,
- %age of a task completed,
- frequency of program help use,
- the time spent in dealing with program errors.

Exploring correlation of such measures with the user interface characteristics such as the number, placement, coloring and sizes of the on-screen user interface elements etc. can help quantify user's ability to complete tasks given the user interface of the application.

The context of use is important e.g. user may be sitting, standing, walking or in a vehicle while interacting with the app. The user may also be interacting with others thus creating distractions.

Tools

- Recording and analyzing
- Layout Inspector e.g. (Pixel Perfect) Android
- Firebase A/B Testing (testing multiple variants of the app)
- Google Analytics
- Lint, JSLint etc